



IMPACT ASSESSMENT: THE NEXT GENERATION

33rd Annual Conference of the International Association for Impact Assessment

13-16 May 2013
Calgary Stampede BMO Centre
Calgary, Alberta, Canada



Calgary skyline. Photo courtesy of Meetings & Conventions Calgary.

Final program



Canadian Rocky Mountains. Photo courtesy of Calgary Economic Development.



LOCAL HOST AND ORGANIZER



International Association
for Impact Assessment
Western & Northern Canada

IN ASSOCIATION WITH

OAIA
Ontario Association
for Impact Assessment

AQÉI
Association Québécoise
pour l'Évaluation d'Impacts

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IAIA13 AT-A-GLANCE

Saturday 11 May

Training courses	All day
Technical visits	All day

Sunday 12 May

Training courses	All day
Technical visits	All day

Monday 13 May

Plenary, forums, sessions	All day
Poster session	Afternoon
Welcome reception	Evening

Tuesday 14 May

Forums, sessions, AGM	All day
Committee & Section meetings	Afternoon
Networking event	Evening

Wednesday 15 May

Forums, sessions, Council meeting	All day
Committee & Section meetings	Afternoon
Banquet	Evening

Thursday 16 May

Sessions, plenary	Morning
Special meetings	Afternoon

Friday 17 May

Technical visits	All day
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WELCOME RECEPTION: ZEN MEETS COWBOYS

Put on your jeans and cowboy hat and join us to meet up with old friends, make some new ones, and enjoy a unique networking experience. See page 51 for more information.

Proudly sponsored by Cenovus Energy.

Monday 13 May | 18:15-20:15 | Cowboys

Cowboys is adjacent to the BMO Centre.

Pre-registration is required.

TRAINING COURSES

IAIA offers a wide range of exceptional pre-meeting training courses. Note: Registration after 15 March is subject to availability, instructor consent, and receipt of payment. In consideration of the trainers and their need to prepare appropriate quantities of course materials, registrants may not change courses after 22 April.

POSTER SESSION AND EXHIBITS

Every conference features exhibitors and an increasingly sophisticated presentation of posters. This year will not disappoint. Browse the exhibits at your leisure throughout the conference, meet the poster presenters at the special poster session, and cast your vote for Best Poster (Public Choice).

Monday 13 May | 12:40-13:30 | Hall C

INDABA

IAIA provides space for impromptu discussions and “pop-up” topics in unanticipated/unscheduled areas of interest, or to carry on a discussion begun during a session.

“Indaba” or open space sessions, from a concept first introduced at IAIA95 in South Africa, will be held at the end of the day on Tuesday and Wednesday, with the opportunity to “schedule” your topic throughout the day. The informality and spontaneity guarantee a lively end to each day’s sessions.

To participate, write the topic you would like to discuss on the sign-up sheets in the registration area, or add your name to a discussion topic already posted. In the late afternoon, a program committee member will assign rooms to selected topics. Selection is based on popularity of the topic and available rooms.

SECTIONS AND COMMITTEES

How can I get more involved in IAIA? Where can I find people with similar special interests?

Much of the cutting-edge work of IAIA is the direct result of Section and Committee activity, and the only chance for members to meet throughout the year is at the annual conference.

Every delegate is welcome to attend a Section meeting. Check the schedule on pages 8-9 for meeting times and plan to attend the Section meeting of your choice. Section meetings are scheduled multiple times throughout the conference, so there are opportunities to connect several times with people in the same topic area if your special interest is focused, or once or twice with people in more than one topic area if your interests are cross-cutting.

Committee members are appointed annually. If you are interested in serving on an IAIA Committee, please contact info@iaia.org.

ANNUAL GENERAL MEETING (AGM)

All conference participants are encouraged to attend the annual business meeting of the Association. You will meet the IAIA Board of Directors, hear the Treasurer’s report, and be present for the prestigious Rose-Hulman Award recipient’s acceptance speech. See the agenda on page 58.

Tuesday 14 May | 12:40-13:30 | Palomino A-C

COUNCIL MEETING

The IAIA Council serves as an advisory resource to the IAIA Board of Directors. The Council is composed of the Board, all Committee chairs, representatives of Affiliates and Branches, the CEO and Headquarters representatives, Section coordinators, and the conference program chairs for the current-year conference and any future known conferences. However, Council meetings are open; all IAIA members are encouraged to attend. The 2013 Outstanding Service Award will be presented at the Council meeting. See the agenda on page 58.

Wednesday 15 May | 12:40-13:30 | Arabian B

AFFILIATES FORUM

A special session is dedicated to the activity of IAIA’s Affiliates and Branches. This session is open to all conference participants. See page 48 for a description of the discussion.

Posters are also being displayed by many of these groups. Stop by during the poster session to visit with representatives of the Affiliates and learn more about their organizations and activities.

Tuesday 14 May | 18:10-19:10 | Quarter Horse A

ICONNECT: DO YOU?

If you would like to learn more about IAIA's professional networking site and how it can benefit you, bring your questions, and we will walk through online discussions, sharing resources, and finding other members with similar interests. We can even take your photo and upload it to your profile!

See the demonstration table in Hall C during afternoon coffee breaks on Tuesday and Wednesday, or stop by the registration desk.

TECHNICAL VISITS

See pages 54-55 for the variety of technical visit options. Technical visits provide multiple opportunities to participate, network, and enhance your understanding of impact assessment issues in the region.

Registrations are accepted on a first-come, first-served basis until the visits reach the maximum number of participants. Registrations are confirmed in the order that payment is received, and pre-registration is required.

STUDENT FEE WAIVER PROGRAM

IAIA is pleased to offer a student fee waiver program. This program allows up to ten students a waived conference registration fee in exchange for providing in-kind services on-site in Calgary. Selection of students took place in January 2013.

Student Fee Waiver Program Orientation

Sunday 12 May | 08:15-08:45

Meet at registration desk

STUDENTS & EARLY PROFESSIONALS

All students are invited to attend the Students and Early Professionals Section meeting. This Section meeting is scheduled specifically to allow students and early professionals to meet and network not only with each other but with members of the topical-interest Sections.

Student and Early Professionals Section Meeting

Monday 13 May | 08:00-08:50

Quarter Horse B

STUDENT DAY

Student Day serves two main purposes: 1) to welcome and benefit the local student community with the opportunity of sharing the debate on IA in a way that is only possible in an international and hence very plural environment, and 2) to provide participating students with important information on the experience of IA practitioners and some of the companies represented in the conference, with a theme forum where challenges facing new impact assessment professionals will be highlighted.

Tuesday 13 May

LIVE TWEETING AT #IAIA13

Are you keen to share your thoughts on a presentation or reflect on the day's events? Conference participants are encouraged to tweet throughout the event on the hashtag #iaia13. A summary of the tweets will contribute to the main conclusions and recommendations at the closing plenary. Why not follow one of the IAIA accounts: @hiablog (Health), @sia_iaia (Social Impact Assessment), @IAIAConference?

FUN RUN

This popular 5km Fun Run/Walk is a great way to start the day and network with fellow runners. The early morning run along the Bow River will invigorate your mind and body and offer a chance to meet people you might not otherwise meet during formal sessions. See page 51 for details.

Wednesday 15 May | 07:00-08:00

Meet at Centre Court (north), Eau Claire Market, 200 Barclay Parade SW

MENTOR/BUDDY PROGRAM

The intent of this program is to help students and early professionals (SEPs) and first-time conference attendees feel more comfortable and less overwhelmed with their first IAIA conference experience.

The mentor is an experienced IAIA member with the same interest area as the applicant (wherever possible). The mentor acts as a discussion partner on common topics of interest for the professional development. Mentees do not shadow mentors, but rather meet at the conference to begin conversation that extends beyond the conference.

Matching of mentors and mentees took place prior to the conference.

If you would like to be a mentor or mentee at a future conference, e-mail impact@iaia.org or notify staff at the registration desk.

Mentor/Buddy Orientation

Sunday 12 May | 17:10-17:40 | Palomino A

BOOK SHARE

Drop off one or two of your favorite environmental reference books, new or recycled, as a contribution to the book share table (Hall C). The books are available on a first-come, first-served basis to delegates who might not readily find such books in their own locales.

SPEED MENTORING

Like speed dating, we will put you together with a number of mentors over the course of an hour so you can seek advice and ideas from these mentors on how to advance your career, improve your networking and anything else you would like to ask. See page 51 for more information.

Tuesday 14 May | 17:00-18:00 | Hall C

BANQUET

The week is nearly over and it's time to relax and visit with colleagues old and new. Enjoy Treaty 7 drummers and after-dinner entertainment while you exchange conference experiences and make plans for meeting again next year.

Wednesday 15 May | 20:00-01:00 | Hall D

Pre-registration is required.

AWARDS

IAIA's awards are presented throughout the conference and at the awards ceremony in the closing plenary. Who will win the honors associated with the annual awards?



Keynote speakers



Dr. E. Fred Roots

Meteorologist, Surveyor, and Geologist

Dr. Roots' participation is proudly sponsored by Pottinger Gaherty Environmental Consultants.

Raised in Banff, Alberta, Fred served in the Canadian Arctic and Antarctica for years. A key figure in Environment Canada, the 1972 U.N. Stockholm Conference, and in shaping the Canadian EIA Policy and its operation, he served as Science Advisor to Environment Canada for 40 years. His EIA work was on nuclear power and waste management and disposal, the establishment of the Canadian Nuclear Waste Management Organization, the Mackenzie Valley pipeline hearings with its issues raised by aboriginal peoples, and the Beaufort Sea Hydrocarbon proposals.

Fred served as founder and chair of the Canadian EA Research Council, on the Antarctic Treaty with its very strong EIA protection provisions, and the Annex on Legal Liability. And for the past 17 years he has advised on the scientific review of military aircraft operations in Labrador and in Québec.

At present he is concentrating on climate change issues and earthquake risk identification and expectations on the West Coast of Canada.



Susan Wilkins

M.Sc., P.Geo, LEEDTM AP

Ms. Wilkins is an environmental scientist with over 35 years of experience in multi-disciplinary environmental and scientific studies. Her areas of speciality include strategic advice on impact assessment, and delivering practical sustainability solutions. Her work has involved most types of development, including mines, energy projects (wind, hydro), transmission, industrial and land development.

She has worked for government (DFO), utilities (BCHydro) and the private sector. She is Vice-President of Operations at a 60-person environmental consulting firm, Pottinger Gaherty Environmental Consultants Ltd.

She is currently the President of the Western and Northern Affiliate of the International Association for Impact Assessment.



Nalaine L. Morin

Principal, ArrowBlade Consulting Services

Nalaine Morin's skills and expertise include engineering, project management, quality control, troubleshooting, software documentation, base metals, operations management, workshop facilitation, technical writing, and team building.

She is currently Principal at ArrowBlade Consulting Services; previously she served as THREAT Manager for Tahltan Central Council, where she supervised and coordinated activities for Tahltan Central Council's technical resource team to participate in environmental assessment processes for resources development projects occurring in Tahltan Traditional territory.

Her other professional experience includes serving as Section Leader for Hudson Bay Mining and Smelting Company's Air and Water Program, Metallurgical Technician for BHP Diamonds Inc. and Suncor Energy Inc., and Environmental/Technical Coordinator for North American Metals Corp.



Luis E. Sanchez
President, IAIA | University of São Paulo

Welcome to Calgary and the 33rd Annual Conference of the International Association for Impact Assessment. This year, the “next generation” is our theme.

Sharing knowledge, learning and interacting with new and old generations of impact assessment practitioners, researchers and educators are wonderful opportunities provided by the Conference. Enjoy the plenary and parallel sessions, the informal talks and the pleasant city and its surroundings.



Miles Scott-Brown
Co-Chair, IAIA13



Richard Roberts
Co-Chair, IAIA13

The theme of this year’s IAIA conference “Impact Assessment: The Next Generation” addresses two key issues facing the future of IA: How after more than forty years will impact assessment respond to the global ecological, regulatory and economic challenges now very much in front of us; and how can we as current IA practitioners help foster the continued development and growth of the next generation of practitioners?

This year you join over 1000 delegates, the first time ever for an IAIA conference. Your plate is going to be full! We have over 100 technical sessions discussing a diverse range of topics facing the future of IA. While you make time to attend these important discussions, we also encourage you to sit down with a colleague to catch up or attend other networking events we are featuring throughout the conference. That is one of the most important parts of IAIA – the opportunity to network with colleagues and make new friends.

Calgary is well placed to host this conference and this year’s theme. The city is a home to a thriving IA practice at many levels: from a municipal government of more than a million inhabitants committed to sustainability and growth, to a well-developed local IA consultancies some of which span the globe, to an energy industry responding to challenges of oil sands development, to a provincial and federal regulatory process that itself is in the midst of change. We also hope you take the time to experience some of the great sights and experiences Calgary and region is famous for.

Last year in Porto, we ask participants to take the Calgary white hat pledge that welcomes new visitors to Calgary - we now present it to those delegates joining us at IAIA13.

...havin’ visited the only genuine Western city in Canada, namely Calgary, and havin’ been duly treated to exceptional amounts of heart-warmin’, hand-shakin’, tongue-loosenin’, back-slappin’, neighbor-lovin’ Western spirit, I do solemnly promise to spread this here brand of hospitality to all folks and critters who cross my trail hereafter. On the count of three, we will all raise our hats and give a loud “Yahoo!”

Welcome to Calgary and to IAIA13!

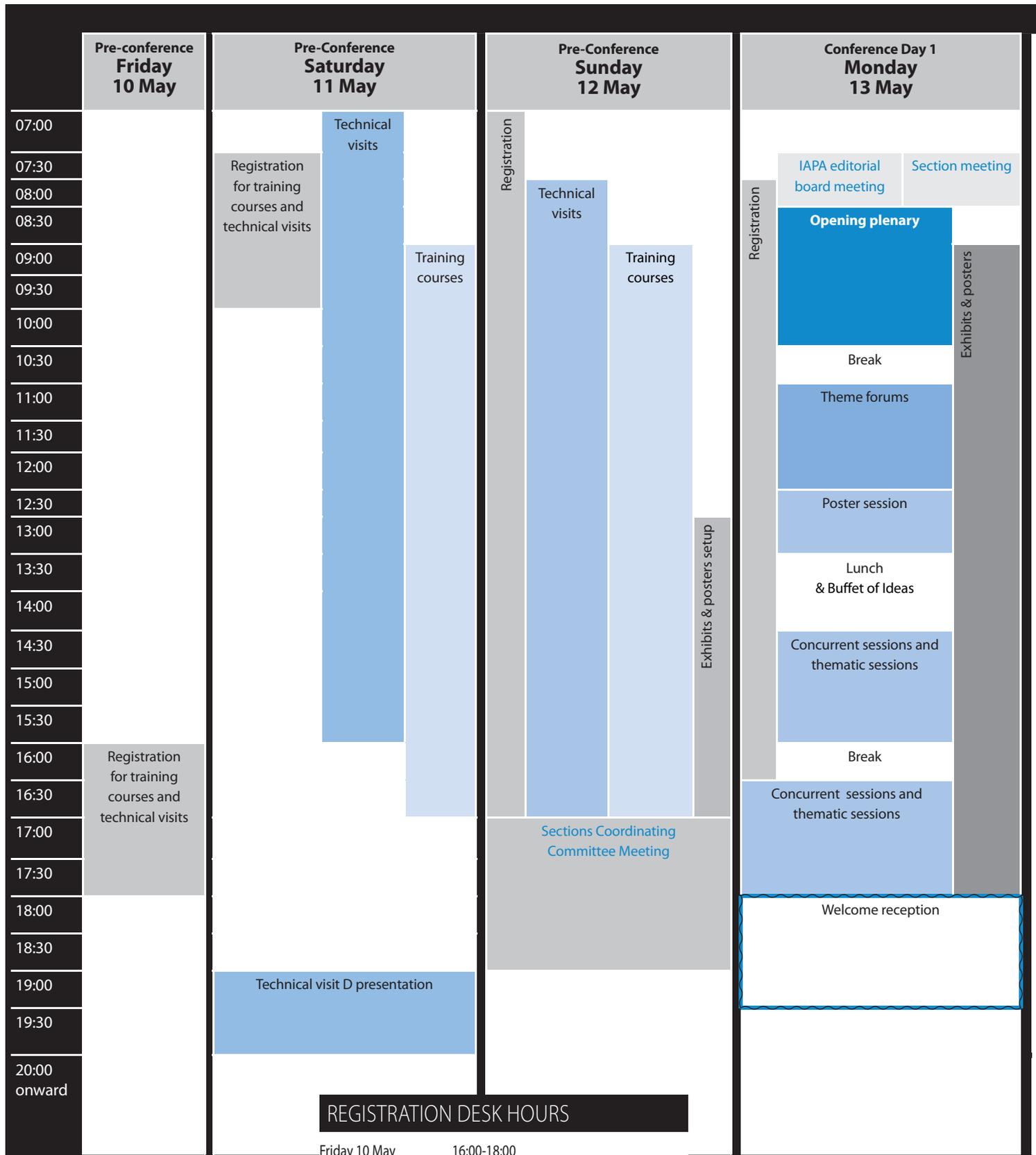
IMPACT ASSESSMENT:

THE NEXT GENERATION

The conference theme embraces the impact of current global change now and in the coming decades and how impact assessment (IA) itself will evolve as a result. The “next generation” refers both to a new generation of practitioners and to new approaches to IA practice internationally to address issues of global concern.

The next few decades are seen as a nexus of environmental effects to the global commons (e.g., climate change, biodiversity, soil degradation and loss, ocean productivity, loss of Aboriginal cultures) coupled with increased urban, human and economic development. These global changes have profound implications to the trajectory of IA and of nations. You, as a participant in this conference, are part of this new future.

Conference overview



REGISTRATION DESK HOURS

Friday 10 May	16:00-18:00
Saturday 11 May	07:30-10:00
Sunday 12 May	07:00-17:00
Monday 13 May	08:00-16:30
Tuesday 14 May	08:30-16:30
Wednesday 15 May	08:30-14:30

Tweet about your session to #IAIA13!

Conference overview

Conference Day 2 Tuesday 14 May		Conference Day 3 Wednesday 15 May		Conference Day 4 Thursday 16 May		Post-Conference Friday 17 May		
Health Day Student Day		Fun Run				Technical visits		07:00
Committee meeting		Committee meetings						07:30
Registration	Theme forums	Registration	Theme forums	Concurrent sessions and thematic sessions		Exhibits & posters		08:00
	Break		Break	Break				08:30
	Concurrent sessions and thematic sessions		Concurrent sessions and thematic sessions	Closing plenary				09:00
	Annual General Meeting		Council meeting	IAIA Presidential Address				09:30
	Lunch & Section rendezvous		Lunch & Section rendezvous	IAIA13 report & summary				10:00
	Concurrent sessions and thematic sessions		Concurrent sessions and thematic sessions	Introduction to future IAIA meetings				10:30
	Break		Break	World Bank Group Special Meeting				11:00
	Concurrent sessions and thematic sessions		Concurrent sessions and thematic sessions	Exhibits & posters dismantle				11:30
	Concurrent sessions and thematic sessions		Concurrent sessions and thematic sessions					12:00
	Speed mentoring		Concurrent sessions and thematic sessions					12:30
	Section meetings		Section meetings					13:00
	Indabas		Indabas					13:30
Dine Outs		Banquet						14:00
								14:30
								15:00
								15:30
								16:00
								16:30
								17:00
								17:30
								18:00
								18:30
								19:00
								19:30
								20:00 onward

All delegates are invited to the AGM ...

Vote for your favorite poster by 11:00 today!

Daily schedule

FRIDAY 10 MAY

16:00-18:00 **Registration** (training course and technical visit participants only)

SATURDAY 11 MAY

07:30-10:00 **Registration** (training courses and technical visit participants only)

07:00 depart **Technical visit B: Athabasca Oil Sands and Fort McKay**

08:00-16:00 **Technical visit C: EIA Lessons from the Kananaskis Valley**

09:00-17:00 **Training courses** (room locations will be provided at check-in)

1. Cumulative Effects and Follow-up in Impact Assessment
2. Ecosystem Service Review for Impact Assessment
4. Innovative Uses of SEA: Strategic Sustainability Approaches
5. Integrated Environmental Management: How to Manage and Make EA More Effective
6. Involuntary Resettlement
7. Multicriteria Analysis for Environmental Impact Assessment of Projects and Plans: Theory and Practice
8. Next Generation Approaches for Mainstreaming Biodiversity in Impact Assessment for Promoting Responsible Growth
9. Quality Assurance in EIA: Guide and Review
10. Social Impact Assessment and Management
11. The Cultural Heritage Component of Impact Assessment: Classroom and Field Training with Emphasis on Indigenous Peoples and Extractive Industries
12. Understanding Impact Assessment: Principles, Methods, and Emerging Trends

19:00-20:00 **Technical Visit D: Banff National Park presentation** (Palomino H)

SUNDAY 12 MAY

07:00-17:00 **Registration**

08:15-08:45 **Student Fee Waiver Program Orientation** (Quarter Horse B)

08:00-16:00 **Technical visit D: Banff National Park**

08:00-18:00 **Technical visit E: Dinosaur Provincial Park**

08:00-18:00 **Technical visit F: Head-Smashed-In Buffalo Jump and Wind Farms**

09:00-17:00 **Training courses**

13:30-17:00 **Exhibit and poster setup** (Hall C)

17:00-19:00 **Committee meeting**
Sections Coordinating Committee (Palomino G)

17:10-17:40 **Mentor/Buddy meeting** (Palomino A)

19:00 return **Technical visit B: Athabasca Oil Sands and Fort McKay**

Our special guests: What is Treaty 7?

Treaty 7 was an agreement between Queen Victoria and several mainly Blackfoot First Nations tribes in what is today the southern portion of Alberta. It was concluded on September 22, 1877. The agreement was signed at the Blackfoot Crossing of the Bow River, at the present-day Siksika Nation reserve, approximately 100 km east of Calgary. [\(Wikipedia\)](#)

MONDAY 13 MAY

07:45-08:35 **IAPA Editorial Board Meeting** (Quarter Horse A)

07:45-08:35 **Section meeting**
Students and Early Professionals (Quarter Horse B)

08:00-16:30 **Registration**

08:45-10:30 **Opening plenary** (Hall B)
Sponsored by Ghostpine Environmental Services, Ltd.

Chair(s): Richard Roberts, Praxis, and Miles Scott-Brown, Integrated Environments (2006) Ltd, IAIA13 Program Committee co-chairs.

Reg Crowshoe. Treaty 7 drum entrance and welcome prayer.

Richard Roberts and Miles Scott-Brown. Opening remarks.

Mayor Naheed Nenshi, City of Calgary. Welcome remarks.

Donna Kennedy-Glans, Legislative Assembly of Alberta. Welcome remarks.

Luis E. Sánchez, IAIA President. Statement by IAIA President.

Presentation of the IAIA Global Award

"Impact Assessment: Past, Present, and Future"

Fred Roots. Keynote address.

Susan Wilkins, President WNC. Keynote address.

Nalaine Moran. Keynote address.

Richard Roberts and Miles Scott-Brown. Closing of the plenary and opening of the conference.

10:30-11:00 **Break** (Hall C)
Sponsored by Total E&P Canada.

11:00-12:30 **Theme forums and concurrent sessions**

12:40-13:30 **Poster session** (Hall C)

13:30-14:20 **Lunch** (Hall C) Buffet of Ideas (see reserved tables, page 51 for information)

14:30-16:00 **Concurrent sessions**

16:00-16:30 **Break** (Hall C)
Sponsored by Total E&P Canada.

16:30-18:00 **Concurrent sessions**

18:15-20:15 **Welcome reception** (pre-registration required; see page 51) (Cowboys)
Sponsored by Cenovus Energy.

Health Day • TUESDAY 14 MAY • Student Day

08:00-08:50 **Committee meeting**
Training & Professional Development (Quarter Horse A)

08:30-16:30 **Registration**

09:00-10:30 **Theme forums and concurrent sessions**

10:30-11:00 **Break** (Hall C)
Sponsored by Devon Canada Corporation.

11:00-12:30 **Concurrent sessions**

12:40-13:30 **Annual General Meeting and Rose-Hulman Award Presentation** (Palomino A-C)

The AGM is the annual business meeting of the Association. All members are encouraged to attend.

THURSDAY 16 MAY

13:30-14:20	Lunch (Hall C) <i>Sections: See reserved tables</i>
14:30-16:00	Concurrent sessions
16:00-16:30	Break (Hall C) Sponsored by Matrix Solutions.
16:30-18:00	Concurrent sessions
17:00-18:00	Speed Mentoring (Hall C; see page 51)
18:10-19:30	Affiliates Forum (Quarter Horse A)
18:10-19:10	Section Meetings Public Participation (Palomino A-C) Health (Palomino D) Strategic Environmental Assessment (Palomino F-H) Integrated Assessment of Trade-Related Policies (Quarter Horse B) Cultural Heritage (Quarter Horse C) Corporate Stewardship and Risk Management (Arabian A) Agriculture, Forestry and Fisheries (Arabian C)
18:10-19:10	Indabas (see page 2 and flip charts in Hall C for information)
20:00 onward	Dine-Outs (see page 51)

09:00-10:30 **Concurrent sessions**

10:30-11:00 **Break** (Hall C)

11:00-13:30 **Closing Plenary** (Hall B)
Sponsored by Asian Development Bank.

Chair(s): Richard Roberts, Praxis, and Miles Scott-Brown, Integrated Environments (2006) Ltd, IAIA13 Program Committee co-chairs.

Main conclusions and recommendations of IAIA 13.

Presentation of Awards. Anne Miller, 2013 IAIA Awards Committee Chair

Presidential address. Greg Radford, Incoming President of IAIA

Invitation to IAIA14.

Farewell address.

13:45-18:00 **Special meeting: World Bank Group Special Meeting** (Palomino E)

13:30-16:00 **Exhibit and poster dismantle**

WEDNESDAY 15 MAY

07:00-08:00	Fun Run (meet at Centre Court (north), Eau Claire Market, 200 Barclay Parade SW) <i>(pre-registration required; see page 51)</i>
08:00-08:50	Committee meetings Awards (Quarter Horse A) Publications (Quarter Horse B)
08:30-14:30	Registration
09:00-10:30	Theme forums and concurrent sessions
10:30-11:00	Break (Hall C) Sponsored by Stantec.
11:00-12:30	Concurrent sessions
12:40-13:30	Council meeting (Arabian B) The Council is an advisory resource for the Board. Committee chairs, Section coordinators, Affiliate and Branch representatives and conference program chairs for current and future conferences comprise the Council. All members are encouraged to attend and meet the leadership of IAIA. Presentation of the Outstanding Service Award.
13:30-14:20	Lunch (Hall C) <i>Sections: See reserved tables</i>
14:30-16:00	Concurrent sessions
16:00-16:30	Break (Hall C) Sponsored in part by Taylor & Francis Group.
16:30-18:00	Concurrent sessions
18:10-19:10	Indabas (see page 2 and flip charts in Hall C for information)
18:10-19:10	Section Meetings Energy (Palomino A-C) Social Impact Assessment (Palomino D) Biodiversity & Ecology (Palomino E) Disasters & Conflicts (Quarter Horse C) Environmental Law (Arabian B) Climate Change (Mustang) Indigenous Peoples (100A)
20:00-01:00	Banquet <i>(pre-registration required)</i> (Hall D)

FRIDAY 17 MAY

06:30-20:00 **Technical visit A: Athabasca Oil Sands**

08:00-18:00 **Technical visit H: Historical Buildings in the Town of Banff**

09:00-18:00 **Technical visit I: Bar U Ranch National Historic Site**

TECHNICAL PROGRAM: TOPICAL STREAMS

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Create your personalized conference schedule! See page 16.

Technical program overview

	Hall B	Palomino A-C	Palomino D	Palomino E	Palomino F-H	Arabian B	Mustang
Monday 13 May							
09:00-10:30	Opening plenary						
11:00-12:30		10.7 From IA to sustainable performance through participatory engagement and capacity building (Page 32)	8.4.1 Alberta oil sands (I): Facing the future of challenges and opportunities (Page 27)	1.2.2 Regional and ecosystem-based approaches in CEAM (I): Guidance and programs (Page 12)	13.2.1 The vanishing North: Can IA reverse the trend? (Page 38)		1.1.4 Talking about the next generation of IA (Page 12)
14:30-16:00		5.7 Streamlining EIAs and the approval process (I) (Page 18)	18.1 Governing geoeengineering through environmental assessment (Page 46)	1.2.3 Regional and ecosystem CEAM (II): Methods and tools, part 1 (Page 13)	13.1.1 IA and climate change next steps: 2013 and beyond (Page 36)	10.3 EIA success: Case studies (I) (Page 31)	16.3 Using SEA for effective development planning (I) (Page 42)
16:30-18:00		5.8 Streamlining EIAs and the approval process (II) (Page 19)	1.2.13 Orphans re-generating impact assessment (Page 15)	12.1 Addressing project impacts to biodiversity: Critical roles for IAIA (Page 35)	13.2.2 Climate change and impact assessment: The North meets the South (Page 38)	10.4 EIA success: Case studies (II) (Page 32)	16.4 Using SEA for effective development planning (II) (Page 42)
Tuesday, 14 May							
09:00-10:30		1.1.1 IAIA SEA performance criteria: Suitable for the next generation? (Page 12)	6.1 Integrating health in IA: Opportunities not to be missed (Health I) (Page 20)	1.2.4 Regional and ecosystem CEAM (III): Addressing CEAM at the regional level (Page 13)	8.2.2 The next frontier: Development of Northern Regions (Page 26)	2.1 The expanded FAO definition of agriculture and its new relevance to ESIA (Page 16)	
11:00-12:30		3.1 IA Young practitioners forum: Passing the torch (Page 16)	6.2 The science and art of international HIA practice: Reflecting the range of IA practitioners (Health II) (Page 20)	1.2.5 Regional and ecosystem CEAM (IV): Methods and tools, part 2 (Page 13)	13.1.4 IA for integrated resources management in a climate-stressed world (Page 37)	5.2 Scoping: Are we getting it right? (I) (Page 17)	1.2.1 Harmonizing upward: next generation EA for overlapping jurisdictions (Page 12)
14:30-16:00		15.1 Public participation, value conflict, and politics of IA (I) (Page 40)	6.3 The science and art of international HIA practice: Old issues and new applications (Health III) (Page 21)	7.2.3 Engaging aboriginal communities in impact assessment and mitigation (Page 22)	16.1 Experiences with different types of SEA: From legislation to big projects (I) (Page 42)	5.3 Scoping: Are we getting it right? (II) (Page 17)	10.5 Improving communication between IA practitioners and decision makers (Page 32)
16:30-18:00		15.2 Public participation, value conflict, and politics of IA (II) (Page 41)	6.4 The science and art of international HIA practice: Let's discuss (Health IV) (Page 21)	11.3 Use and abuse of adaptive management in impact assessment: Where to next? (Page 34)	16.2 Experiences with different types of SEA: From legislation to big projects (II) (Page 42)	5.4 Significance: How and why is it determined? (Page 18)	
Wednesday, 15 May							
09:00-10:30		10.6 A new generation of regional transportation infrastructure development (Page 32)	9.1.2 Application of IFC Performance Standards by financial intermediaries (Page 29)	1.2.6 Regional and ecosystem CEAM (V): Plenary discussion (Page 13)	8.3.1 Energy needs versus indigenous interests and development concerns (Page 27)	9.1.1 What gets measured gets managed: Applications of IA for corporate responsibility (Page 29)	1.2.14 The use of a system approach to improve IA effectiveness (Page 15)
11:00-12:30		8.1.5 Environmental monitoring in the oil sands (Page 25)	12.2 Tools to predict impacts of economic development projects on biodiversity (Page 35)	8.1.6 Understanding and managing cumulative impacts in resource regions (I) (Page 26)	1.1.3 A Vision for policy appraisal: policy makers and scientists in dialogue (Page 12)	5.1 Impact assessment innovation (Page 17)	7.3.1 Country experiences with oil industries and the environment (Page 23)
14:30-16:00		9.2.1 Evolving standards in EA (I) (Page 30)	6.5 The science and art of international HIA practice: Examples from the industry (Health V) (Page 21)	8.1.7 Understanding and managing cumulative impacts in resource regions (II) (Page 26)	13.1.2 Guidelines and tools for integrating climate change in impact assessment (Page 36)	11.6 Operationalizing IA: Follow-up and implementation challenges (Page 35)	17.3.2 Environmental baseline data in the IA process: What is appropriate? (Page 46)
16:30-18:00		9.2.2 Evolving standards in EA (II) (Page 30)	14.7 Impact of dams on communities: Lessons learned and the future role of SIA (Page 40)	10.1 Socio-environmental risk assessments in EIAs (Page 31)	17.1 It's all in the mix: The lost art of integration (Page 44)	10.2 Next generation IA: Tiering of IA and planning (Page 31)	13.1.3 Crisis? What crisis? Decision-makers and climate change adaptation (Page 36)
Thursday, 16 May							
09:00-10:30		8.1.4 How can we make the oil and gas industry environmentally responsible? (Page 25)	8.4.2 Alberta Oil Sands: Conference findings	20.2 Research and impact assessment (II) (Page 48)	1.1.2 InfluencelA: A hypothetical with a twist, a loop and a Circle (Page 12)	17.2.2 Territorial impact assessment: Tool for territorial cohesion (Page 45)	6.6 Using health impact assessment to achieve sustainable goals (Page 21)
11:00-12:30	Closing plenary						

Technical program overview

100A	Quarter Horse A	Quarter Horse B	Quarter Horse C	Arabian A	Arabian C	100B	
Monday 13 May							
							09:00-10:30
<p>14.3 SIA and CSR in the mining and energy sectors: A merging of generations? (I) (Page 39)</p>							11:00-12:30
<p style="text-align: center;">KEY Plenaries Theme Forums Concurrent and theme sessions</p>							
14.4 SIA and CSR in the mining and energy sectors: A merging of generations? (II) (Page 39)	21.1 Impact assessment and disaster management: Lessons from recent disasters (Page 48)	11.1 Mine planning and environmental assessment (I) (Page 34)	15.3 Next generation social media tools for enhancing public participation in IA (Page 41)	20.1 Research and impact assessment (I) (Page 48)	22.1 Writing and submitting papers to IAPA: An interactive workshop (Page 48)	5.9 Asia-Europe dialogue on impact assessment implementation (I) (Page 19)	14:30-16:00
1.2.12 Local action for IA: Governance and the next generation of decision makers (Page 15)	7.1.1 From EA to impact and benefit agreements: Private governance and consent (Page 22)	11.2 Mine planning and environmental assessment (II) (Page 34)	8.1.1 Hard Limits: EIA and a new generation of Clean Energy Projects in BC (Page 25)	19.3 The contribution of new technologies in cultural heritage studies for IA (Page 47)	14.1 Voluntary SIA: Ideas and insights from beyond a regulatory context (Page 39)	5.10 Asia-Europe dialogue on impact assessment implementation (II) (Page 19)	16:30-18:00
Tuesday 14 May							
							09:00-10:30
9.1.3 Social licence to operate: The next generation of measuring and monitoring (I) (Page 29)	7.3.2 How are aboriginal values and Traditional Knowledge reflected in EIA? (I) (Page 23)	9.1.5 Trends in human rights impact assessment in a post-Ruggie world (Page 30)	16.7 Utopian goals or effective tools? Public and stakeholder engagement in SEA (Page 43)	8.1.2 Hydropower projects: Tumultuous journey or a peaceful march from approval? (Page 25)	17.2.3 Innovative modeling tools for sustainable energy policy assessment (Page 45)	8.2.1 Arctic hydrocarbons: Addressing community aspirations and effects (Page 26)	11:00-12:30
9.1.4 Social licence to operate: The next generation of measuring and monitoring (II) (Page 29)	7.3.3 How are aboriginal values and Traditional Knowledge reflected in EIA? (II) (Page 23)	17.2.1 Incorporating ecosystem services in ESIA (Page 45)	19.1 Who has the right to define cultural heritage values in impact assessments? (I) (Page 47)	8.1.3 Emerging good practices in oil and gas operations (Page 25)	5.5 To be or not to be? Alternatives analysis in IAIA (I) (Page 18)	7.1.2 The application of FPIC: Current practice, future trends (Page 22)	14:30-16:00
9.2.3 IFIs: Evolving ESIA practices and standards for addressing human rights (Page 31)	7.3.4 How Indigenous Traditional Knowledge affects IA (Page 23)	13.1.5 Strategic environmental assessment and climate change (Page 37)	19.2 Who has the right to define cultural heritage values in impact assessments? (II) (Page 47)	2.2 EIA and food security (Page 16)	5.6 To be or not to be? Alternatives analysis in IA (II) (Page 18)	7.4.1 Using ecological analysis to assess impacts on rights of Indigenous Peoples (Page 24)	16:30-18:00
Wednesday 15 May							
							09:00-10:30
10.8 Communication with stakeholders and general public: From state of the art to innovation (Page 33)	14.5 International guidelines for SIA: The next generation (Page 39)	14.8 The impact of new transportation facilities on urban gentrification (Page 40)	1.2.9 Broader thinking in impact assessment (Page 14)	8.3.3 Indigenous Peoples and CSR in the extractive sector (Page 27)	11.4 Partnerships over the project life cycle: The next generation for IA (Page 34)	16.6 Added value of SEA (Page 43)	11:00-12:30
7.2.1 The emerging role of Indigenous Peoples in impact assessment (I) (Page 22)	1.2.10 Can IA/SEA influence decisions affecting the global environment (I) (Page 14)	13.2.3 The Arctic (Page 38)	16.5 Strategic EA in marine and coastal planning (Page 43)	7.4.2 Consultation and engagement of Indigenous Peoples in the extractive sector (I): Consultation in Latin America and Canada (Page 24)	1.2.7 Changing EIA focus and trends (I): International (Page 13)	18.2 IA systems and trends: Focus on South Asia (Page 46)	14:30-16:00
7.2.1 The emerging role of Indigenous Peoples in impact assessment (II) (Page 22)	1.2.11 Can IA/SEA influence decisions affecting the global environment (II): Developing a plan of action (Page 14)	8.3.2 Negotiating impacts and impact mitigation with oil and gas companies (Page 27)	15.4 Public participation in IA follow-up (Page 41)	7.4.3 Consultation and engagement of Indigenous Peoples in the extractive sector (II): What is missing to improve consultation and engagement? (Page 24)	1.2.8 Changing EIA focus and trends (II): BC/Canada (Page 14)	13.1.6 GHG emission accounting & performance criteria for development projects (Page 37)	16:30-18:00
Thursday 16 May							
11.5 Highway mitigation for wildlife: New insights for practitioners (Page 34)	16.8 Applying SEA: Case studies and innovative approaches (Page 44)	14.6 Community responses to the next generation of energy technologies (Page 40)	4.1 Equal Access to Information and the Role of EA Registries (Page 16)	17.3.1 How am I supposed to do this? Methods to address ecosystem services in ESIA (Page 45)	14.2 Social impact assessment clinic (Page 39)	11.7 IA sustainable infrastructure and construction (Page 35)	09:00-10:30
							11:00-12:30

IMPACT ASSESSMENT: THE WAY FORWARD

1.1 NEW WORLD RESPONSIBILITIES

1.1.1 IAIA SEA performance criteria: suitable for the next generation?

Tuesday 14 May | 09:00-10:30 | Palomino A-C

Theme forum

Chair(s): Rob Verheem, Bobbi Schijf

IAIA Section: Strategic Environmental Assessment

The IAIA SEA Performance Criteria are now a decade old. Did they stand the test of time? Are they fit to guide the SEA work of the next generation? This session will report on the results of an online debate, as well as solicit input from the audience.

1.1.2 Influence IA: A Hypothetical with a twist, a loop and a Circle

Thursday 16 May | 09:00-10:30 | Palomino F-H

Panel discussion

Chair(s): Jack Krohn, Sandra Mols

This fast-paced, interactive session will explore the possible shape of the next generation of IA, using a form of Hypothetical structure to consider how options for change might play out over time. The audience will join the conversation through a Samoan Circle format. The key question driving the discussion will be: How can IA inform and influence decisions in an ever-changing world?

1.1.3 A vision for policy appraisal: Policy makers and scientists in dialogue

Wednesday 15 May | 11:00-12:30 | Palomino F-H

Panel discussion

Chair(s): Tamara Hochstrasser, John Fry

Is policy appraisal a way of creating reports for shelves/electronic files or is it helping to establish a dialogue between scientists and policy makers? The latter is critical for developing an evidence-based, adaptive policy making process. In this session, we will discuss theory and practice of successful policy appraisal.

Brokering knowledge in policy appraisal

Sanna-Riikka Saarela, Tarja Soderman, Irfan Khan

To act as an effective instrument policy appraisal need utilization of functioning knowledge brokering methods for science-policy interactions. This paper presents factors affecting the use of knowledge in policy appraisal.

A more social science: Scientist engagement in policy

Gerald G. Singh, Jordan Tam, Sarah Klain, Megan Mach, Rebecca Martone, Kai M. A. Chan, Thomas Sisk

We found that different factors contribute to different forms of policy engagement, though self-perceived competence is consistently important. There is strong belief that scientists should engage in policy.

Role of national auditors in improving assessments

George Stuetz

National auditors and their audits play a critical role in supporting good governance by advancing accountability and transparency. The results of these audits provide valuable input when assessing relevant policies.

What's needed for design of adaptive policy appraisal?

Tamara Hochstrasser

A new methodological framework for adaptive policy appraisal is developed that takes into consideration the integrative, transdisciplinary, contingent and reflective nature of policy-relevant scientific knowledge creation.

1.1.4 Talking about the next generation of impact assessment

Monday 13 May | 11:00-12:30 | Mustang

Theme forum

Chair(s): Angus Morrison-Saunders

What is the new generation of Impact Assessment (IA) people and how should they be engaged? What is the new generation of IA issues and solutions? Come and join this participative audience discussion to share your wisdom, experiences and views. The session will commence with short presentations from different generational representatives:

- Anne Miller (Baby Boomer)
- Alan Erlich (Gen X)
- Francois Retief (Gen X)
- Sandra Mols (Gen Y)

Thereafter the floor will be open for a facilitated open discussion on the topic.

1.2 EMERGING GLOBAL TRENDS

1.2.1 Harmonizing upward: The next generation EA for overlapping jurisdictions

Tuesday 14 May | 11:00-12:30 | Mustang

Panel discussion

Chair(s): Robert Gibson

The panel will consider best means of establishing harmonized and/or cooperative multi-jurisdictional assessment regimes (e.g., for economic unions, federations, aid agencies) that serve sustainability objectives, recognize complexity and uncertainty, cover cumulative effects, address strategic and project-level undertakings, provide sufficient flexibility to respect regional and case differences, and deliver process efficiencies.

Harmonizing upward: More advanced and more strategic

Robert Gibson, John Sinclair

Focussing on cooperative or harmonized multijurisdictional strategic level planning and

assessment could help next generation EA to addressing big sustainability-centered issues, engage key stakeholders, and deliver process efficiencies.

Reforming environmental law in Australia

Carolyn Cameron, Mary Colreavy

This presentation will provide an update on environmental law across Australia focusing on strategic approaches as well as lessons learned in creating cooperative relationships among stakeholders in multijurisdictional assessment regimes.

Harmonizing upward under CEEA 2012: Provincial role

Meinhard Doelle

This paper considers how provinces in Canada might respond to the challenge of a much less engaged federal government in EA as a result of the recently passed CEEA 2012.

Harmonizing European IA systems towards sustainability

Maria Partidário

This paper discusses multijurisdictional assessments in Europe and how they could be more effective for moving us towards sustainability.

Humanizing donor and partner IA systems for sustainable development

Peter Croal

This paper explores how and why impact assessment used in the development community must evolve to a new framework in order that IA can assist in poverty reduction more effectively.

1.2.2 Regional and ecosystem-based approaches in CEAM (I): Guidance and programs

Monday 13 May | 11:00 - 12:30 | Palomino E

Theme forum

Chair(s): Larry Canter, Barry Sadler

The thematic stream will have three main objectives:

- Take stock of recent developments in CEAM theory and practice.
- Analyze key scientific, institutional and methodological challenges in applying a next generation approach to consider the reciprocal impact of global and large scale changes and to undertake adaptive and mitigation measures.
- Review practical experience with the tools and procedures used in support of regional, ecosystem based approaches.

Cumulative effects assessment: Ireland's experience

Tadhg O'Mahony, Micheal Lehane

This paper presents the status of Ireland's CEA Guidance including examples of best practice to date in CEA. Recommendations to guide and inform effective CEA/SEA are also put forward.

Cumulative effects assessment (CEA) in British Columbia

Joe Truscott

This paper describes BC's process for developing a Cumulative Effects Assessment Framework (CEAF) and explores practicable ways to integrate the CEAF process and project-specific EAs.

IFC good practice for CIA and management in emerging markets

P. Cardinale, M. Athie, L. Babra, P. Miller, J. Pooley, L. Greig, M.J. Freeman, R.R. Everitt

This paper presents the International Finance Corporation's (IFC) approach to cumulative impact assessment (CIA) for private sponsors working in emerging markets, following an internal and external peer review that commenced last year at IAIA's conference in Porto.

Successful agency CEAM guidance: A case study

Robin Senner

Explicit, well-designed guidance is essential to achieve a technically and legally defensible CEAM product on time and within budget.

1.2.3 Regional and ecosystem-based approaches in CEAM (II): Methods and tools, part 1

Monday 13 May | 14:30-16:00 | Palomino E

Paper session

Chair(s): Barry Sadler, Larry Canter

See session 1.2.2 for description.

Sharpening CEAM tools and methods

Barry Sadler, Larry Canter

This paper reviews CEAM tools, methodology, good practice, aspects of case experience and frameworks that incorporate environmental sustainability thresholds and bottom lines.

Key court cases related to CEAM within impact studies

P.E. Hudson

This paper focuses on key United States federal court cases involving the assessment of cumulative impacts within the framework of impact assessment laws and studies, including recent trends.

Scenario analysis in cumulative impact assessment

Lorne Greig

Exploring the application, challenges of and perspective of scenario analysis in cumulative impact assessments undertaken in project-based and regional CEA contexts.

Analytical frameworks for addressing CEAM in water resource planning

Larry Canter, Manroop Chawla, Tom Swor

This presentation highlights examples of frameworks which have been used in water resources planning. Both traditional and emerging frameworks are described.

1.2.4 Regional and ecosystem-based approaches in CEAM (III): Addressing CEAM at the regional level

Tuesday 14 May | 09:00-10:30 | Palomino E

Theme forum

Proudly sponsored by Stantec.

Chair(s): Barry Sadler, Larry Canter

See session 1.2.2 for description.

Requisites for regional CEAM

Bram Noble, Robert Patrick

Regional CEAM has experienced mixed success. CEAM science and technical tools are advancing, but institutional and capacity constraints pose the most significant barriers to the implementation and success of CEAM.

Addressing VEC-related sustainability in CEAM

Larry Canter, Tom Swor, Lorna Harrell, Eric Hollins

CEAM often involves consideration of substantial quantities of information. Synthesis of information into easily-understandable displays and discussions was performed through use of composite indicators of sustainability.

South Athabasca oil sands regional strategic assessment

Dallas Johnson, Judy May-McDonald

A strategic assessment is underway for the south Athabasca oil sands area to better understand the cumulative effects of oil sands activities and support the development of a subregional plan.

Taming the tempest: Regional management of oil sands

George Hegmann

Current and evolving regional management options for Alberta's oil sands are identified and discussed regarding approach and efficacy in addressing regional environmental issues.

1.2.5 Regional and ecosystem-based approaches in CEAM (IV): Methods and tools, part 2

Tuesday 14 May | 11:00-12:30 | Palomino E

Paper session

Chair(s): Barry Sadler, Larry Canter

See session 1.2.2 for description.

Cumulative effects assessment and species at risk

Bill Ross

Recent developments in the Canadian practice of cumulative effects assessment as it relates to assessing species at risk.

CEAM for endangered species: The Sonoran pronghorn

Larry Canter, Sam Atkinson

This presentation describes how species-related scientific information and knowledge can be used in CEAM studies focused on the effects from multiple contributors on listing criteria for threatened or endangered species.

Management of CEs on fish habitat and productivity

Larry Canter, Barry Sadler

This presentation includes strategies and approaches which can be used to manage cumulative effects on freshwater fish habitat and productivity; further, collaboration for development of good practice guidance is described.

CEAM as an organizing principle for EIA documents

Robert Senner

Using CEAM as an organizing principle can improve the clarity, flow, and efficiency of environmental documents.

Watershed-related changes and cumulative effects

Larry Canter, Manroop Chawla, Tom Swor

This presentation provides examples of multiple types of watershed changes and their effects in water resources planning. The 28 case studies illustrate the use of multiple methods and technologies.

1.2.6 Regional and ecosystem-based approaches in CEAM (V): Plenary discussion

Wednesday 15 May | 09:00-12:30 | Palomino E

Theme forum

Chair(s): Barry Sadler, Larry Canter

Topics for discussion will include continuous scoping and incorporation of climate change in CEAM studies.

Cumulative effects assessment: Are we there yet?

Miles Scott-Brown

This paper offers a brief history of CEA, where it fits in EIA, its strengths and weaknesses and common methodological challenges, and its relationship to other common EIA tools.

1.2.7 Changing EIA focus and trends (I): International

Wednesday 15 May | 14:30-16:00 | Arabian C

Paper session

Chair(s): Aaron Goldschmidt

This session (Part 1) explores changes that have occurred for EIAs over time in four countries (Iran, Hong Kong (China), England, and Pakistan), the reason why the countries have made these changes, and the successes/problems with these changes.

Evaluating the maturity of the IA system in Iran

Behzad Raissiyan

Adopting and using a model to evaluate maturity of an impact assessment system and a new approach to assess effectiveness, address shortcomings, and formulate the way towards the next generation.

Shift toward a public expectation-oriented EIA

Henry Leung, Clara U, Terence Tsang, Xiaoxin Shi

This paper presents existing EIA systems in Hong Kong and reviews whether they are effective enough to help the public better understand how decisions are made throughout EIA process.

Concurrent sessions

New sustainable indicators for EcoTopia society

Hideyuki Ito, Kiichiro Hayashi

This paper aims to develop a new sustainable indicator for EcoTopia society and apply it to the wooden house and steel framed house in Aichi prefecture, Japan.

25 years of the UK EIA System: A SWOT analysis

Thomas Fischer, Urmila Jha-Thakur

This paper evaluates the UK's EIA system on completion of 25 years using SWOT analyses while drawing comparison with Glasson's (1999) review of the first 10 years of the UK EIA system.

EIA implementation in Balochistan and volatile security

Mohammad Durrani, Kaleem Ullah Khan

This paper is focused on various issues in the implementation of EIA regulation due to the volatile security situation in the Balochistan Province by EPA.

1.2.8 Changing EIA focus and trends (II): BC/Canada

Wednesday 15 May | 16:30-18:00 | Arabian C

Paper session

Chair(s): Pam Gunther

This session (Part II) explores creative new approaches for specific EIA components to be considered as a different approach or to evaluate their successful or unsuccessful application in recent EIAs.

Refining EIAs: Focusing on valued components

John Virgl, Lasha Young

The use of valued components to focus environmental impact assessment will be explored in this presentation.

Including ecosystem services in environmental planning

Glenn Brown, Patrick Mooney

This project tested tools to permit the use of natural capital and ecosystem services to be incorporated in scoping and related planning processes at landscape scales in southern British Columbia.

Exploring the use of "argument" in impact assessment

Glenn Brown, Tim Hicks

Seven features of 33 arguments about impact significance from a government EA assessor were evaluated, revealing weak arguments that could be improved using approaches from the field of argumentation.

What's a commitment worth?

Carol Luttmmer, Chuck Hubert, Alan Ehrlich

This paper explores the evolution of the use of commitments made by proponents in environmental impact assessments conducted in the Mackenzie Valley, Canada, over the past 15 years.

Assessing the legacy effects of mining

Robert Gibson, Amy V. Robinson

Better attention to lasting contributions to sustainability would help correct the tendency of non-renewable resource extraction undertakings to leave regrettable social, economic and ecological legacies for local ecologies and communities.

1.2.9 Broader thinking in impact assessment

Wednesday 15 May | 11:00-12:30 | Quarter Horse C

Paper session

Chair(s): Charlotte Bisley

This session explores new initiatives that can enhance the value of impact assessments, for companies and/or governments.

Developing a "best practice" SIA process

Jerome Donovan, Antonio Luis Arce Gomez, Rowan Bedgood

This research seeks to establish a new SIA framework, targeted at project level implementation, to overcome the limitations associated with existing regulatory guidelines.

Coordination mechanisms for EIA in Pakistan

Saadullah Ayaz, Azfar Hasan Ansari

Inter/intra-agency coordination is required to effectively implement the EIA process in Pakistan, which can be improved through various policy, institutional, technical and financial measures.

An environmental variable that creates competitiveness

Fernanda Fingerl, Monica Lanna, Manuela Moreira

The increase of new forms of strategic impact assessment at Vale as a mechanism to improve the value of new corporate business.

Broader SIAs in conflict/post-conflict states can create value

Charlotte Bisley

SIAs in conflict/post-conflict states present an opportunity to contribute to the nation's development. Value and risks for companies and governments are considered.

Notes

1.2.10 Can IA/SEA influence decisions affecting the global environment? (I)

Wednesday 15 May | 14:30 - 16:00 | Quarter Horse A

Debate

Chair(s): Peter Nelson

Our world is changing—sometimes for the better; often for the worse. In session I, four experienced practitioners who are not afraid to speak their minds will argue the case for and against the effectiveness of SEA in managing our environment.

- **Rob Verheem** – Deputy Director, Netherlands EA Commission
- **Peter Tarr** – Executive Director, Southern African Institute of Environmental Assessment
- **Peter Nelson** – Principal, Planning Green Futures
- **Peter Croal** – CIDA

1.2.11 Can IA/SEA influence decisions affecting the global environment (II): Developing a plan of action

Wednesday 15 May | 16:30 - 18:00 | Quarter Horse A

Facilitated discussion

Chair(s): Peter Nelson

Our world is changing—sometimes for the better; often for the worse. Session II will constitute a genuine debate amongst all participants, with the aim of agreeing a Plan of Action for raising the effectiveness of SEA in global decision-making.

- Does strategic assessment provide decision-makers with the information they need?
- Do decision-makers genuinely consider the advice?
- Does SEA make a difference to national and global policies, plans and programmes - or is it business as usual?

1.2.12 Local action for IA: Governance and the next generation of decision makers

Monday 13 May | 16:30-18:00 | 100A

Paper session

Chair(s): *Chumisa Thengwa*

Sustainable cities are crucial to the tackling of global problems such as biodiversity loss and climate change. The projected rate of urbanization will bring about an increase environmental impacts. To remain resilient, cities will need to act in response. Central to this local level action is the need for innovative decision making that responds strategically to these global drivers of change. Governance and the next generation of decision makers must be alive to this reality. The aim of this session is to encourage a debate on how governance should transform in response to the realities that the next generation of decision makers will face in the impact assessment arena.

Cost benefit analysis of municipal adaptation plans

Chumisa Thengwa

Results of a study are discussed in the context of the need to approach climate change adaptation in a world where planetary boundaries are being exceeded and the need for business unusual grows daily.

Urban heat stress: Origins and strategies

Julie Donner, Johann Köppel

This paper examines a new methodological approach to identify the driving forces and barriers for adaptation strategies to reduce the hazard or the vulnerability of cities for urban heat stress.

Achieving sustainable urbanization:

The case of airports

Xiangyu Sheng, David Carruthers, Peter Guthrie

This paper uses some case studies which have been carried out in the UK to form a framework for assessing emissions from airports and associated impacts on air quality.

Have a new idea?
Need to continue a discussion?
Topic that is not on the program?

INDABA!

See page 2 for information.



1.2.13 Orphans re-generating impact assessment

Monday 13 May | 16:30-18:00 | Palomino D

Panel

Proudly sponsored by Stantec.

Chair(s): *Jos Arts, Francois Retief*

This session is a follow-up on previous years' sessions about re-introducing and re-emphasizing key issues in impact assessment which seem to have been neglected over time. Can we re-generate these orphans of impact assessment so we ensure that the profession strengthens its roots towards improved practice for the next generation?

Orphans re-generating impact assessment: An introduction

Chair(s): *Francois Retief, Jos Arts*

We discuss key issues in IA that are neglected over time. Can we re-generate these IA orphans to ensure that the profession strengthens its roots towards improved practice for the next generation?

Overview of sessions in IAIA'13 orphanage

Scoping: are we getting it right? (Page 17)

Jeff Barnes, Denis Marquis

To be or not to be? Alternatives analysis in impact assessment (I & II) (Page 18)

Charlotte Bingham, Patience Whitten, Emily Johannes, Bryony Walmsley, Inga Carlman, Sanjay Srivastava

Significance: How and why is it determined? (Page 18)

Jeff Barnes, Gordon Yamazaki

It's all in the mix: The lost art of integration (Page 44)

Bryony Walmsley, Peter Tarr, James Baines

Next generation IA: Tiering of IA and planning (Page 31)

Heikki Kalle, Jos Arts

Paper presentations

Reinventing screening: SEA screening in Sweden

Charlotta Faith-Ell, Marie-Louise Stenérus, Susanna Nilsson

The paper builds on a study of the practice of screening within Swedish municipalities and County Administrative Board.

Thresholds (an orphan on the doorstep?)

Jack Krohn

Embedded in several key elements of EIA, thresholds are often taken for granted. How can we ensure they are relevant, appropriate, responsive to needs, contributing to healthy processes?

Non-technical summaries: Importance, pitfalls and challenge for practitioners

Jan Nuesink

General discussion

1.2.14 The use of a system approach to improve impact assessment effectiveness

Wednesday 15 May | 09:00-10:30 | Mustang

Theme forum

Chair(s): *Bobbi Schijf, Dieudonné Bitondo, Gunnar Baldwin*

Effective IA is the outcome of an interlocking system where various actors and functions play a role. System thinking can help to more effectively identify the bottlenecks for IA, particularly to bring into view partners outside the direct IA community, that we should collaborate with. The NCEA, SEEAC and INECE share their views.

- **Rob Verheem, NCEA.** The system approach to EIA and SEA developed by the Netherlands Commission for Environmental Assessment.
- **Dieudonné Bitondo, SEEAC.** Insights that have emerged from the application of system analysis (EIA mapping) in 5 central African countries. What added value did the system approach have? One of the bottlenecks that was identified in this analysis was the lack of structural financing for EIA-related governmental tasks, including compliance monitoring and enforcement.
- **Gunnar Baldwin, INECE.** Results from a study that emerged from the system analysis and was just concluded: financing mechanisms for IA. Gunnar will discuss what alliances are needed with partners outside the IA community in order to institutionalize funding mechanisms.

Following these presentations, the audience will be asked to respond to the pros and cons of approaching EIA and SEA as systems, including what it would mean to how we organize ourselves within IAIA (for example, in enabling cooperation and exchanges across specializations). The IAIA Sections are specifically invited to react.

EFFECTIVENESS AND EFFICIENCY IN IA

5.1 Impact assessment innovation

Wednesday 15 May | 11:00-12:30 | Arabian B

Pecha Kucha

Chair(s): Jenifer Hill

Impact assessment is evolving. We will see 10 fascinating Pecha Kucha presentations highlighting ways that consultants, industry, organizations and government are taking project and strategic level impact assessment into the future. The presenters identify some of the issues and gaps and detail options for standardization, integration, and emerging methods.

Quick tour of a major EIA/SIA in Armenia

David Burack, Sos Amirkhanyan

Twenty slides covering the major issues that recur in project-specific EIA, using as an example the Millennium Challenge Corporation's major irrigation and rural roads project in Armenia. Pointers for success.

Importance of labor monitoring in SIA mitigation

Marielle Rowan

Construction labour monitoring should be considered as an SIA mitigation measure or contractual condition when labour risks exist. Project examples validate its use to create positive labour management outcomes.

Multiple EIAs and management for a strategic rail link

Josh Lam, Lisa Poon

As we build on the existing rail network, the challenge is to overcome complexities by risk management during the EIA process and effective follow-up management during the construction stage.

EIA smackdown: Comparing California and EU approaches

Richard Grassetti, Ralf Aschemann

This paper will compare the evolution and effectiveness of two EIA processes: the California Environmental Quality Act and the EU EIA Process to identify solutions to common EIA problems.

Cumulative constraints-based planning for oil sands

Oliver Laser, Amit Saxena

This paper describes a cumulative constraints planning process that was developed to manage potential environmental impacts of oil sands projects in the Fort McMurray area of Alberta.

Developing practices for supporting EIA with MCDA

Ricardo Alves de Souza

Environmental network diagrams and clear analysis criteria are developed for the main offshore exploration and production (E&) activities so as the potential impacts can be previously and properly identified and predicted.

Developing practices for supporting EIA with MCDA

Jyri Mustajoki, Mika Marttunen, Timo P. Karjalainen, Joonas Hokkanen

We discuss application opportunities of the principles and tools of MCDA and identify good practices for applying MCDA in EIA. We present a framework for computer-aided MCDA supported EIA process.

SEA implementation mechanisms and future tools

Anthony Ho

The paper discusses Hong Kong's SEA system, summarizes the application of knowledge management (KM) concept and information and communication technology (ICT) in processing SEA studies, and projects how future SEAs may be carried out.

Sustainability assessments: New regulatory governance

Bronwyn Purvis, Olan Howell

Exploring the role of ongoing innovation in impact assessment, in establishing new "soft" regulatory governance for companies, and using case studies from the field of emerging sustainability assessment.

5.2 Scoping: Are we getting it right? (I)

Tuesday 14 May | 11:00-12:30 | Arabian B

Paper Session

Chair(s): Jeffrey L. Barnes

This session explores scoping practices and related issues that can arise or be avoided through scoping. Is less-than-good scoping a cause for inefficient and ineffective EIA?

An online EIA screening and scoping system

Dick van Straaten, Katia Nagels

An online EIA screening and scoping system is an efficient instrument to focus the EIA to the remaining issues that needs further and more profound assessment.

ERA: Methodological framework for focused EA

Geoffrey Hurley, Jeffrey L. Barnes

This paper outlines a methodological approach to focused environmental assessment that the authors term environmental risk assessment (ERA).

Improving effectiveness of EIA by a MCDA approach

Timo P. Karjalainen, Jenni Neste, Mika Marttunen, Jyri Mustajoki, Olli-Matti Tervaniemi

A new decision analytic and interactive EIA framework stresses the scoping phase ensuring that the most significant impacts of the project are included in the assessment.

VEC selection for CEA: Beyond residual impact analysis

Ayodele Olagunju, Jill Gunn

Residual effects analysis alone is insufficient for determining appropriate the valued ecosystem component (VEC) for cumulative effects assessment.

Citizen science: New ways for HIA

Lea den Broeder

A change of paradigm from exclusive, expert-based science to citizen science will provide new ways for HIA.

Public scoping: The meaningful beginning of EHIA

Khemwalai Theerasuwanajak

There are many criticisms on the public scoping part of EHIA about the real participation process. The solution of these is the challenge of all related organizations in Thailand.

5.3 Scoping: Are we getting it right? (II)

Tuesday 14 May | 14:30-16:00 | Arabian B

Paper Session

Chair(s): Jeffrey L. Barnes

This session explores scoping practices and related issues that can arise or be avoided through scoping. Is less-than-good scoping a cause for inefficient and ineffective EIA?

Scoping under the new federal EA regime in Canada

Jeffrey Barnes, Neil Cory, Mary Murdoch, Sandra Webster

This paper explores the practices of government under the new federal EA legislation in Canada and identifies some administrative issues that may tend to undermine the achievement of good scoping.

EA report quality in Canada: Issues and suggestions

Steve Bonnell, Todd Burlingame

Explores a number of procedural and methodological issues that are affecting EA practice in Canada and identifies measures to help improve the content, quality and brevity of future assessments.

Scoping meeting of revised EIA law in Japan

Yuki Shibata, Yumie Holi

We conducted a questionnaire survey to find out the actual conditions of scoping meetings under the newly-revised EIA law in Japan (2011), and suggest some needs for further improvements.

IFC vs. local standards: Lessons learned from frontier

Caleb Wall, Dirk Nuyens, Ross Mitchell, Wendy Brown, Robert Mugo

Delivering safe and environmentally-friendly operations is non-negotiable. It requires dedicated strategies and project teams so that compliant EIA projects can be delivered in more complex conditions.

Concurrent sessions

A pathway for future development and empirical examination

Jerome Donovan, Ego Onwuka

This paper explores the scoping stage within integrated impact assessments, developing a conceptual basis from extant literature on how to more effectively and efficiently undertake this stage when considering economic factors.

Criteria for effective EA: A Delphi study

Kevin Hanna, Bram Noble

Using a Delphi study, this research developed effectiveness criteria that can be used to better understand and evaluate the impact of EA on environmental quality and decision-making.

Scoping in developing IA legal frameworks

Javier Clausen, Sergio Contreras

Challenges and initial outcomes of proactively implementing scoping for EIA and CEA in the developing IA regulatory framework in Mexico.

5.4 Significance: How and why is it determined?

Tuesday 14 May | 16:30-18:00 | Arabian B

Paper Session

Chair(s): Jeffrey L. Barnes

This session will explore current practice for the determination of significance and the various approaches used in its determination. It will also consider legislative and policy issues around the concept of significance, including the intention and utility of its determination.

Was there an impact?

Robert Gerst

Practitioners use statistical techniques like significance testing to help reach conclusions concerning policy or program impact. The problem: statistical significance can't do that. A move to material significance is required.

Relying on law and regulation to establish significance

Jeffrey Barnes, Gordon Yamazaki, Denis Marquis,

This paper explores the elegance, benefits and perils of relying upon law and regulation for the determination of significance in EIA.

Deliberative approach to impact significance assessment

Mika Marttunen, Timo Karjalainen, Jyri Mustajoki, Anne Vehmas

A systematic approach to determine significance of the impacts taking into account both experts' judgments and stakeholders' perspectives enhances interaction and learning and results in transparent outcomes.

Considering uncertainty and risk in significance

Celesa Horvath

This paper will examine the need for, and approaches to, considering risk and uncertainty in the determination of significance. These factors are critical determinants in scoping follow-up and monitoring.

EIA-screening reform for Europe

Martin Lund-Iversen, Davide Geneletti, Silvia Mete

Significance determination in EIA screening is being improved by the European commission and by member states by linking it to environmental regulations or designated statuses.

5.5 To be or not to be? Alternatives analysis in impact assessment (I)

Tuesday 14 May | 14:30-16:00 | Arabian C

Paper session

Chair(s): Charlotte Bingham

This session explores the status and state of alternatives analysis in Impact Assessment. Once considered the "heart" of impact assessment, this session examines how the evaluations of alternatives are now used or abused and their effectiveness in determining sustainable development options.

Alternative analysis: Key to effective and efficient IAs?

Shirley Sau Ling Lee Hon

Quality alternative analysis will improve credibility of future IA findings and facilitate better decision making and wider public acceptance of recommended options to achieve more sustainable patterns of development and redevelopment.

Where did requirements for alternatives in EIA go?

Inga Carlman, Erik Grönlund, Anna Longueville

The requirement for alternatives to the proposed action, which was once the linchpin of the EIA, is now almost lost. What consequences will that have for future generation?

How to misuse the EIA tool: A Swedish example

Anna Longueville, Inga Carlman

Alternatives are the backbone of EIA. Examples from Sweden show that the original intentions of an EIA are not met, and explain why this is the case.

What is the future for alternatives evaluation?

Charlotte Bingham

If alternatives are the heart of EIA, why are they so often written as an afterthought, when everybody already knows the preferred or chosen project. Can alternatives evaluation be revived?

What did you think of the last session? Tweet us at #IAIA13.

5.6 To be or not to be? Alternatives analysis in impact assessment (II)

Tuesday 14 May | 16:30-18:00 | Arabian C

Panel discussion

Chair(s): Patience Whitten

Though it is the backbone of environmental impact assessment, the evaluation of alternatives in EIA practice is arguably suffering from willful neglect, even within the EIA society. This panel will challenge the complacency surrounding the use of alternatives, examine the problem and address solutions.

- **Patience Whitten**, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Washington, DC, USA
- **Inga Carlman**, Dept. of Engineering and Sustainable Development, Mid Sweden University, Ostersund, Sweden
- **Bryony Walmsley**, Southern African Institute for Environmental Assessment, Cape Town, South Africa
- **Emily Johannes**, Senior Associate, Vela Environmental, Washington, DC, USA
- **Charlotte Bingham**, Environmental Impact Assessment and Resettlement Specialist Independent Consultant, USA

5.7 Streamlining EIAs and the approval process: How far do we go? (I)

Monday 13 May | 14:30-16:00 | Palomino A-C

Paper session

Session proudly sponsored by McMillan.

Chair(s): James Howell, Nigel Fisher

This session will review the effects of international changes to EIA requirements. Do these changes maintain EIA integrity? Are they the vanguard of a new approach to environmental impact assessment?

Implementing the Canadian Environmental Assessment Act, 2012

Helen Cutts

Responding to Canada's current economic and environmental context, the Government of Canada updated its federal environmental assessment legislation as part of its plan for Responsible Resource Development to modernize the regulatory system. This presentation looks at highlights of the *Canadian Environmental Assessment Act, 2012* and experience with its implementation over the past year.

Regulatory responses to EA challenges in Canada

Robin Junger

The presentation will address two issues of regulatory responses to EA challenges in Canada, in particular CEAA 2012. The issue of substitution and equivalency will be addressed with reference to the recent MOU on substitution between the governments of British Columbia and Canada. The second issue is the ability of EA processes to discharge the Crown's duty to consult aboriginal groups and the challenges of aboriginal consultation (e.g., agreements for third party review, terms of TUS/TLUS/TEK studies).

It's not the end of EA in Canada!

Jeffrey Barnes, George Hegmann

The assertions of critics that new federal EA law in Canada marks the end of EA in Canada is contested, countering that this rhetoric ignores improvements and denies previous problems.

Environmental assessment in Alberta

James Howell

Alberta's environmental regulatory processes are being streamlined to minimize duplication while maintaining rigour in assessing project environmental effects. The current state of environmental assessment in Alberta will be presented.

Streamlining EIA procedure for power plant replacement

Daisuke Uesako, Tetsuro Uesugi, Kenji Kamita

Several measures are taken in Japan to streamline legally required EIA process for projects replacing aged thermal power plants. Here, we introduce how we developed this and how it works.

EA and economic crisis: Opportunity for change in Spain

Iñigo M. Sobrini, Miguel Angel Casermeiro, Luis Desdentado, Manuel Diaz, Ana Pilar Espluga

Spanish EIA Association having been consulted, the Spanish Government is boosting new EIA regulations to improve the national EIA system without jeopardizing the actual environmental protection standards.

5.8 Streamlining EIAs and the approval process: How far do we go? (II)

Monday 13 May | 16:30-18:00 | Palomino A-C

Paper session

Proudly sponsored by Stantec.

Chair(s): James Howell, Nigel Fisher

This session will review the effects of international changes to EIA requirements. Do these changes maintain EIA integrity? Are they the vanguard of a new approach to environmental impact assessment?

Reducing green tape or rolling back IA in Australia

Garry Middle, Lex Brown, Daniel Franks, Ben Harris-Roxas, Beverley Clarke, Nermin Baykan, Angus Morrison-Saunders, John Glasson

EIA globally and in Australia is being challenged because of perceptions about timeliness and preventing economic growth. This paper critically examines proposed and possible "efficiency" changes to EIA in Australia.

Streamlined IA of ethanol projects in Brazil

Alberto Fonseca, Juliana Silva, José Francisco Prado Filho

This presentation analyzes the criteria for, and potential consequences of, streamlined IAs of ethanol projects in Brazil, highlighting ways to enhance the screening and scoping phases of the process.

Canadian fisheries legislative changes and impact to IA

Nigel Fisher

This paper reviews the implication of changes to fisheries management legislation in Canada and the implication for IA practice for fisheries and aquatic biota.

Canada's federal EA legislation vs. a model EA law

Brenda Heelan Powell

This paper will provide a comparison of a Model Environmental and Sustainability Law developed by the Environmental Law Centre (Alberta) with the previous CEEA, 1992 and the current CEEA, 2012.

Predicting CEEA's performance and impact

Brandon Gregg, Kevin Hanna

A Delphi study surveyed EA researchers to predict performance and impact issues in the new Canadian Environmental Assessment Act.

EA in Canada: Out of the frying pan, into the fire

Celesa Horvath, Jeffrey L. Barnes

This paper will examine challenges for process efficiency and coordination created by the new Canadian federal EA legislation, and make recommendations for legislative amendments and/or procedural guidance to address them.

5.9 Asia-Europe dialogue on impact assessment implementation (I)

Monday 13 May | 14:30-16:00 | 100B

Paper session

Chair(s): Anne Merrild Hansen, NN

This special session opens the opportunity for a dialogue to discuss a variety of issues on impact assessment implementation in the Asian-European context. The discussion will cover a wide range of topics such as IA effectiveness, public participation, capacity building and institutional settings.

Comparing quality practice in EIA in Hong Kong and UK

Simon Ho, Henry Leung, Josh Fothergill, Andy Chung

Discusses and compares functions of EIA systems in the United Kingdom and Hong Kong and examines whether the existing systems could be enhanced to meet increasing expectations on quality practice.

Construction and future development of the EIA forum

Feng Ding, Wenhao Zuo

This paper discusses the content setting, technical characteristics, and utilization of information resources of the EIA forum, and then proposes the position and major development task of the EIA Forum.

Two roads to hEAVen: 25 years of EIA in The Netherlands and the UK

Jos Arts, Thomas Fischer, Hens Runhaar, Urmila Jha Thakur, Frank Van Laerhoven, Peter Driessen, Adam Ant

We discuss a comparative study into the effectiveness of 25 years EIA-practice in The Netherlands and the UK. What recommendations can be made to strengthen EIA as an environmental governance tool?

Shape-shifting frameworks for project assessment

Kenneth Green

Using frameworks for meeting World Bank safeguards requirements has recently expanded. Operational challenges and lessons learned will be presented.

5.10 Asia-Europe dialogue on impact assessment implementation (II)

Monday 13 May | 16:30-18:00 | 100B

Paper session

Chair(s): Anne Merrild Hansen, NN

This special session opens the opportunity for a dialogue to discuss a variety of issues on impact assessment implementation in the Asian-European context. The discussion will cover a wide range of topics such as IA effectiveness, public participation, capacity building and institutional settings.

Public participation in the EU: East and West

Ralph Bergmüller, Jenny Baer-Pászty

It is vital to understand the culture and history of a country when planning public consultation within the EU.

Practice of public participation in EIA in China

Zhigang Wang, Lixuan Zeng, Jianchun Wang

The regulation interim procedures of public participation (IPPE) has promoted the practice of public participation in EIA in China, but more detailed requirements are still of high necessity to be revised or enriched in IPPE.

One country, two EIA systems

Cho Nam Ng, Chi Chung Wong

The paper provides an overview of the major differences between the EIA systems in China and Hong Kong with focus on the public engagement and decision making processes.

Prevent and control rural environmental pollution by EIA

Xuegong Liang, Haizhen Zhao, Haisheng Li

This paper proposes measures to prevent and control the environmental pollution in China's rural areas from three aspects of EIA.

Focus on Health - 14 May

The diversity of HIA practice worldwide is both a challenge and an asset, and the IAIA 2013 Health Day presents an ideal opportunity to facilitate dialogue across HIA practice globally. The Health Day and the other health-related activities will explore the importance of health within the Impact Assessment process, will enable IA practitioners to reflect on key lessons learned through the application of HIA, and will conclude with an examination of how HIA needs to evolve to be a better fit for the challenges ahead.

focus on HEALTH

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6.1 Integrating health in impact assessments: Opportunities not to be missed (Health I)

Tuesday 14 May | 09:00-10:30 | Palomino D

Theme forum

Chair(s): Francesca Viliani, Rainer Fehr, Marco Martuzzi

IAIA Section: Health

In order to make the most of IA, and to prevent "IA fatigue," we discuss with experts and practitioners from different IA threads (EIA, SIA, SEA, SA and HIA) the interrelation of various IA forms with health, tools and experiences to be shared and pros and cons of IAs integration.

The consideration of health in SEA

Thomas Fischer

This paper summarizes the evidence presented in the professional literature regarding the extent to which health is considered in strategic environmental assessment.

Strengthening health in SEA: Where is the gap?

Maria Partidário

Are environmental assessors prepared to work health in IA? Are health practitioners prepared to work health in other types of IA other than HIA? Are respective institutions sufficiently aligned?

Health in EIA in the Nordic and Baltic countries

Heikki Kalle, Charlotta Faith-Ell, Martin Lund-Iversen

Health is considered to be an integral part of EIA in the Nordic and Baltic countries. This paper builds on a comparison of the practice of integrating health aspects.

Health in sustainability assessment

Jenny Pope, Alan Bond

This presentation will explore the relationship and potential for integration between HIA and sustainability assessment.

Health in social impact assessment

Frank Vanclay, Lea den Broeder

The presentation outlines current thinking in social impact assessment (SIA) and discusses where and how health is addressed in SIA.

Integrating health impact assessment

Rainer Fehr, Monica O'Mullane, Gabriel Guliš

This presentation discusses health impact assessment (HIA) as an important member within the IA "family," focusing on the commonalities and differences between HIA and the IAs.

6.2 The science and art of international HIA practice: Reflecting the range of HIA practitioners (Health II)

Tuesday 14 May | 11:00-12:30 | Palomino D

Paper session

Chair(s): Francesca Viliani, Lea den Broeder, Marla Orenstein, Ben Cave

IAIA Section: Health

This session aims at presenting the diversity of HIA practices worldwide. While a full and detailed mapping is not possible, the papers will present the most interesting and innovative applications of HIA worldwide. Of special interest are the applications of HIA in new countries and on new topics as this will further enrich practitioners' experience and knowledge.

Health impact assessment in Nigeria: The time has come

Marcus Chilaka

Health impact assessment has the potential to strengthen and improve outcomes from health systems, especially in developing countries. The conditions appear conducive for enhancing the application of HIA in Nigeria.

European experiences with health in impact assessments

Rainer Fehr, Gabriel Gulis, Marci Martuzzi, Walter Ricciardi, Dineke Zeegers Paget

The European Public Health Association (EUPHA) has identified impact assessments as a strategic approach to protect and promote human health.

“Moving the goal posts”: HIA in waste planning in Wales

Liz Green

This paper discusses how HIA has been developed in waste planning in Wales. It reflects on the achievements but also the emerging issues and future challenges to be faced.

Challenges of HIA in a Yukon mining community

Murray Lee, Marla Orenstein

This presentation examines the first use of HIA by the government of Yukon, Canada, in its effort to address uncertainty resulting from a resumption of mining in a remote community.

6.3 The science and art of international HIA practice: Old issues and new applications (Health III)

Tuesday 14 May | 14:30–16:00 | Palomino D

Paper session

Chair(s): Francesca Viliani, Lea den Broeder, Marla Orenstein, Ben Cave

IAIA Section: Health

This paper session aims at presenting old and emerging issues and applications in the use of HIA worldwide. Papers describing new approaches for tackling established issues such as equity, effectiveness, and follow up alongside emerging issues such as climate change, integrated assessment and strategic and policy HIAs will be presented.

Use of quantitative risk assessment in HIAs

Sharon Quiring, Sinang Lee

Practical considerations for the use of HRA in the HIA process are illustrated using two case studies: a coal-fired power plant in the U.S., and an alumina refinery in Guinea

The Mobile Resource Worker Well-Being Assessment Tool

Angela C. Angel

This paper introduces a unique assessment framework, based on the social determinants of health, to help identify social and health impacts of resource development projects on mobile resource workers.

Fair? Avoidable? Policy focussed HIA and equity

Ben Cave, Erica Ison, Nicola Cantoreggi, Jean Simos

Equity is a core value of HIA, and it seems to be a challenge. We look at policy assessment across Europe and present a practical approach.

Ethics of HIA

Marco Martuzzi

What ethical values really underlie the practice of HIA and other forms of IA? Are we explicit enough about them? Are they clear at all?

6.4 The science and art of international HIA practice: Let's discuss (Health IV)

Tuesday 14 May | 16:30-18:00 | Palomino D

Workshop

Chair(s): Francesca Viliani, Ben Harris-Roxas, Lea den Broeder, Patrick Harris, Salim Vohra, Marla Orenstein, Ben Cave

IAIA Section: Health

This session aims at reflecting on the inputs presented during the three previous sessions and take the discussion to the next level. The workshop is participative and aims at concluding the day by developing a set of coherent ideas, thoughts and recommendations for helping HIA practitioners improve their practice.

6.5 The science and art of international HIA practice: Example from the industry (Health V)

Wednesday 15 May | 14:30-16:00 | Palomino D

Workshop

Chair(s): Francesca Viliani, Lea den Broeder, Marla Orenstein, Ben Cave

IAIA Section: Health

This session aims at presenting frameworks and real case experience of how HIA, standing alone or integrated in other forms of impact assessment, has been applied or could be applied by the extractive industry sector to mainstream health consideration within the decision making process.

HIA in Alaska: The importance of local culture

Ame-Lia Tamburrini, Heather Dingman

This presentation uses a case example from Alaska, USA, to illustrate how local culture can influence the definition and assessment of health in an HIA.

A framework for cumulative effects in HIA

Martin Birley

A framework for including cumulative impacts at local, regional and planetary scales in health impact assessments, using Athabasca bitumen (“oil” or “tar”) sands as an example.

HIA as part of ESHIA in development projects

Geetha Ramesh, Emily Baulk, Deirdre Treissman

This presentation will focus on the inclusion of HIA in ESHIA to address development-related health issues in a systematic and evidence-based manner in global extractive and energy industries.

HIA for UK geological disposal of radioactive wastes

Helen Clark, Robert Fletton

A discussion of the integration of health impact assessment with a strategic environmental assessment for the UK geological disposal facility for higher activity radioactive wastes.

6.6 Using health impact assessment to achieve sustainable goals

Thursday 16 May | 09:00-10:30 | Mustang

Panel

Chair(s): Geetha Ramesh, Deirdre Treissman, Emily Baulk

IAIA Section: Health

HIA supports the principles of sustainable development by integrating the key aspects of health and the associated risks and benefits. This session will focus on the inclusion of HIA as a planning tool to address development-related health issues in a systematic and evidence-based manner in global extractive and energy industries.

Significant changes to the Canadian EA process

Allan Ingelson, Al Lucas, Nickie Vlavianos

To streamline the federal EA process and reduce delays in project approvals, the Canadian EA process was significantly changed in 2012; there is considerable uncertainty about how the new process will unfold.

Health within EIA in the UK and India

Thomas Fischer, Urmila Jha-Thakur, Adam Ant

This paper explores the perception of health within EIA in a developed country (UK) and a developing one (India) and in doing so compares the findings of an online survey.

Mining, health and sustainability in British Columbia

Janis Shandro, Aleck Ostry, Malcolm Scoble

This paper describes a project with two First Nations and a municipality associated with British Columbia's newest mine. The project is focused on mitigating health impacts and achieving sustainability.

Emerging infectious diseases and impact assessments

Louise Flynn, Renuka Bery, Anne-Elizabeth Kaitano

This paper outlines the need to examine vulnerabilities related to emerging infectious diseases in impact analyses, present mitigation options and share tools that companies can use to reduce their vulnerabilities.

INDIGENOUS PEOPLES AND IA

7.1 ABORIGINAL PEOPLES: FPIC

7.1.1 From EA to impact and benefit Agreements: Private governance and consent

Monday 13 May | 16:30-18:00 | Quarter Horse A

Paper session

Chair(s): Dan McCarthy

This session considers the increasing use of impact and benefit agreements between resource developers and First Nations as stand alone, environmental governance arrangements. The relation to, and implications for, EA processes is explored with an emphasis on the potential of these arrangements to engender ongoing consent for resource development activities among First Nation communities.

IBAs as private governance schemes: Assessing legitimacy

Neil Craik

This paper discusses the governance role of impact and benefit agreements (IBAs) and the potential of these agreements to promote legitimate outcomes among First Nations and resource developers.

IBAs as environmental management regimes

Ciaran O'Faircheallaigh

This paper considers the implications of environmental provisions in impact and benefit agreements for Indigenous consent to major projects and for their public regulation.

Anishanaabe Maamwaye Aki Kiigayewin

Mary Boyden, Martin Millen

Anishanaabe Maamwaye Aki Kiigayewin (all people coming together to heal the earth): This presentation will present a new indigenous-led model for structuring indigenous-resource company collaborations.

7.1.2 The application of FPIC: Current practice, future needs

Tuesday 14 May | 14:30-16:00 | 100B

Paper session

Chair(s): Ana Maria Esteves, Murray Jones

IAIA Sections: SIA, Indigenous Peoples

Free, Prior and Informed Consent (FPIC) is a fundamental right for Indigenous Peoples in the development process. Should FPIC be a discussion process, a negotiation, a focus on benefits agreements, or a community vote? This session addresses how to make dialogue free and prior, how to inform, who is involved in consent.

IA practice and FPIC: Irreconcilable conflict?

Ciaran O'Faircheallaigh, Ginger Gibson

We review the relationship between each element of the principle of Indigenous Free Prior Informed Consent and the intent and practice of IA.

Status of FPIC for better extractive sector projects

Peter Croal

This presentation will discuss the status of Free, Prior and Informed Consent (FPIC) with respect to the extractive sector. In particular, the benefits of FPIC for companies will be examined.

Human rights, Indigenous Peoples and the FPIC principle

Philippe Hanna

Companies are encouraged to respect the human right to self-determination through the FPIC process. If fully applied, FPIC may reduce costs, risks and the likelihood of conflict with local communities.

Emerging experiences of the application of FPIC within

Katharine Gotto Walton, Edward O'Keefe

The FPIC concept is gaining increasing currency within extractive industry projects. This paper documents the experiences of projects addressing issues of consent and outlines criteria for practical determination of FPIC.

The FPIC concept in REDD+ negotiations and MDB policies

Maria da Cunha

The FPIC concept is gaining increasing currency in the context of REDD+ negotiations and MDB policies. This presentation discusses the various standards that relate to FPIC and are currently in use and discusses the practical challenges and potential solutions for converging norms and practical implementation.

7.2 INDIGENOUS PEOPLES AND IA

7.2.1 The emerging role of Indigenous Peoples in impact assessment (I)

Wednesday 15 May | 14:30-16:00 | 100A

Workshop

Chair(s): Martin Haefele, Somia Sadiq

IAIA Section: Indigenous Peoples

This workshop will take a critical look at the young impact assessment regimes of Canada's northern territories, compare them to the longer experience of the northern Québec's Cree, and provide the perspective of indigenous participants in the process. Participants then engage in a facilitated discussion to identify lessons learned.

Emerging roles of Indigenous Peoples: The Yukon story

Michael Muller

Yukon Territory, Canada, has a new assessment process out of First Nation land claims. How the legislation facilitates First Nation participation.

A First Nation's perspective on the Yukon YESAA regime

Roger Brown

This paper examines the present and future of the new Yukon Environmental Assessment regime from the a First Nations' viewpoint of the Spirit and Intent of the Land Claim Agreements.

7.2.2 The emerging role of Indigenous Peoples in impact assessment (II)

Wednesday 15 May | 16:30-18:00 | 100A

Workshop

Chair(s): Martin Haefele, Somia Sadiq

IAIA Section: Indigenous Peoples

This workshop will take a critical look at the young impact assessment regimes of Canada's northern territories, compare them to the longer experience of the northern Québec's Cree, and provide the perspective of indigenous participants in the process. Participants then engage in a facilitated discussion to identify lessons learned.

Roles of Indigenous Peoples: The Mackenzie Valley story

Martin Haefele

Experiences from 14 years of formalized indigenous participation in impact assessment and resulting effects on impact assessment decision making.

Native decision makers in project approval

Cameron McLean, Isaac Voyageur, Kelly Le Blanc, Chantal Tetreault

A land claim treaty includes environmental and social impact provisions for the Cree of Northern Québec to participate in a meaningful way as decision makers regarding their communities and development.

7.2.3 Engaging aboriginal communities in impact assessment and mitigation

Tuesday 14 May | 14:30-16:00 | Palomino E

Paper session

Chair(s): Daniel Stuckless, Alvaro Pinto

Much has been learned and new ways have been developed to engage aboriginal communities in the intensely and rapidly developing Athabasca oil sands region. This session will showcase the best practices that have emerged in this unique area and explore issues and solutions to assessing and managing impacts to ensure the long-term sustainability of the communities and their lands.

Importance of culture in IA methods

Bruce Muir

British Columbia's approach to assessing impacts from mining on an Aboriginal group and threatened caribou. Methodological failures relating to scope, baseline, and the seriousness of impacts are discussed.

Culturally relevant cumulative effects assessments

Ann Garibaldi, Shanti Berryman, Brad Stelfox, Justin Straker

We advocate a scientifically rigorous cumulative effects assessment approach that directly engages community members to make informed land management decisions about development and land uses occurring within their traditional territory.

A community-led approach for landscape planning

Shanti Berryman, Ann Garibaldi, Justin Straker, Brad Stelfox, John Nishi

This is an approach for Aboriginal communities to use defensible, science-based information to assess the benefits and liabilities of current and future cumulative land-use on their traditional territory and economy.

Responding to Aboriginal elders' visions

Patrice Brown, Ben King

Mining projects in Cape York revolutionizing the involvement of Aboriginal people in the conduct of impact assessment, identification of development footprints and selection of low impact export technology.

First Nation involvement in oil sands impact assessment

Lorne Gould

The Fort McKay perspective on wildlife impact assessment process in the oil sands region of Alberta, Canada.

Environmental impact assessment systems in Lebanon

Rola Sheikh

(Oil for Development special presentation)

This is a presentation of experiences from working with environmental impact assessment in the Middle East with particular focus on Lebanon.

Environmental assessment of oil exploration and production in sensitive environmental zones of Sudan

Ahmed Idrisy

(Oil for Development special presentation)

Conducting drilling operations in sensitive environmental setting does constitute a real challenge for regulators, oil operators as well as service contractors. This paper will highlight the role and experience of the Sudanese Ministry of Petroleum in enforcing standards to manage the assessments for environment and social impacts to ensure sustainable oil and gas industry.

Oil and gas exploration in national park and EIA

Ijlal Hussain, Ahsan Rafi Kiani, Aden Khan

This paper will evaluate the EIA mechanism as the most visible tool used to address environmental and social concerns in providing better understanding on development projects for decision makers.

NEMA and its relationship to the oil and gas companies operating in Uganda

Tom O. Okurut

(Oil for Development special presentation)

Experiences from working with the oil and gas industries in Uganda.

Utilizing Indigenous research methodologies in EIAs

Gillian Donald, Deborah Simmons, Glenda McNeilly, Matthew Whitehead, Peter Fortna, Kim Dertien

Lessons learned in developing updated Traditional Knowledge Research Guidelines as a basis for utilizing indigenous methodologies in a cross-cultural context to inform decision-making in the EIA process.

7.3.3 How are Aboriginal values and Traditional Knowledge reflected in EIA? (II)

Tuesday 14 May | 14:30-16:00 | Quarter Horse A

Paper session

Chair(s): Carol Jones, Jim Howell

Aboriginal communities and EIA practitioners have utilized various methods to incorporate aboriginal values and traditional knowledge into EIA. These have ranged from submission of comments on TORs to submission of independent EIAs. This session explores these methods and provides an opportunity for dialogue to assess their success.

TK, co-Management and IAs in the Sahtu Region, NWT

Deborah Simmons, Walter Bayha, Shauna Morgan, Catarina Owen

A preliminary assessment of a new initiative in collaboration between the Sahtu Renewable Resources Board and local harvesting committees to enhance traditional knowledge inputs in IAs.

HIA: A tool to express Native American values in IA

Ame-Lia Tamburrini

This presentation uses a case study from New Mexico, USA, to discuss success factors for using health impact assessment as a tool to express Native American values in impact assessment.

African ghost stories and the oral heritage museum

Paul Wheelhouse

The future preservation of intangible oral heritage is an aspiration. Ghost stories and other oral histories gathered from African mining projects are documented but their future posterity is less assured.

7.3.4 How Indigenous Traditional Knowledge affects impact assessment

Tuesday 14 May | 16:30-18:00 | Quarter Horse A

Chaired panel and discussion

Chair(s): Roman Novozhilov, Gregory Guldin

- **Reidar Kvam** (Manager, IFC). Presentation on the concept of FPIC and multilaterals approach + Columbia infrastructure case
- **Gregory Guldin** (Director, Cross-Cultural Consulting Services). Presentation on IPS and Extractives in Indonesia
- **Philippe Hanna** (Academic). Presentation on IPS and Extractives in Brazil.
- **Patrice Brown** (E&S consultant). Presentation on Extractives and Aboriginal peoples in Australia.

Panel discussion and questions from the audience.

7.3 TRADITIONAL KNOWLEDGE AND IA

7.3.1 Country experiences with oil industries and the environment

Wednesday 15 May | 11:00-12:30 | Mustang

Paper session

Chair(s): Johnny Auestad

Special session of the Norwegian Oil for Development (OfD) program

The Norwegian Oil for Development program provides support for up to 20 participants involved in impact assessment in program cooperating developing countries to participate in the IAIA conference. This session is to give those participants an opportunity to present experiences, lessons learned and problems encountered in their own countries.

Economic displacement: A case study of Uganda

Florence Nangendo, Didas Muhumuza

Uganda is home one of the most successful oil exploration programmes in East Africa. This equally presented some challenges like undertaking proper assessment and compensation for economic displacement.

7.3.2 How are Aboriginal values and traditional knowledge reflected in EIA? (I)

Tuesday 14 May | 11:00-12:30 | Quarter Horse A

Paper session

Chair(s): Carol Jones, Jim Howell

Aboriginal communities and EIA practitioners have utilized various methods to incorporate aboriginal values and traditional knowledge into EIA. These have ranged from submission of comments on TORs to submission of independent EIAs. This session explores these methods and provides an opportunity for dialogue to assess their success.

Application of traditional coastal knowledge to EIA

Howard Smith, Djapirri Munungirritj, Djumbawa Marawili

This paper investigates the application of traditional knowledge from the Yilpara community in Australia's Northern Territory to environmental impact assessments for regional mining, oil and gas developments.

The TK/IQ Panel, EMAB and Diavik

Michele LeTourneau

An assessment of the Traditional Knowledge/Inuit Qaujimajatuqangit Panel of the Environmental Monitoring Advisory Board for Diavik Diamond Mine.

Concurrent sessions

7.4 OVERCOMING CHALLENGES

7.4.1 Using ecological analysis to assess impacts on rights of Indigenous Peoples

Tuesday 14 May | 16:30-18:00 | 100B

Papers and open discussion

Chair(s): Petr Komers, Brian Kopach

The inherent right of Indigenous Peoples to maintain their traditional livelihoods requires accurate assessment of impacts from industrial development. Determination of impact significance based on scientific analysis versus perceived cultural values will be discussed with the objective to improve the efficacy of IAs as a tool for indigenous land-use planning.

Introductory Remarks

Petr Komers

Ecological recovery: Restoring Mauri to pre-Rena state

Te Kipa Kepa Morgan, Dan Hikuroa, Tumanako Faau, Robyn Manuel

The Mauriometer uses four equally weighted dimensions to measure the change in life-supporting capacity or integrity of the indicator being considered. Mauri can be measured qualitatively or quantitatively.

Aboriginal consultation and cumulative effects

Ave Dersch

Understanding how a proposed project may impact Aboriginal and treaty rights cannot be done without an understanding of cumulative effects in a Nation's traditional territory.

Cape York Aboriginal-led mining projects

Patrice Brown, Ben King, Gina Castelain, Gerhardt Pearson,

Cape York Aboriginal people are planning on developing their own mining projects with key partners to ensure genuine equity and employment opportunities for their communities and to protect cultural values.

Indigenous consultation and participation in Chilean IA

Magdalena Prieto, Carolina Soler, Edesio Carrasco Quiroga, José Adolfo Moreno Correa

A review on recent changes on Chilean regulation regarding to ILO Convention No. 169, the role of Supreme Court decisions and the new approach with indigenous community.

Technical review of EIAs: An Aboriginal framework

Bruce Muir

The lessons learned by Aboriginal groups in northeast British Columbia when tackling their capacity challenges. An Aboriginal-based framework for the technical review of EIAs is presented.

Climate change: Mexico's biodiversity and indigenous rights

Martin Quijano, Grethel Villicaña

This paper shows the importance of ESIA in the context of climate change, biodiversity and indigenous rights in a case study of a wind farm in Mexico.

Open discussion with speakers and audience.

7.4.2 Consultation and engagement with Indigenous Peoples in extractive sectors (I): Consultation in Latin America and Canada

Wednesday 15 May | 14:30-16:00 | Arabian A

Roundtable

Chair(s): Angeles Mendoza, John Devlin

IAIA Sections: Indigenous Peoples, Public Participation

Government policy commonly sets the processes and times for consultation and engagement with Indigenous People. How does this meet their various needs? From their perspective, Indigenous People will talk to IA practitioners and audience about what is missing and how to improve the processes and outcomes of consultation and engagement.

Sustainable development: The impacts of no consultation or engagement with Indigenous People in Mexico

Angeles Mendoza, Front for the Defense of Necaxa, Puebla, Mexico and White Eagle

Impact-benefit agreements

Ben Bradshaw, Associate Professor of Economic Geography, University of Guelph

Traditional consultation models among First Nations in Canada

Reg Crowshoe, Treaty 7 Management Corporation, Former Chief of the Piikani First Nation

Major concerns that Indigenous People have about energy and extractive developments

Phil Fontaine, former three-term National Chief of the Assembly of First Nations, member of the Sagkeeng First Nation in Manitoba, and founder of Ishkonigan, a firm that specializes in consultation and mediation services to Indigenous communities.

7.4.3 Consultation and engagement with Indigenous Peoples in extractive sectors (II): What is missing to improve consultation and engagement

Wednesday 15 May | 16:30-18:00 | Arabian A

Roundtable

Chair(s): Angeles Mendoza, John Devlin

IAIA Sections: Indigenous Peoples, Public Participation

Government policy commonly sets the processes and times for consultation and engagement with Indigenous People. How does this meet their various needs? From their perspective, Indigenous People will talk to IA practitioners and audience about what is missing and how to improve the processes and outcomes of consultation and engagement.

Traditional consultation Models among First Nations in Canada

Reg Crowshoe, Treaty 7 Management Corporation, Former Chief of the Piikani First Nation

The Experience of Treaty 7

Brent Scout, Treaty 7 Grand Chiefs Liaison: Consultation and Engagement

Tervita building and enhancing Aboriginal relations for new and existing operations

Andrea McLandress - Team Lead Aboriginal Relations
Brian Calliou, Director of Indigenous Leadership and Management, The Banff Centre

First Nations consultation and policy

Bob Watts, Consultant, Former CEO of Assembly of First Nations

Facilitating complex relations and cross-cultural understanding with Aboriginal communities

David Turner, Vice-President, First Peoples Group, Western Canada

RESOURCE DEVELOPMENT AND IA

8.1 ENERGY INDUSTRY AND BEST PRACTICES

8.1.1 Hard limits: EIA and a new generation of clean energy projects in British Columbia

Monday 13 May | 16:30-18:00 | Quarter Horse C

Panel discussion

Chair(s): Paul Kariya, Susan Wilkins

The clean energy sector in British Columbia was championed for growth and advancement over the past two decades. Dozens of run-of-river, wind, biomass and other projects were built by the private sector. Has it achieved the goal of a sustainable and environmentally friendly energy sector? Come and hear the perspectives of our panelists.

- Craig Orr, Watershed Watch Society
- Bruce Muir, West Moberley First Nation
- Colleen Giroux-Schmidt, Innergex Renewable Energy Inc.
- Brian Murphy, BC Environmental Office

8.1.2 Hydropower projects: Tumultuous journey or a peaceful march from approval?

Tuesday 14 May | 11:00-12:30 | Arabian A

Paper session

Chair(s): V.B. Mathur, Asha Rajvanshi

IAIA Section: Biodiversity & Ecology

Responsible development is an outcome of several policy decisions and their effective implementation of which "compliance monitoring" of mitigation measures outlined in SEA and CEA is most critical. This session will distil global experiences on this issue and suggest remedial measures to address this lacunae in IA process and practice.

Environmental performance indicators of big dams

Andrés Said, Gustavo Zuleta

The aim of this study was to develop environmental performance indicators (EPIs) that simplify the decision making during the operational process of major dams in Argentina.

Natural habitats in hydroelectric projects

Juan D. Quintero

Different approaches for mitigating and compensating impacts on natural habitats in large hydroelectric projects are analyzed in three projects in different regions of the world.

Analyzing hydropower follow-up processes in Brazil

Verena Rodorff, Johann Köppel, Marianna Siegmund-Schultze

INNOVATE studies social and ecological impacts after construction of Itaparica Hydropower Reservoir in Brazil. The analyzing process is accompanied by an Inter- and transdisciplinary tool supporting the decision making process.

Environmental assessment of a river watershed planning

Yangqi Li

According to Yerqiang River watershed planning, the paper appraises the sustainability of water resources use, and restrictive factors that involve the coordination between the watershed planning and other related planning.

EFA and the impacts on rivers ecological integrity

Maria Antonieta Gomez-Balandra, Pilar Saldaña-Fabela, Marco Antonio Mijangos-Carro, Sergio Rodríguez-Torres

Environmental Flow Assessment (EFA) as an escalated set of methodologies is becoming an important tool to assess from rivers flow alterations to their ecological integrity.

An IA peaceful march to Amazon: Is it possible?

Evandro Moretto, Carina Gomes, Daniel Roquetti, Carolina Jordão

The Amazon region nowadays represents the last Brazilian frontier for hydropower projects and the newest challenge for impact assessment: beyond the Amazon frontier and far from a peaceful march.

8.1.3 Emerging good practices in oil and gas operations

Tuesday 14 May | 14:30-16:00 | Arabian A

Practitioners Exchange

Proudly sponsored by Matrix Solutions.

Chair(s): Elizabeth Brito

This session will present environmental and social practices from private sector oil and gas companies, particularly in IA, biodiversity management, protection of Indigenous Peoples, influx management, participatory monitoring, and sharing of the benefits and wealth originated by oil and gas projects. Industry representatives will provide their experiences with sustainable and responsible oil and gas operations. These experiences will contribute to advance the IA practice and foster a new generation of responsible oil and gas industry.

Community environmental monitoring program in Cusco

Rafael Guarderas

Independent and original program of TgP that promote the effective participation of native communities in the social and environmental watch of the activities carried out by the company.

Participatory social and environmental monitoring

Pablo Taborga, Carolina Casaretto

PERU LNG developed a Social and Environmental Monitoring Program to promote the active involvement of local stakeholders in the oversight of the performance of the Project.

Biore restoration of Andean wetlands in Peru Gas Pipeline

Virgilio Panduro, Gisella Vilca, Alan Garcia, Jose Hernani, Enrique Tovar, German Sulca

The biore restoration works allowed their progressive recovery of these sensitive areas and together with the best practices and behaviors of the local communities will become a sustainable effort.

N-Solv BEST Process in oil sands extraction

Hanif Ladha, Alex Stickler, Lyne Thompson

This paper will discuss the development of the N-Solv BEST Field Pilot Plant, a new sustainable oil sands extraction process.

Devastation of the environment through illegal refining

Confidence Wachukwu, Amber Ollor

The level of devastation and environmental degradation due to illegal refining and crude oil theft in Nigeria may result to major environmental crisis if it continues unabated.

Brazilian oil and gas EIA: Old habits and new guidelines

Gustavo Almada, Cristiano Guimarães, Guilherme Carvalho, Carolina Alves, Alexandre Souza, Clarissa Condé, Eduardo Senna, Beatriz Abrahão, Arianna Camardella

This paper explores how Brazilian Environmental Agency (IBAMA) has significantly improved methodological guidelines for EIA applied to the environmental licensing process of offshore oil and gas projects.

8.1.4 How can we make the oil and gas industry environmentally responsible?

Thursday 16 May | 09:00-10:30 | Palomino A-C

Special workshop of the Norwegian Oil for Development (OfD) program workshop (open to all attendees)

Chair(s): Peter Tarr, Bryony Walmsley

The conveners will give a short introduction to the workshop and subsequently guide the discussion. They will seek to engage the participants in topical exchanges of experiences and stimulate ideas and discussion. The focus will be on social, health and environmental impacts in the oil and gas industry with particular attention to extraction from oil sands. There will be ample opportunities for participants to share ideas and views.

8.1.5 Environmental monitoring in the oil sands

Wednesday 15 May | 11:00-12:30 | Palomino A-C

Paper session

Chair(s): Martin Jalkotzy

This session will present environmental practices and challenges monitoring aquatic and terrestrial resources in the oil sands region of northern Alberta.

Concurrent sessions

Holistic monitoring using aquatic bioindicators

Darrell Jobson, Henri de Pennart

Innovation and modern technologies can enhance monitoring applications and assessment of aquatic bioindicators which can be used to ascertain biological responses to development and environmental change.

Mitigating oil sands impacts on boreal caribou

Amit Saxena

Recovering boreal caribou in the oil sands region will require innovation, collaboration and partnerships between all industries and government regulators to manage populations, habitats and landscapes.

Monitoring species at risk: Dealing with detectability

Derek Ebner, Marcel Gahbauer, Douglas Hallett

Monitoring species at risk as a requirement of oil sands developments is challenging due to their rarity. Detectability must be taken into consideration during the design of any monitoring program.

8.1.6 Understanding and managing cumulative impacts in resource regions (I)

Wednesday 15 May | 11:00-12:30 | Palomino E

Paper session

Chair(s): Daniel Franks

The session will interrogate the effectiveness of new and traditional policy responses, explore methods and strategies to better respond to cumulative impacts, and detail practical examples of collaborative and coordinated approaches. Papers address a range of social, environmental and economic issues, geographical regions, commodities, and conceptual approaches.

Closing gaps: Cumulative models and adaptive management

David Blaha, Anne Southam

By integrating the results of cumulative effects models into an adaptive management strategy, resource managers may be better able to respond to changes in the ecosystem.

Cultivating collaboration to address cumulative impacts

Daniel Franks, Jo-Anne Everingham, Madeleine Porter

Thirty case studies of collaborative governance in the Australian resources sector are analysed with lessons drawn on the challenges and benefits of collaboration as a means to address cumulative impacts.

Understanding cumulative impacts of ASGM in Ecuador

Colón Velásquez López, Rebecca Adler Miserendino, Bridget A. Bergquist, Sara E. Adler, Jean R.D. Guimarães, Peter S.J. Lees, Wilmer Niquen, Marcello M. Veiga

Challenges to measuring, monitoring and addressing artisanal and small-scale gold mining (ASGM) impacts in Ecuador are discussed. Recommendations are made to better engage with ASGM and their cumulative impacts.

Assessing cumulative effects in Northern Canada

John Virgl

Investigation of cumulative effects is an important part of current impact assessment practice. A transparent and comprehensive example of a recent evaluation of incremental and cumulative effects will be presented.

What are reasonable practice standards for CEA in IA?

Jill Gunn, Bram Noble

This paper attempts to characterize reasonable practice standards and criteria for CEA scoping, analysis, and mitigation within the context of a single project development.

8.1.7 Understanding and managing cumulative impacts in resource regions (II)

Wednesday 15 May | 14:30-16:00 | Palomino E

Paper session

Chair(s): Catherine Pattenden

The session will interrogate the effectiveness of new and traditional policy responses, explore methods and strategies to better respond to cumulative impacts, and detail practical examples of collaborative and coordinated approaches. Papers address a range of social, environmental and economic issues, geographical regions, commodities, and conceptual approaches.

Household analysis for understanding social changes

Gerardo Castillo

This presentation discusses some of the weaknesses of the conventional social impact assessment approach and proposes focusing on household analysis as a complementary way of dealing with these shortcomings.

Linking EIA to CIAM

Juan Carlos Paez

This presentation aims at bringing together an audience to analyze the proposed methodology as a tool to perform a cumulative impacts analysis and management (CIAM) from the results of an EIA.

Applying interdisciplinary ESHIA in the Arctic

Kim Swanzey, Anne Southam

By applying lessons learned through project experience in Alaska and Greenland, this paper presents integrated social engagement and impact assessment strategy that responds to the Arctic's unique risks and opportunities.

8.2 ENERGY IN THE ARCTIC

8.2.1 Arctic hydrocarbons: Addressing community aspirations and effects

Tuesday 14 May | 11:00-12:30 | 100B

Paper session

Proudly sponsored by Stantec.

Chair(s): Mark Shrimpton, Nick Poushinsky

The loss of ice cover and large resource estimates are driving increased hydrocarbon activity in the Arctic. While new technologies are addressing the harsh environment challenges associated with working in these areas, less attention is being paid to the interests and aspirations of the approximately four million people who live in the Arctic. The papers in this session explore these interests and aspirations and discuss how they and the potential community effects can be addressed.

Addressing Arctic aspirations

Mark Shrimpton

The paper reviews and discusses best practice responses to the aspirations and concerns of Arctic peoples related to upstream petroleum industry activity.

The rapidly-changing Arctic: Challenges for ESHIA/SEMMP

John Aronson

The physical, chemical, biological, social, regulatory, and engineering complexities of the rapidly changing Arctic must be understood for effective ESHIA and social and environmental management and monitoring programs (SEMMP) development.

SEA opportunities and constraints in the western Arctic

Bram Noble, Courtney Fidler

SEA remains uncharted territory in Canada's western Arctic. The perceived risks of foregoing development and adding regulatory complexity create much uncertainty around SEA and outweigh its perceived benefits.

8.2.2 The next frontier: Development of Northern regions

Tuesday 14 May | 09:00-10:30 | Palomino F-H

Theme forum / Moderated panel discussion

Proudly sponsored by Export Development Canada.

Chair(s): Yolanda Banks

Northern and Arctic regions present opportunity for economic development, yet development in these regions has the potential for significant adverse social and environmental impacts.

Experts will discuss best practices for managing impacts, assessing effects that may contribute to climate change, securing the "social license to operate," and the role of environmental assessment.

- Chris Reynolds, Senior Principal, Aboriginal Partnerships, Stantec Consulting Ltd.
- Ellen Bielawski, Former Dean, Faculty of Native Studies, University of Alberta

8.3 FINDING THE BALANCE FOR SUSTAINABLE DEVELOPMENT

8.3.1 Energy needs vs. Indigenous interests and development concerns

Wednesday 15 May | 09:00-10:30 | Palomino F-H

Theme forum

Chair(s): Arne Dalfelt, Terje Lind

Special session of the Norwegian Oil for Development (OfD) program

Emerging conflicts between societies' needs for energy and the concerns over climate change impacts both on indigenous people and the public in general, requires guiding policies that looks way beyond short term economic interests. The oil and gas industry is rapidly approaching a point where public and political concerns for the future may be limiting the industrial options.

Environmental and social issues of the oil sands of Alberta, Canada

Peter Croal

(Oil for Development special presentation)

This presentation examines the social and environmental issues related to the oil sands projects of Alberta, Canada, with particular focus on Indigenous Peoples.

Reflections on project preparations from developers in "New" settings

Svein Grotli Skogen

(Oil for Development special presentation)

This presentation gives some reflections into sophisticated planning of oil and gas projects when "entering new territories." Case situations where organizations planning for very profitable projects, if necessary with handsome payments for mitigation and compensation, meets clean no-go situations.

Learned lessons in SEA: The Orinoco oil belt (Venezuela)

Oscar Gomez

The particular situation of the Strip of the Orinoco, SEA's methodology adapted for this project of development of a vast and extensive territory, and recommendations and learned lessons.

Oil and gas developments in regions of conflict

Arne Tesli

(Oil for Development special presentation)

This presentation will focus on particular challenges for EIA and social impact assessments (SIA) of oil and gas developments in regions of conflict. It will also discuss institutional issues and public participation and involvement of affected parties.

Major concerns that Indigenous People have about energy and extractive developments

Phil Fontaine

Phil Fontaine is the former three-term National Chief of the Assembly of First Nations. He is a member of the Sagkeeng First Nation in Manitoba. His leadership has been instrumental in increasing awareness about the issues that affect Aboriginal People in Canada. In 2009 he founded Ishkonigan, a firm that specializes in consultation and mediation services to Indigenous communities.

8.3.2 Negotiating impacts and impact mitigation with oil and gas companies

Wednesday 15 May | 16:30-18:00 | Quarter Horse B

Workshop

Chair(s): Morgan Hauptfleisch, Peter Tarr, Bryony Walmsley

Special Norwegian Oil for Development (OfD) program workshop (open to all)

This workshop will demonstrate negotiation techniques in practice. It will focus on providing negotiated information to be used in the decision making process after an impact assessment has been done. The negotiations will be based on a fictitiously-planned oil or gas project with five or six interest groups being involved in the negotiations.

8.3.3 Indigenous Peoples and CSR in the extractive sector

Wednesday 15 May | 11:00-12:30 | Arabian A

Paper session

Chair(s): Rob Stuart

IAIA Sections: Public Participation, Indigenous Peoples

Indigenous communities are often in a disadvantage when dealing with companies and governments in relation to the extraction of resources from indigenous territories. This session explores the relationship between Impact Assessment and CSR when attempting to balance the economic interests of mainstream society and indigenous people's welfare.

Essential alignment: CSR and SIA

Robert Scace, Lila Barrera-Hernandez

CSR and SIA pathways variously engaged to support relationships with indigenous communities though inconsistency can adversely affect sustainable development. CSR provides means for more effective alignment.

How IA could improve CSR in Mexico's mining sector

Angeles Mendoza Sammet, Veronica Chirino Baker

A discussion of disparities between Mexico's IA and mining regulations and practice; its links to low CSR in the sector, and suggestions to improve IA and CSR to reduce conflict.

8.4 IA AND ALBERTA OIL SANDS

8.4.1 Alberta oil sands (I): Facing the future of challenges and opportunities

Monday 13 May | 11:00-12:30 | Palomino D

Theme forum

Proudly sponsored by Conoco Phillips.

Chair(s): George Hegmann

Panel members from a variety of backgrounds will speak to the current challenges and future opportunities to assess, manage and monitor effects of Alberta's oil sands. Each panel member will represent at least one key topic (e.g., regional management, cumulative effects, reclamation, regional monitoring, social impacts, carbon management). This focus would accompany insights from their respective experience in general. The panel will be open to questions following their brief presentations.

Daniel Stuckless, Manager, Environment and Regulatory, Fort McKay Sustainability Department, Fort McKay First Nation, Fort McKay, Alberta

Bev Yee, Assistant Deputy Minister, Integrated Resource Management Planning, Environment and Sustainable Resource Development, Government of Alberta

Peter Koning, Manager, Environment and Sustainable Development, ConocoPhillips Canada Resources Corp.

Robert Mugo, Environment Manager, Total E&P Canada

Simon Dyer, Policy Director, Pembina Institute

8.4.2 Alberta oil sands (II): Conference findings

Thursday 16 May | 09:00-10:30 | Palomino D

Panel discussion

Chair(s): George Hegmann

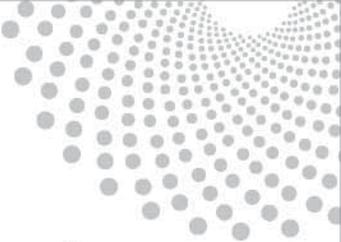
A panel of selected conference participants will speak of what they have heard during the conference regarding Alberta's oil sands, express their views on the future of the oil sands regarding environmental issues, and take questions from the audience.

The finalization of panel members will be made during the conference (with the exception of one selected guest panelist).

The panel will be supplemented by one guest with a broad insight into the oil sands and current engagement on oil sands issues in an academic institution:

Chris Powter, Executive Director, Oil Sands Research and Information Network (OSRIN), School of Energy and the Environment, University of Alberta

Concurrent sessions



Protecting what's most important.

Through investing in environmental conservation and education efforts, we help to develop new ideas and new approaches that will contribute to the health of communities and the environment. Here's to working together for a brighter tomorrow.
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ENERGY

New ideas. New approaches.

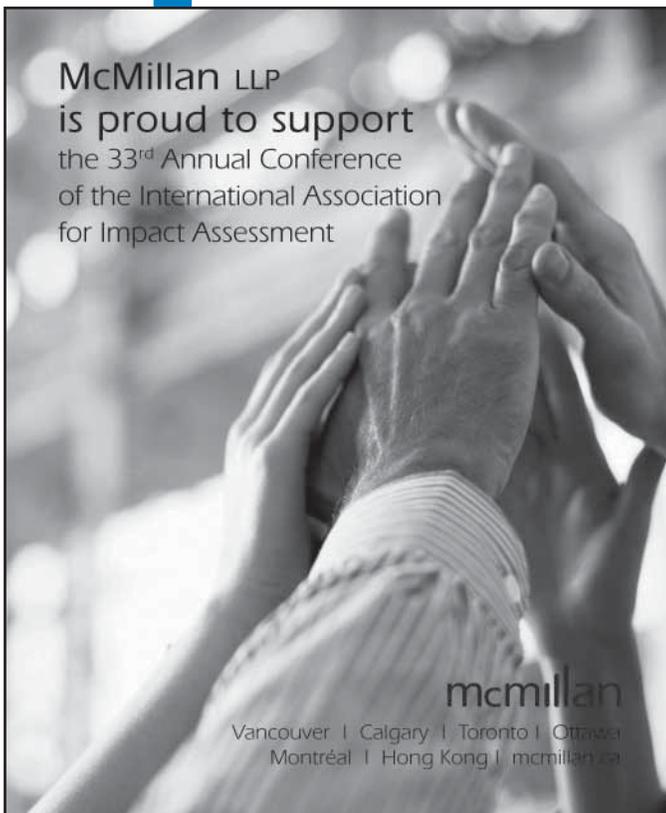


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BUSINESS AND IA

9.1 CORPORATE STEWARDSHIP AND RISK MANAGEMENT

9.1.1 What gets measured gets managed: Applications of impact assessment for corporate responsibility

Wednesday 15 May | 09:00-10:30 | Arabian B

Theme forum

Chair(s): Sara Bice, Rita Sully

Section: CSR

Corporate stewardship (or corporate responsibility) has become a mainstream means for business to address various impacts. This theme forum reimagines CR for the next generation, exploring opportunities aimed not just at minimizing the impacts of big business, but rather enhancing benefits. Interactive session with case studies covering health impact assessment, community investment and supply chain management.

Health as a measurable and effective component of CSR

Francesca Viliani

Health is a pillar of CSR and its inclusion within a company strategy goes beyond philanthropic health interventions, it does require full mainstreaming and proper consideration in impact assessment.

Supply chain management as part of CR and IA activities

Stanislav Suprunenko

Evidence of practical application of supply chain management system and examples of introduction of its principles in the projects financed by European Bank for Reconstruction and Development.

Leveraging IA in community investment planning

Kim Swanzey, Kristina Mitchell

Community investment planning presents an opportunity for companies to strategically measure and manage their non-technical risk, when it is informed by the ESHIA process and tied to corporate objectives.

9.1.2 Application of IFC Performance Standards by financial intermediaries

Wednesday 15 May | 09:00-10:30 | Palomino D

Theme forum

Proudly sponsored by Hatch.

Chair(s): Mauricio Athie

Panelists and presenters: Felipe Albertani, Deborah Berger, Maria da Cunha, Margaret Trias

The theme forum will begin with a presentation on environmental and social risk management and the application of the IFC Performance Standards by financial intermediaries (FIs). This will be followed by presentations by other panelists on case studies, lessons learned, and key initiatives, as well as the role of impact assessment practitioners in FIs. The session will conclude with a chaired discussion involving the panel and the audience.

E&S risk management for financial institutions and the IFC performance standards

Felipe Albertani

This paper presents IFC's approach to environmental and social assessment, including risk categorization, and management systems (ESMS) for financial intermediaries.

9.1.3 Social license to operate: The next generation of measuring and monitoring (I)

Tuesday 14 May | 11:00-12:30 | 100A

Paper session

Chair(s): Sara Bice, Robert Boutilier

IAIA Section: CSR

Social licence to operate (SLO) is being embedded into IA, risk-management and project planning. But what, exactly, is a social license? How might it be measured? And how is it informing assessment practices, risk management and stakeholder engagement? Join us in the first of two concurrent sessions for debate on the concept of SLO and discussion of its application in recent cases.

What the social license is and isn't

Robert Boutilier

The concept of the social licence to operate has evolved from a metaphor for requirements beyond legal permitting to an approach to stakeholder relations that, controversially, views stakeholders as powerful.

Towards an empirical model of social licence

Kieren Moffat, Airong Truffet

Informed by a critical analysis of the use of SLO by mining companies and personnel, this study provides empirical evidence for a model of social licence.

The link between cognitive legitimacy SLO

Cyrlene Claasen

This paper considers the cognitive aspects of organizational legitimacy and how these affect the social license to operate by examining Namdeb, PPJV between De Beers and the Government of Namibia.

SIA: A tool to obtain the social license to operate

Rikke Carlsen

In Greenland, the SIA process is a tool for local engagement and a requirement to obtain and maintain the social license to operate.

Earning a social licence amidst complexity

Jason Prno, Scott Slocombe

We present a novel framework for assessing SLO determinants and outcomes, introduce the concept of a "resilient" SLO, and discuss key issues and opportunities for mining industry governance.

9.1.4 Social license to operate: The next generation of measuring and monitoring (II)

Tuesday 14 May | 14:30-16:00 | 100A

Paper session

Chair(s): Sara Bice, Robert Boutilier

IAIA Section: CSR

Social licence to operate (SLO) is being embedded into IA, risk-management and project planning. But what, exactly, is a social license? How might it be measured? And how is it informing assessment practices, risk management and stakeholder engagement? Join us in the second of two concurrent sessions for debate on the concept of SLO and discussion of its application in recent cases.

A strategic approach to early stakeholder engagement

Edward (Ted) Pollett, Adriana Eftimie, Rebecca Darling

Some recent good practice approaches to early strategic stakeholder engagement, establishing the business case for a "social license to operate," and quantifying the financial value of these relationships.

A case study of The Upper Hunter Mining Dialogue

Leeora Black

Participatory governance needs to be included in the stakeholder engagement methods used to raise a social licence because of its role in securing the social contract component of the model.

Fracking in Alberta and implications for Aotearoa, New Zealand

Te Kipa Kepa Morgan, Manaia Rehu, Henare Waihape, Robyn Manuel, Dan Hikuroa

The Mauriometer assesses impact upon the change in life supporting capacity. Mauri can therefore be measured qualitatively or quantitatively using this new tool that is especially useful in indigenous contexts.

Concurrent sessions

Tracking well-being in Northern Ontario's Ring of Fire

Ben Bradshaw, Peter Siebenmorgen

This paper reports on the development of a process to track well-being of residents of Eabametoong First Nation in Northern Ontario's Ring of Fire based on community developed indicators.

Limits of using perceptions of the operator to measure SLO

Julia Roloff, Cyrlene Claasen, George Acheampong

We analyze the link between the social licence to operate (SLO) and the perceived impact of mining operations using data from stakeholder networks of three mining sites in Africa.

9.1.5 Trends in human rights impact assessment in a post-Ruggie world

Tuesday 14 May | 11:00-12:30 | Quarter Horse B

Paper session

Chairs(s): Rita Sully, Sara Bice

The United Nations' unanimous endorsement of John Ruggie's Guiding Principles for Business and Human Rights was a watershed moment in the progressive embedding of human rights considerations into regular business practice. Building on the sessions presented at the IAIA Puebla and Porto conferences, this panel will follow the trends and direction of human rights impact assessment in a post-Ruggie world. Many companies are still assessing their approach to human rights impact assessment, and are yet to determine whether to integrate into a broader impact framework or completely reframe to a rights-based approach.

Too early for human rights assessment typologies?

Richard Boele

Two years after Ruggie finished his work, is it too early, or already late in the day, to start articulating a human rights assessment typology?

Principles for conducting HRIAs

Alison Colwell, Roger McElrath, Faris Natour, Jessica Davis Pluess, Chloe Poynton, Michael Oxman

BSR will present our principles for conducting HRIAs. The principles, including customization, company ownership and integration, highlight the importance of integrating the impact assessment process into business decision-making.

Integration of human rights into impact assessment

Frank Seier, Nora Götzmann, Bert Fokkema, Roper Cleland

IPIECA and the Danish Institute for Human Rights will present their findings on how assessment of human rights can be integrated into good practice ESHIA.

Facing the HRIA future together

Susan Joyce

The HuRiIA Panel will be an opportunity to reflect on advances of models and applied practice and the shared discussion with other practitioners will be an important contribution.

Using SWAP to connect water, human rights and mining

Alan Woodley, Nina Collins

This work presents a methodology that captures the social water context of mine sites to connect external impacts with operational practices.

9.2 FINANCE AND IA: THE IMPACT OF NEW STANDARDS

9.2.1 Evolving standards in environmental assessment (I)

Wednesday 15 May | 14:30-16:00 | Palomino A-C

Paper session

Chair(s): Emlen Myers, Ross Mitchell

The session draws on the experience of institutional and consultancy-based impact assessment specialists who are implementing the current generation of Environmental Assessment (EA) standards, including International Finance Corporation (IFC) Performance Standards (PS), other multilateral and bilateral standards, as well as National Standards. This implementer's perspective will convey an on-the-ground view of what works best and where improvement may still be needed.

The evolution of sustainable finance: What's next?

Peter Moore

Examining both domestic and international environmental and social standards, this presentation will provide insight into the evolution of sustainable financing: where it all began, current best practices and future challenges.

Can we have global standard on environmental and social governance?

Prasad Modak, Rahul Datar, Lucille Andrade

Financing institutions have played a key role in harmonization of ESG across the world. But is a global standard on ESG realistic and achievable given unevenness across the countries?

The emerging role of country safeguard systems in EA

Harvey Himberg, Xiaoying Ma

The central theme of this paper is the extent to which country safeguard systems have reached a critical threshold relative to the safeguard systems of multilateral development banks.

Safeguards for countries involved in carbon financing

David Annandale

The global climate finance architecture is extraordinarily complex. One common feature, however, is the requirement that REDD+ activities should only be undertaken with direction from appropriate environmental and social safeguards.

9.2.2 Evolving standards in environmental assessment (II)

Wednesday 15 May | 16:30-18:00 | Palomino C

Paper session

Chair(s): Emlen Myers, Ross Mitchell

The session draws on the experience of institutional and consultancy-based impact assessment specialists who are implementing the current generation of Environmental Assessment (EA) standards, including International Finance Corporation (IFC) Performance Standards (PS), other multilateral and bilateral standards, as well as National Standards. This implementer's perspective will convey an on-the-ground view of what works best and where improvement may still be needed.

Mind the gaps: Lessons learned in acting as IESC

Caleb Wall

Lenders often engage an independent environmental and social consultant (IESC) in financing projects. This paper discusses the different ways in which the IESC fulfills its role, providing lessons learned and examples of successes (and failures).

Natural habitat policies of multilateral and bilateral organizations

Juan D. Quintero

A review of natural habitat policies in major multilateral and bilateral organizations.

Archaeological risk management and performance standard 8

Emlen Myers, Doug Park

This paper shows how modern digital techniques of archaeological baseline research are used to manage construction-phase risk in large-footprint projects, both reducing archaeological impacts and enhancing commercial success.

Applying IFC standards on climate change risk analysis

Leanne Farrell, Ariane Burwell

How are ESIs interpreting and applying the new IFC Performance Standards requirements on incorporating climate change risk and vulnerability into project assessments? This paper explores emerging challenges and good practices.

Best practice stakeholder engagement begins at day 1

Ross Mitchell, Kristina Mitchell

Considering the "prior" in FPIC, consultation activities that take place early on and often are key to successful community engagement. Lessons learned from various projects are described in this paper.

9.2.3 International financial institutions: Evolving ESIA practices and standards for addressing human rights

Tuesday 14 May | 16:30-18:00 | 100A

Panel

Proudly sponsored by Export Development Canada.

Chair(s): Kamil Zabielski, Deborah Berger

Standards and practices of IFIs with respect to ESIA have evolved considerably in recent years. The IFC, Export Credit Agencies of the OECD, and Equator Principle Financial Institutions have all completed, or are in the process of completing revisions of the standards by which they require and review ESIA. Further clarification pertaining to social and/or human rights issues has received significant attention by these institutions and will continue to do so in the future.

ECA perspectives on social risks and human rights

Deborah Berger, Kamil Zabielski

Two ECAs will share their views on how the developments in the OECD Common Approaches framework are reflected in their daily operations with respect to social issues and human rights.

IFC Performance Standards and human rights

Debra Sequeira, Felicity Kolp

An overview of IFC's approach to human rights under the Performance Standards, including guidance on human rights due diligence.

What is unique about assessing human rights impacts?

Rachel Davis

The adoption of the UN Guiding Principles on Business and Human Rights helps clarify what is required in assessing human rights impacts, with implications for evolving ESIA standards and practices.

ROLE OF IA IN PROJECT DECISION MAKING IN A SUSTAINABLE WORLD

10.1 Socio-environmental risk assessment in EIAs

Wednesday 15 May | 16:30-18:00 | Palomino E

Paper session

Chair(s): Simon Catchpole, Roberto Moreno

The objective is to demonstrate the importance of considering environmental risk in EIAs, and also of the importance of involving environmental professionals in the overall risk assessment and risk management of an enterprise. The ERA in an EIA should feed into the project risk management plan.

The value of early stage engagement and risk management

Stuart Heather-Clark, Christelle van der Merwe, Leon Broom, David Shandler, Mariam January, Junaid Moosajee, Tarisai Garande

Experience gained in a South African oreline upgrade shows the value of stakeholder and sustainability risk management interventions early in the project life cycle as a foundation for a subsequent EIA.

Limitations of risk assessment for pipelines in Brazil

Andre Naime

This paper discusses the relationships between the limitations of Brazil's regulatory setup for new oil and gas transmission pipelines and the rising of societal risks in suburban areas.

Socio-economic impact studies and risk management

Susan Dowse, Jay Wagner, Murray Jones

The Socio-economic Impact Study carried out by the authors on behalf of the project proponent during 2012 represents an innovative approach in project planning in remote and sensitive areas.

Risk assessment simulation of the toxicological impacts

James Phibbs, Michael Sanborn

This is a simulation study conducted to demonstrate the usefulness of quantitative risk assessment in the conceptual design, alternatives assessment, and ultimately development of a rare earth element mine.

10.2 Next generation IA: Tiering of IA and planning

Wednesday 15 May | 16:30-18:00 | Arabian B

Paper session

Chair(s): Heikki Kalle, Jos Arts

Tiering is a key element of EA, but practice shows a blurred picture. In this session we will discuss best practices and conceptual innovations related to tiering so that the concept can reach its full potential to IA.

Multiproject integrated EIA: Brazil offshore case

Cristiano Guimarães, Guilherme Carvalho, Leonardo Teixeira

This successful multiproject integrated EIA of offshore oil sector illustrates the benefits of integration and the inherent limitations of project-level EIA.

The long road to shorter planning and improving EIA

Johan (Hans) De Vries, Jos Arts, Jeroen Weertman

The paper will present an overview of evaluation results of a comprehensive programme aimed at improving and shortening the planning and SEA/EIA process for road infrastructure in The Netherlands.

Towards a next-generation IA: Careful tiering

Heikki Kalle, Jos Arts

Tiering is a key element of EA, but practice shows a blurred picture. This paper discusses best practices and conceptual innovations related to tiering to enhance next generation IA.

Recent practical and legal changes in the Chilean IA System

Manuel Bugueño, Jose Adolfo Moreno Correa, Edesio Carrasco Quiroga

Latest legal and practical changes made in 2010 Chile in order to encourage early and more technical decisions. Did it work?

10.3 EIA success: Case studies (I)

Monday 13 May | 14:30-16:00 | Arabian B

Paper session

Chair(s): Miguel Coutinho

What is an EIA success? The session will include presentations of several EIA case studies. EIA success stories show the relevance of EIA to stakeholders. It is important to discuss from these case studies, the contribution that IA professionals, consultants, promoters and administration, might have to adopt more sustainable decisions.

Impacts and Influence of the Timber Class EA

Wanda Leung, Kevin Hanna

In Ontario, EA has had a significant impact on forest management, and helped shape institutional approaches to forestry policy. EA can play a key role in managing public forests.

The improvement of Porto Sul project through EIA

Mariana Pereira, Daniel Pinho, Liana Nascimento, Elizabeth Uema, Leandro Cordeiro

This presentation shows how the EIA and the analysis of locality and technological alternatives are important tools to reduce environmental impacts.

Concurrent sessions

EIA of Pakistan deep water container port

Muhammad Sabir, Yahya Usmani, Waqar Phulpoto

As per recommendations in the IEE report which was part of the detailed feasibility study of the project, an extensive environmental impact assessment has been developed.

Socio-economic Impacts of military-induced growth

Paul Sage

This presentation will outline the study approach, processes used, and findings of a socioeconomic impact assessment study conducted on the military induced population growth on the US territory of Guam.

10.4 EIA success: Case studies (II)

Monday 13 May | 16:30-18:00 | Arabian B

Paper session

Chair(s): Miguel Coutinho

What is an EIA success? The session will include presentations of several EIA case studies. EIA success stories show the relevance of EIA to stakeholders. It is important to discuss from these case studies, the contribution that IA professionals, consultants, promoters and administration, might have to adopt more sustainable decisions.

The role of EIA for project sustainability

Asnake Mekuriaw

EIA is a very important tool to make projects sustainable and thus to bring sustainable development.

ESIA: A tool in participatory decision making

Matsin Nzonkam Aline Sidonie, Chi Forpah Napoleon, Ndong Barthelemy

Environmental and social impact assessment are key for evaluation of environmental problems, and guide decision makers for generation and implementation of sustainable projects to benefit communities.

ESIA in countries with limited regulation: Case of DRC

Benoit Vanwelde, Taea Calcut, Hannah Young

The paper identifies issues and risks for projects in countries with limited environmental and social regulation (e.g., Democratic Republic of the Congo (DRC)) and shows how voluntarily applying international and corporate standards can minimize risk.

The EIA was a success... but the project is failing

Harry Spaling, Geoff Brouwer, Jesse T. Njoka

A water project in Kenya had a "good" EIA completed ten years ago but is now at a sustainability tipping point—it may yet fail. Can sustainability be recovered?

10.5 Improving communication between IA practitioners and decision makers

Tuesday 14 May | 14:30-16:00 | Mustang

Paper session

Chair(s): Luis E. Montañez-Cartaxo, Weston Fisher, Gunnar Baldwin

What techniques can be used to help ensure the recommendations made in impact assessment studies by IA specialists and/or the opinions of interested third parties are taken more seriously by proponents of projects and programs? How can IA practitioners and decision makers establish better understanding and communication between each other?

Bridging knowledge to action in impact assessment

Janis Shandro, Gary MacDonald, Tim McLaughlin, Carol Odell, Zoe Mullard

This paper provides impact assessors a process and associated tools for effectively communicating IA knowledge.

Effective stakeholder engagement in wind energy project

Isolina Sánchez Andrade

The paper focuses on the importance and benefits of working in community-developer partnerships while analyzing the various aspects developer need to consider during the early planning stages of a wind energy project.

Role of EIA practitioners: Challenges and solutions

Abida Ayub, Nasim-ur-Rehman Shah

Lack of professional development opportunities, absence of coordination between EIA practitioners and the multi-stakeholder involved, the current lacking in the educational system has resulted in declined efficiency of EIA practitioners.

10.6 A new generation of regional transportation infrastructure development

Wednesday 15 May | 09:00-10:30 | Palomino A-C

Panel discussion

Proudly sponsored by Inter-American Development Bank.

Chair(s): Ernesto Monter, Juan Quintero

Many ecologically and socially sensitive areas around the world are experiencing an unprecedented road and highway expansion to support plans for regional infrastructure integration and to support agriculture, timber, oil, gas, and mineral extraction. This forum will explore options for responding to this increased demand for transportation connectivity, including how new impact assessment practices and tools can contribute to a more systemic approach to regional and participatory planning for road development.

10.7 From IA to sustainable performance through participatory engagement and capacity building

Monday 13 May | 11:00-12:30 | Palomino A-C

Theme forum

Chair(s): Agnieszka Rawa, Fernando Rodriguez

How to we move from quality IAs to sustainable performance? Conveners will share examples of how two donors are contributing to more comprehensive stakeholder involvement and capacity building—and then guide the audience in exchanges of experiences and stimulate ideas on ways to get to the next generation of performance-based IAs.

Problem Statement: Early, proactive and strategic stakeholder identification and involvement is crucial to identifying potential risks and opportunities associated with proposed developments. However, insufficient capacity of local stakeholders may preclude them from effectively participating in decisions during the project planning and IA stage. In addition, to contribute to more sustainable outcomes, it is imperative to focus on following through on IA commitments—and the limited capacity and resources of regulatory agencies, particularly in developing countries, may hinder crucial post-IA monitoring and enforcement.

Welcome, Problem Statement and Session Structure

Primer / Example 1: World Bank-Sponsored Training on Environmental and Social Impact Assessment in African Oil and Gas Producing Countries

Fernando Rodriguez

Primer / Example 2: MCC Compact Development, Implementation and Capacity Building Framework

Agnieszka Rawa

Facilitated discussion

Summary and closing

10.8 Communication with stakeholders and the general public: From state-of-the-art to innovation

Wednesday 14 May | 11:00-12:30 | 100A

Paper session

Chair(s): Heikki Kalle, Lea den Broeder

The art of how difficult topics are communicated to the general public and particularly to the stakeholders is vital for the effective IA process. Based on several case examples, this session will discuss effective IA communication and dialogue, from the right psychological setup to the communication routines and means. Where are we now and where are we going next?

Public participation in EIA reports in Nigeria

Silas Agaja

EIA, public participation, FMENV, Smith Model, Nigeria.

Stakeholder involvement for radioactive decontamination

Takehiko Murayama, Yoshiaki Totoki, Hiroyasu Shioya

Activities within stakeholder involvement include regional dialogues on general issues, consensus-building on siting of potential facilities for radioactive wastes and on decontamination of each house in Fukushima.

Integrated approach to refine stakeholder analysis

Davi Rodrigues, Barbara Loureiro, Suellen Pereira, Rita Alves, Carla Sabino

How integrated information from different stages of several oil and gas licensing and permitting has been allowing improvements for the stakeholder analysis in Brazil with positive impacts at social communication projects?

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IA OVER THE PROJECT LIFE CYCLE

11.1 Mine planning and environmental assessment (I)

Monday 13 May | 14:30-16:00 | Quarter Horse B

Paper session

Chair(s): *Alvaro Paredes*

Mining projects need to incorporate environmental and social guiding principles during the early stages of planning in order to produce a design outcome that would not only be acceptable by regulators and the community, but that would be feasible in economic and technical terms.

End in mind: Decision-scoping in mining EAs

Andrew Duthie

The efficacy of the concept of "decision-scoping" as a means of directing mining environmental assessments is demonstrated.

Planning to conserve rare fishes within bauxite mines

Jason Willey, Carol Young, Herbert Pirela

A proposed mine in Suriname threatened several species of rare fish. The project proponent used the ESIA process to identify the potential mechanisms of impact and proactively address them.

Managing key impacts of large-scale mining in Ghana

Richard Kofi Afenu

Increased mineral production has caused increased environmental impacts. The paper reviews the critical aspects of environmental impact of these mining activities and discusses measures being taken to address them.

Application of IFC's PS6 in ESIA's of mining projects

Claudia Valencia

Study aim: appraise the mining industry's performance in relation to IFC's PS6 and provide recommendations for future assessments. A checklist was applied to ESIA's to identify gaps and good/best practices.

11.2 Mine planning and environmental assessment (II)

Monday 13 May | 16:30-18:00 | Quarter Horse B

Paper session

Chair(s): *Alvaro Paredes*

Mining projects need to incorporate environmental and social guiding principles during the early stages of planning in order to produce a design outcome that would not only be acceptable by regulators and the community, but that would be feasible in economic and technical terms.

Quantifying risks of a proposed REM mine

Michael Sanborn, James Phibbs

Quantification of human health risks prior to the initiation of a project can have a significant positive effect. The presented study identifies routes of exposure at a simulated mine site.

Advancing our collective understanding of caribou

Diane Martens

Collaborative initiatives to advance the understanding of caribou are consistent with the Inuit principle *Ikajuqtigiinniq* (Working Together for a Common Cause) and are leading to more informed decision-making for everyone.

Fly-in/fly-out mining arrangements and regional development

Keith Storey

Fly-in/fly-out work arrangements in the mining sector are being challenged for their perceived adverse regional development impacts. This paper examines the issues and potential ways to address them.

11.3 Use and abuse of adaptive management in impact assessment: Where to next?

Tuesday 14 May | 16:30-18:00 | Palomino E

Workshop

Chair(s): *Kathleen Racher, Alan Ehrlich*

Adaptive management (AM) is seen as a panacea for any uncertainty remaining after impact assessments although true AM is not properly implemented during resultant projects. This session involves presentations and a panel to interactively discuss how the full potential of AM in impact assessment and project management may be realized.

EIA uncertainty: Barn owl and bat studies, British Columbia, Canada

J. Charlie Palmer

This presentation will interest EIA practitioners and ecologists/biologists wishing to see the outcomes and applicability of adaptive management to address EIA approvals and ecological management challenges.

Linking EA to environmental regulation through adaptive management

Neil Hutchinson, Kathleen Racher, Don Hart, Ryan Fequet,

Patty Ewaschuk, Mark Cliffe-Phillips

A "Response Framework" is proposed as a systematic process to link EA predictions to the development of monitoring results and management actions in the subsequent regulatory process.

Panel discussion with above speakers as well as:

- **Bill Ross**
- **Carol Murray**

11.4 Partnerships over the project life cycle: The next generation for IA

Wednesday 15 May | 11:00-12:30 | Arabian C

Panel

Chair(s): *Jos Arts, Charlotta Faith-Ell, Ana Maria Esteves, Ilse Aucamp*

Applying "responsible and sustainable" concepts to the project life cycle involves increasingly sophisticated partnerships between companies, governments, and communities. To this end, impact assessment plays an important role in informing and coordinating partnerships, which involves cradle-to-grave approaches and a range of instruments. In this expert panel discussion session, we will consolidate the strong interest in the topic evident from the last five IAIA conferences and take stock of international practice and principles of the role of partnerships in IA.

Partnering and IA: Best practice principles

Charlotta Faith-Ell, Jos Arts, Ana Maria Esteves, Ilse Aucamp

Applying responsible sustainable concepts to the project life cycle involves increasingly partnerships between companies, governments, communities. In this paper we consolidate the growing interest in this topic evident last five IAIA-conferences.

General discussion

Moderators: Jos Arts, Ana Maria Esteves

Wrap-up and Conclusions

Moderators: Ilse Aucamp, Charlotta Faith-Ell

11.5 Highway mitigation for wildlife: new insights for practitioners

Thursday 16 May | 09:00-10:30 | 100A

Panel discussion and film screening

Chair(s): *Rachelle Haddock*

Environmental assessment as part of highway upgrades, expansion and maintenance requires specific mitigation to address wildlife movement and mortality. This session will focus on successful highway mitigation in Banff National Park and will specifically outline various mitigation options. The economic costs and benefits of highway mitigation will also be presented. The objective of this session is to provide practitioners with examples of successful mitigation and cost effective measures. This session dovetails with the technical visit to Banff National Park (wildlife management for TransCanada highway twinning and wildlife overpasses) led by Dr. Anthony Clevenger.

Banff highway mitigation: 30 years of learning

Anthony Clevenger

Research needs to be designed to inform management. An adaptive mitigation approach has been used in Banff National Park for highway mitigation design and planning.

Planning wildlife crossings in Canada's mountain parks

Trevor Kinley

Parks Canada plans to extend wildlife highway crossing infrastructure from Banff National Park into Kootenay and Yoho National Parks. New conditions and different species will be accommodated.

The cost dimensions of highway wildlife mitigation

Tracy Lee, Anthony Clevenger, Clayton Apps, Dale Paton, Mike Quinn, Dave Poulton, Rob Ament

In this case study we conducted a cost assessment of ungulate vehicle collisions occurring along Highway 3 to determine it is cost effective to invest in wildlife mitigation infrastructure.

Highway Wilding: A documentary film

Rachelle Haddock, Leanne Allison, Tony Clevenger, Danah Duke

This documentary film looks at the issue of highways, and some of the pioneering solutions that exist to prevent wildlife-vehicle collisions and reconnect landscapes across highways.

11.6 Operationalizing impact assessment: Follow-up and implementation challenges

Wednesday 15 May | 14:30-16:00 | Arabian B

Paper session

Chair(s): Henry Camp

Reaching alignment on impact mitigation measures is a critical part of the planning phase of a major capital project. Mitigation measures are commitments to be upheld throughout the project's development and this session explores how projects manage the transition from planning to execution. The session will explore the various risks and issues and present approaches that have been successfully employed to drive real impact management.

EIA case study of implementing mitigation measure in Hong Kong

NH Mable Chan, TS Steve Li

The EIA Ordinance is a landmark legislation that marks a major step forward in environmental protection in Hong Kong, using environmental permits to implement mitigation measures recommended in the EIA.

Highway mitigation in Mexico, from planning to execution

Norma Fernández Bucos, Ricardo Sánchez Maldonado, Viridiana Lizárraga Gárate, Joel Demetrio Martínez, Sergio López Noriega

Mitigation is usually described in general, making it difficult to define specific actions; therefore their implementation is a challenge. Creative low cost measures were used in a highway in Mexico.

Completing mitigation at US customs land ports of entry

Paula Bienenfeld

U.S. Customs and Border Protection successfully implemented protection and mitigation measures into port modernization construction projects using teamwork, early identification of environmental goals and continued management through the projects' life cycles.

Performance of EIA in Ghana

Arend Kolhoff, Ebenezer Kwabena Appah Sampong

The performance of the EIA system and the environmental compliance and enforcement system in Ghana was evaluated. EPA will respond to the results and present first thoughts for improvement.

Beyond assessment: Managing EA commitments

Robert Federico

This presentation focuses on managing long-term implementation of commitments arising from the EIA and permitting process to reduce risk of environmental management "falling through the cracks" post EA.

Environmental monitoring and compliance methodology

Francois Roger Nguene, Juliet Taza-Azaba, Charlotte Enjoh Fonoch, Suzanne-Aimee Nien Ngapout, Preley Nkerbu

Environmental monitoring checks impact mitigation/optimization measures. Experience from onshore petroleum projects EIA follow-up has enabled refining of a methodology that could be improved to achieve oil and gas project sustainability.

11.7 IA sustainable infrastructure and construction

Thursday 16 May | 09:00 - 10:30 | 100B

Paper session

Chair(s): Juan Quintero

Impact assessment during project construction is where "the rubber hits the road." This session discusses environmental controls and good practices during the construction process and over the entire project cycle.

Decision-making for Navigation and Sustainability

Larry Canter, Tom Swor

This presentation will describe how systematic decision-making can be used to evaluate, individually and in combination, both navigation-related and ES-related alternatives.

Adaptability of eco-measures in highway construction

Xuhui Shen, Wei Zhou

The paper focuses mainly on the environmental issues related to the highways in Xinjiang during the construction period.

Protection zone of construction project

Shu Yan, Yi Su

Environmental protection zone is a comprehensive concept, taking into account not only traditional elements like atmosphere and health elements but also the accumulated impact of contamination in the soil.

Synergy of EIA, LCA, LCCA and Energy Atlas

Marija Stamenkovic, Johann Köppel

The idea behind this research is an establishment of a framework that incorporates eco-efficiency (EIA, LCA, LCCA), with energy efficiency (Energy Atlas) for the building project during its whole life.

BIODIVERSITY AND IA

12.1 Addressing project impacts to biodiversity: Critical roles for IAIA

Monday 13 May | 16:30-18:00 | Palomino E

Panel

Chair(s): Dennis Grossman

IAIA Section: Biodiversity and Ecosystems

IAIA should provide leadership the appropriate use of data, tools and methods for assessing and addressing biodiversity impacts. A special IAIA Biodiversity Workshop in February identified many of these biodiversity assessment practitioners needs. This session will review these findings and lay out a future biodiversity leadership path for IAIA.

Panelists

Dennis Grossman, Conservation Biology Institute

Ernani Pilla, InterAmerican Development Bank

Asha Rajvanshi, Wildlife Institute of India

Pam Gunther, AMEC

12.2 Tools to predict impacts of economic development projects on biodiversity

Wednesday 15 May | 11:00-12:30 | Palomino D

Paper session

Chair(s): Dennis Grossman

IAIA Section: Biodiversity and Ecosystems

This session will review baseline information and spatial analytical tools that are available to evaluate the impacts of economic development projects to biodiversity. The session's objective is to ensure a broader understand of the data resources and tool functionality to promote their appropriate use across the environmental impact assessment community.

Critical habitat assessment using IFC PS6 criteria

Carol Stefan, Christine Robichaud, Kyle Knopff, Darrin Nielsen, Corissa Carveth, Derek Melton

An approach for designating critical habitat for fauna, flora and aquatic resources in a high biodiversity area following the five criteria outlined in IFC PS6 and GN6.

Concurrent sessions

Protecting rare animals through the EIA process: Hong Kong

Mark Shea, Vincent Liu, Samuel Chan

Hong Kong EIA process plays a role in preservation of natural habitats and wildlife. This paper presents two drainage projects demonstrating a way to achieve protecting targeted animals.

Biodiversity-inclusive impact assessment in the depths

Robin Warner

Potential new elements of a biodiversity-inclusive impact assessment process for deep seabed mining include monitoring processes, stakeholder consultation options, possible mitigation measures, and implementation of a mitigation hierarchy approach.

Mitigation hierarchy for biodiversity conservation

Pablo Tabora, Carolina Casaretto

PERU LNG implemented a mitigation hierarchy approach to protect biodiversity. Research findings, science-based monitoring, and repeated assessment managed to avoid, minimize, and restore some negative impacts on biodiversity.

Study on biodiversity measuring method for Japanese

Yasuhiro Hasegawa, Kiichiro Hayashi

Several biodiversity assessment methods from other countries were tested for checking the applicability of urban secondly forest as a case study in Nagoya city, Japan.

New approach to assess cumulative effects on biodiversity

Jim Schieck, Amit Saxena, Tyler Muhly, Dave Huggard, Peter Solymos, Daiyuan Pan, Erin Bayne

Biodiversity assessment needs to provide information that can be incorporated into planning and management decisions. We piloted methods to predict changes in species/biodiversity abundance and to map these changes spatially.

CLIMATE CHANGE, ADAPTATION, AND IA

13.1 INTEGRATION OF CLIMATE CHANGE AND IA

13.1.1 IA and climate change next steps: 2013 and beyond

Monday 13 May | 14:30-16:00 | Palomino F-H

Roundtable

Chair(s): Weston Fisher, Lone Kornov, Will Knowland, Rita Cestti, Arend Kolhoff, Stephen Hazell, Peter Croal

IAIA Section: Climate change

This roundtable will use the "IA and Climate Change Next Steps" document as the starting point for discussing accomplishments to date, constraints to more effective action, and how we might best apply the power of our Association and our members to respond to the great challenges before us over the next fifty years. The results of the roundtable will serve as the foundation for an updated "IA and Climate Change Next Steps" document.

13.1.2 Guidelines and tools for integrating climate change in impact assessment

Wednesday 15 May | 14:30-16:00 | Palomino F-H

Paper session

Chair(s): Sanne Vammen Larsen, Patrick Driscoll

IAIA Section: Climate Change

The session shifts focus from discussing relevance and status of integration of climate change in IA to reviewing examples of specific integration of climate change in IA in practice. The session through the papers presented covers both different tools and different sectors.

Climate change in EIA: Inspiration from practice

Sanne Vammen Larsen

On the basis of a Danish study, the paper presents approaches to integration of climate change in EA and tools for use in the various stages of the EIA procedure.

Scenario analysis for mitigating climate change impacts

Ronni Wilcock

Development of sustainable resource management decisions that integrate the dynamics of aquatic, marine, and terrestrial ecosystems to minimize the environmental, social and business risks of climate change through scenario analysis.

Carbon market mechanisms: Oil and gas sector

Tyler Tarnoczi

Comparing the various carbon market mechanisms that affect Canada's oil and gas industry shows diverse approaches to project additionality, crediting, and quantification methodologies.

Comparative study of inundation vulnerability

Sun-Ryong Ha, In-Hyeok Park, Jeong-Young Lee

This study is to identify the differences in urban inundation vulnerability by four evaluation methods. The vulnerability maps have been obtained and then compared.

13.1.3 Crisis? What crisis? Decision-makers and climate change adaptation

Wednesday 15 May | 16:30-18:00 | Mustang

Paper session

Chair(s): Patrick Driscoll

IAIA Section: Climate Change

This session focuses upon how decision makers handle the implementation of adaptation measures and identifies what can be done to make scientific information in EIAs and SEAs more comprehensible. Empirical work is presented from rural infrastructure projects in developing countries, and urban contexts in Russia, Denmark, and the US.

Distal and proximate risk: Danish and American planners respond to the climate adaptation challenge

Patrick Driscoll

How decision makers perceive risk related to climate change adaptation is a key variable when it comes to funding and implementation of municipal climate adaptation strategies. This paper highlights the differences between Copenhagen and Portland, Oregon, using the lens of distal and proximate risk.

Practical adaptation for rural infrastructure projects

Kenneth Green

Rural infrastructure projects are being implemented in developing countries with increasing policy attention to climate adaptation but little evidence of practical implementation. This paper will show useful field based approaches.

Climate change adaptation in St. Petersburg

Martin Lund-Iversen

St. Petersburg still has a way to go to incorporate data relevant for adaptation to climate change into planning and development consents.

13.1.4 IA for integrated resource management in a climate-stressed world

Tuesday 14 May | 11:00-12:30 | Palomino F-H

Paper session

Chair(s): Jean Hugé

IAIA Section: Climate Change

IA in support of integrated resources management holds the promise of promoting a much-needed transition to sustainability, yet climate change brings on new challenges that IA practitioners and users can no longer ignore. But what works and what does not, and what can we learn from recent experience?

Above the theory, below the practice

Marija Stamenkovic, Johann Köppel

The link between corporate and environmental stewardship is to be presented through impact assessment examples of procurement.

LCA of novel bioproducts processing and production

Emmanuel Yiridoe, Qiaojie Chen, Rodney Fry, Derek Lynch, Gordon Price

Results of the environmental impact and economic analysis are useful for potential entrepreneurs contemplating investing in the novel bioproducts processing and production.

IA for climate-proofing development: what kind of change?

Jean Hugé, Tom Waas, Francisco Benitez-Capistros, Elvis Nkoana, Aviel Verbruggen

The broader influence of IA on climate proofing development cooperation is analyzed by applying the policy arrangement approach on recent IA cases in Belgium, Ecuador and South Africa.

Impact of climate change on environment, Aibi Lake Basi

Yibing Qian, Zhaoning Wu

Under the background of global climate warming, the climate of Aibi Lake Basin shows remarked variation, which results in advantageous and disadvantageous impacts on the eco-environment of Aibi Lake Basin.

Climate change considerations: Illustrations from EISs

Larry Canter, Pam Hudson

Climate change should be addressed within local to regional CEAM studies. GHG emission inventories, effects of climate change in spatial areas, and mitigation and adaptation will be described.

13.1.5 Strategic environmental assessment and climate change

Tuesday 14 May | 16:30-18:00 | Quarter Horse B

Paper session

Chair(s): He Xu, Kin Che Lam

This session will provide practical guidance on the planning, design and operation of PPP with climate change considerations in mind. The discussion will cover a wide range of sectors including land use, regional and urban development, industry, agriculture, livestock breeding, forestry, energy, water conservancy, transportation and tourism.

EA for climate change: New scope, new challenges

Kin C. Lam

In future, more and more IAs will touch on climate change. The paper reviews the changing scope/nature of the issues involved and the need for a new paradigm of assessment.

Climate change, environmental disasters, and poverty nexus

Saqib Ejaz Hussain, Mirza Arshad Ali Beg, Syed Nadeem Arif

Results of the SEIA study of the two Ramsar sites will be presented to elucidate the point that climate change and anthropogenic activities are responsible for environmental and social pollution.

Challenges to integrate CC considerations in EIA

Prasad Modak, Namrata Ginoya

There is a need to evolve an integrated approach, combining project and regional level considerations, to address climate change in EIA.

Integrated low carbon development into SEA process

He Xu, Hongtao Bai, Wenchao Li, Nan Zhang

Explore how to integrate low carbon development into the SEA process in China.

SEA, climate change and hydropower for sustainability

Raja Aurangzeb Khan

An analysis of environmental governance and vulnerability to climate change; comparing two approaches for introduction/legalization of SEA in the national development planning process for sustainability through SEA of hydropower plans/programs.

Strategic EIA of a thermal power complex, Vietnam

Genandrialine Peralta

A strategic EIA was undertaken with vulnerability to climate change on the whole thermal power complex despite that only one of the five plants is being financed by the ADB.

13.1.6 GHG emission accounting and performance criteria for development projects

Wednesday 15 May | 16:30-18:00 | 100B

Panel

Chair(s): Natasha Ward

GHG emission accounting and reporting is becoming standard practice in many international financing organizations. In addition, more and more of these organizations are adopting harmonized criteria to exclude GHG emission intensive technologies, and to seek innovative approaches to reducing emissions of development projects. This session offers the opportunity to take an in depth look into the methodologies and tools, and discuss their application with first hand practitioners.

Panel presentations

Lucas Bossard, International Finance Corporation (IFC)

The International Financial Institutions (IFIs) have been working together to agree a harmonized approach to project-level greenhouse gas (GHG) accounting. The rationale for this work is to harmonize GHG accounting and reporting and establish minimum requirements in undertaking this work. This agreed approach to reporting GHG accounting for mitigation projects will be presented along with an overview of IFC's work related to this and other GHG accounting initiatives.

Stanislav Suprunenko, European Bank of Reconstruction and Development (EBRD)

EBRD has been calculating and reporting the aggregate GHG emissions from its portfolio for the past 9 years, demonstrating how over the past 6 years that the overall impact of its investments has resulted in a net GHG saving.

Paul Suding, Inter-American Development Bank (IDB)/GIZ

The IDB has developed a suit of instruments to enable GHG emissions accounting of certain operations it finances. Among them are 16 sector-specific GHG emissions inventory tools and 4 guideline papers; for liquid and gaseous fossil fuel power plants, coal fired power plants, cement manufacturing plants and landfill sites. Combined, these instruments set minimum climate change performance criteria and recommendations for climate-friendly management of emission intensive projects.

Concurrent sessions

13.2 CLIMATE CHANGE: NORTH AND SOUTH PERSPECTIVES

13.2.1 The vanishing North: Can impact assessment reverse the trend?

Monday 13 May | 11:00-12:30 | Palomino F-H

Theme forum

Chair(s): *Arend Kolhoff, Patrick Driscoll*

IAIA Section: Climate Change

The Arctic countries are already experiencing the impacts of climate change. Those impacts are influencing daily life of people, investments and biodiversity. Each speaker will take a perspective aiming to get an overview of the impacts of climate change and how impact assessment can assist to mitigate and adapt to those changes and what the rest of the world can learn from the first experiences gained by the Arctic countries.

Panelists:

- Stephen Lintner, World Bank
- Stephen Hazell, Canada
- Peter Croal, Canada

13.2.2 Climate change and impact assessment: The North meets the South

Monday 13 May | 16:30-18:00 | Palomino F-H

Paper session

Chair(s): *Arend Kolhoff, Jonathan Allotey*

IAIA Section: Climate Change

The Arctic countries are already confronted with the impacts of climate change for some time. This session facilitates the exchange of lessons concerning how to deal with climate change in impact assessment between the practitioners from the countries in the North and the South.

Greenhouse gases in environmental impact assessment

Mike Murphy, Karen Gillam

There is very little guidance available on how to assess the release of greenhouse gases from a project. New ideas are presented based on recent assessment experiences.

Ensuring safe water for the future: Lessons from US

Hope Herron, Charlie MacPherson

This presentation explores how to incorporate climate risk management, resilience, and adaptation into environmental assessments that involve water utilities and water resources.

Climate change and Arctic tourism in Svalbard

Marina Martin Curran, Yvette Evers

We present research on the impact of climate change (unpredictable weather and seasons) on tourism actors in the Arctic archipelago of Svalbard and how the industry is having to innovate.

Challenges of climate risk assessment in Central Asia

Charles Kelly, Yegor Volovik

The paper focuses on how to work around poor and limited data to accomplish a climate impact risk assessment, with experiences in Central Asia used to define the problems encountered.

13.2.3 The Arctic

Wednesday 15 May | 14:30-16:00 | Quarter Horse B

Paper session

Chair(s): *John Aronson, Bob Clark, Viktor Raykin, John Winston*

The Arctic is in a state of rapid change. IAIA needs to step up with modern interdisciplinary approaches for effective ESHIA, especially for the oil and gas, mining, fishing, and other commercial exploitation industries. The Arctic is melting quickly: on August 27 we reached the all-time least Arctic ice cover, and normal minima are not reached until September. The linkages and networks concerned with Arctic ecology and environment will be elaborated.

SEA opportunities and constraints in the western Arctic

Bram Noble, Courtney Fidler

SEA remains uncharted territory in Canada's western Arctic. The perceived risks of foregoing development and adding regulatory complexity create much uncertainty around SEA and outweigh its perceived benefits.

Assessing cooperation in Arctic tourism on Svalbard

Yvette Evers, Marina Martin Curran

Results are presented on tourism cooperation in the Arctic archipelago of Svalbard and how this is affected by both internal and external changes in the last five years.

Community participation and influence in an Arctic EA

Diane Martens

Using EA and an iterative approach to project design to select road alternatives that best consider the terrestrial and socio-economic environments, traditional knowledge, and community preferences while meeting project needs.

Governance and EA capacity building in Canada's Arctic

Michael Mifflin, Tomasz Włodarczyk

This paper presents a model for governance and capacity building for environmental assessment in the Canadian Arctic, drawn from a three-year initiative in the Nunavut public service.

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SOCIAL IMPACT ASSESSMENT

14.1 Voluntary SIA: Ideas and insights from beyond a regulatory context

Monday 13 May | 16:30-18:00 | Arabian C

Panel discussion

Chair(s): Christine Crispin

IAIA Section: Social Impact Assessment

What is happening with SIA outside the regulatory planning context? What does this mean for the evolution of SIA practice? In this Q&A session we will explore and challenge different approaches to voluntary assessment of social impacts in resource development across the project life cycle, from planning through operation to closure.

Christine Crispin

An overview of voluntary SIA practice in the resources sector, including results of a research project reviewing the requirements for SIA and related activities within the Social Responsibility and Performance Standards of major resource companies.

Rhonda Zuraff, External Relations Manager – North America, Newmont

Experience managing an SIA process for a proposed mine in North America that was delivered to meet both regulatory and company standards, with a particular focus on management of impacts relating to water.

Bill Kruse, Principal, Banarra

Experience delivering SIAs and other assessments focused on identifying and managing the social impacts of existing mining operations in Australia, with a particular focus on management of impacts on Indigenous Peoples and Cultural Heritage.

Diana Arbelaez-Ruiz, Research Manager, Centre for Social Responsibility and Mining, University of Queensland

Experience delivering and supporting closure impact studies for two Australian mining operations and the learnings for improving SIA practice in relation to closure.

14.2 Social impact assessment clinic

Thursday 16 May | 09:00-10:30 | Arabian C

Facilitated clinic

Chair(s): Frank Vanclay, Ilse Aucamp, Daniel Franks, Rauno Sairinen

IAIA Section: Social Impact Assessment

For many SIA practitioners IAIA conferences are a clinic where we re-energize and focus on the health of our own practice and the field as a whole. This workshop will be a space for new and experienced SIA practitioners to hear about and share practical experiences, innovations, anecdotes, tips and techniques.

14.3 SIA and CSR in the mining and energy sectors: A merging of generations? (I)

Monday 13 May | 11:00-12:30 | 100A

Theme forum

Chair(s): Rauno Sairinen

IAIA Section: Social Impact Assessment

SIA and CSR are both used by companies in the mineral and energy sectors to assist their community relationships. This paper session invites case studies and practitioner reflections on the current state of the art of these distinct bodies of practice and how they are informing each other to address social issues across the life cycle of projects.

Towards meaningful cohesiveness:

Bridging CSR and SIA

Sara Bice

CSR and SIA share core values, yet often remain separate. Research and case experiences help explain frequent gaps between CSR and SIA and offer insights for achieving “meaningful cohesiveness.”

SIA and CSR for management of stakeholders expectations

Didas Muhumuza, Florence Nangendo

Uganda has had tremendous success in petroleum exploration so far, but this has come with numerous lessons. Stakeholder expectations are also immense and have to be managed effectively.

Socio-environmental impacts of mining in Chile

Gina Marisol Roman

Sierra Gorda is a rural community located in a significant copper mining district. A holistic approach to the sensitive socio environmental issues in the mining area is urgent.

Beyond CSR: A standards-based approach

Ben Dixon, Ramanie Kunanayagam, Shane Boladeras

Presents a case study from an international energy company that has moved beyond a CSR approach to embed social performance standards and management systems in a mandatory control framework.

Industrial benefits planning:

A bridge between SIA & CSR

Ian Murphy

Industrial benefits planning (IBP) strategies to optimize local employment benefits can satisfy social impact assessment (SIA) requirements, while advancing corporate social responsibility (CSR) goals and initiatives.

14.4 SIA and CSR in the mining and energy sectors: A merging of generations? (II)

Monday 13 May | 14:30-16:00 | 100A

Paper session

Chair(s): Daniel Franks

IAIA Section: Social Impact Assessment

SIA: Pushing the boundaries of conventional assessment

Linda Havers, Natasha Kone, Haukur Bjornsson

Social assessments of large projects are often expected to include other special assessments such as human rights, health and cultural assessments. What is the role of the SIA practitioner today?

Can we predict with tourist opinions?

Mikko Jokinen, Liisa Tyrvaäinen

Assessments are based in best cases on research. Typically we study people's opinions on possible impacts. The fuzzier the implementation of projects is, the less useful are the results of the study.

Social impacts of mining in the Chatkal Valley

Rauno Sairinen, Heidi Tiainen

Study of the social impacts of Chatkal Valley case suggests that the local resistance now leading to severe conflicts may have been encouraged by poor governance of the mining industry.

Theoretical contributions to local procurement practice

Daniel Roquetti, Marcelo Montaña, Evandro Moretto

Review of economic development theories in order to search for contributions to local procurement practice.

How rural communities experience new mining sites in Finland

Tuija Mononen

The mining industry is a highly diverse actor. The local consequences of mining operations are often stronger than in other fields of industry.

14.5 International Guidelines for SIA: The next generation

Wednesday 15 May | 11:00-12:30 | Quarter Horse A

Workshop

Chair(s): Frank Vanclay

IAIA Section: Social Impact Assessment

This workshop will further develop the “International Guidelines for Social Impact Assessment.” The concept will be presented for feedback (draft document available in advance from Frank.Vanclay@rug.nl). The workshop will comprise group discussions to elaborate the key points needing improvement. Input from people interested in SIA and/or social development is invited.

Concurrent sessions

14.6 Community responses to the next generation of energy technologies

Thursday 16 May | 09:00-10:30 | Quarter Horse B

Paper session

Chair(s): Francesca Viliani, Daniel Franks

IAIA Sections: Social Impact Assessment, Health

The global energy mix is shifting and with this change new community, social and health challenges have arisen. This paper session explores the role of impact assessment in assisting communities to understand the unfamiliar and proponents to respond to community concerns at the local level. The session traverses “green” and unconventional energy technologies including, biomass, wind and oil sands.

Adverse impacts of Alberta's intensive energy production

Michael Edelstein

Two instances highlight current practice in Alberta for dismissing adverse community impacts in decisions to permit energy production projects. In both, evidence was collected and testimony presented. Future citizen intervention is discouraged.

Factors influencing conflict occurrence over wind farm projects

Keita Azechi, Shutaro Hori, Shigeo Nishikizawa, Takehiko Murayama

This presentation clarifies factors influencing occurrence of environmental conflict in Japanese context by applying quantitative method including multivariate analysis to over one hundred onshore large-scale wind farm projects in Japan.

Socio-economic assessment of bioenergy projects

Rocio A. Diaz-Chavez

This paper presents the results of different bioenergy projects assessing socio-economic impacts and how to deal with them in practice and improve policy in the renewable sector

Perception and annoyance due to coastal wind turbines

Shigeo Nishikizawa, Tatsuaki Mitani, Takehiko Murayama

This presentation clarifies the perception and annoyance due to wind turbines located in coastal area according to interview surveys with inhabitants and questionnaires to local governments.

14.7 Impact of dams on communities: Lessons learned and the future role of SIA

Wednesday 15 May | 16:30-18:00 | Palomino D

Workshop

Chair(s): Eram Aftab Gaia, Monte Alves

IAIA Section: Social Impact Assessment

The World Commission on Dams estimates that 40-80 million people have been displaced by construction of dams, and WCD reports highlight how displacement leads to landlessness, joblessness, increased morbidity, loss of social and cultural resilience, and often-irreversible declines in living conditions. With the new wave of dams being proposed in developing countries, there is a need to revisit the social impacts and the how the EIAs of these development projects are incorporating the WCD recommendations. Following two brief presentations, participants in this session will prepare a list of recommendations for inclusion in SIA practice on displacement of communities in mega projects.

Impact of dam on social structure and environment

Haider Raza, Shazad Hassan

The paper will discuss the gaps in current EIA practices in Pakistan regarding construction of a mega dam in the context of socio-political and cultural values in the project area.

14.8 The impact of new transportation facilities on urban gentrification: The case of Metro de Quito

Wednesday 15 May | 11:00-12:30 | Quarter Horse B

Panel

Chair(s): Carlos Perez Brito

As Latin American cities modernize their transportation systems, one phenomenon that hasn't been sufficiently analyzed is the impact of infrastructure on gentrification, and the dynamics of improvements and displacement. This session will discuss the analysis developed that integrates mobility, buildings, and census data to analyze the impact of the metro.

Panelists

El Metro de Quito. Design and engineering

Patricio Romero

Sustainable transport and urban development in Latin American cities

Rafael Acevedo

Social analysis with geo-reference data for the Metro de Quito

Carlos Perez-Brito

PUBLIC PARTICIPATION

15.1 Public participation, value conflict, and the politics of impact assessment (I)

Tuesday 14 May | 14:30-16:00 | Palomino A-C

Paper session

Chair(s): Louis Meuleman

IAIA Section: Public Participation

This session presents papers exploring the dynamics of values and politics in IA. Public participation has gained ground, but projects continue to put economic valuations foremost while social and environmental concerns are given secondary consideration and many stakeholders feel marginalized. This session presents cases from Peru, Australia, the Pacific, the Philippines, Canada, and Chile.

Politics and institutions in mining EIS approvals

Diana Carolina Arbelaez-Ruiz, Juan Mauricio Benavides

This paper proposes a framework to analyze the political and institutional dimensions of mining EIS approval, explores two Peruvian EIS approval cases, and suggests criteria for regulatory improvement.

Reclaiming balance when economics dominate

Alexandra Blood, Charlie Wilson-Clark

This paper considers social political implications when economic based decision making fails to acknowledge stakeholder participation in all phases of mining with case studies from Pacific, Africa and Australia.

CSR in the context of poverty and inequality

Nonita Yap, Kerry Ground

This paper presents the results of a study seeking to understand the challenges and opportunities faced by Canadian mining companies in the Philippines for improving their social and environmental performance.

EIA substitution: Experiences of public participants

John Sinclair, Gary Schneider, Lisa Mitchell

This presentation explores the experiences of participants in a regulatory process that substituted a Federal EIA process to gauge the impact of such process substitutions on meaningful public participation.

Ethics and sociocultural impact assessment

Pablo Rossel

This paper analyzes the current state of applied investigative ethics linked to socio-cultural assessment in Chile in different areas of development, including energy, mining, and transportation, among others.

15.2 Public participation, value conflict, and the politics of impact assessment (II)

Tuesday 14 May | 16:30-18:00 | Palomino A-C

Paper session

Chair(s): John Devlin

IAIA Section: Public Participation

Public participation in IA promises improved governance but its practice often falls short of expectations. This session explores the governance potential of IA, difficulties in creating fully participatory IA processes. This session explores evolving governance practices in Hong Kong, Canada, Greenland and Japan and assesses whether recent changes are likely to improve the capacity for better public participation in each country.

The governance dimension of IA

Louis Meuleman

Impact assessment is an essential part of governance but also depends on appropriate governance. Improving the compatibility of IA approaches with their governance environment leads to better assessment processes.

Amplifying vocal minority views in public participation

Timothy J. Peirson-Smith

This paper highlights inadequacies in conventional Public Participation exercises to demonstrate how vocal minorities dominate dialogue and reviews strategies and tactics to counter and capture silent minority opinion towards consensus.

The Canadian EA Act 2012 and Public Participation

Katherine Kung

This paper evaluates the new Canadian Environmental Assessment Act, 2012, and discusses the implications for public participation in light of the recent changes to the federal environmental assessment legislation.

Public participation within the oil exploration sector

Anna-Sofie Olsen, Anne Merrild Hansen

The communicative aspects of public participation within EIAs and SIAs in relation to the oil exploration activities in Greenland.

Positive changes after the Great East Japan Earthquake

Yoichi Kumagai

This presentation analyzes policy documents for recovery from the catastrophic effects of the Great East Japan Earthquake. A framework of sustainability assessment is applied to find positive changes.

15.3 Next generation social media tools for enhancing public participation in IA

Monday 13 May | 14:30-16:00 | Quarter Horse C

Paper session

Chair(s): Gwen Brice

IAIA Section: Public Participation

This session will present new social media tools that can enhance public participation in IA. The potential of social media to collect and disseminate information and to mobilize the public is well recognized. But the potential of online data continues to expand.

Benefits and pitfalls of using SM tools in PP programs

Gwen Brice

An introduction to the benefits and pitfalls of using social media (SM) tools in public consultation programs.

Gamification of environmental impacts in digital media

Andy Chung, Wanxin Li, Wai-Ming To

Discusses, with case studies in Hong Kong, the opportunities and benefits of environmental issues gamification in digital media to raise green awareness for the next generation.

Q-cumber: The Environmental-Social Network for IA

Giuseppe Magro, Ernesto Pirillo, Miguel Coutinho

Q-cumber, the environmental GoogleMaps based Social-Technical Network for Impact Assessment, is growing its influence on governments, institutions and universities with new Applications for SEA, EIA and environmental planning.

15.4 Public participation in IA follow-up

Wednesday 15 May | 16:30-18:00 | Quarter Horse C

Paper session

Chair(s): Mark Kunzer

IAIA Section: Public Participation

This session discusses IA follow-up monitoring and auditing. It considers examples of follow-up programs in Hong Kong, Nunavut, and Newfoundland and Labrador featuring regulatory and community-based monitoring and stresses the importance of public participation in conceptualizing follow-up programs given the documented incentives of project proponents to misestimate project outcomes.

EIA implementation during construction of CWB

Mohamed Hasan Isa, Cheuk Fung Lam

Implementation of a comprehensive EM&A Programme with stringent environmental control measures in accordance with EIA requirements for the construction of Central – Wan Chai Bypass and Island Eastern Corridor Link.

Community engagement in Canada's Arctic

Gustavo Oliveira, Dianne Lapierre

Community engagement in Canada's Arctic: Nunavut's multi-stakeholder, participatory approach to socio-economic monitoring.

Public participation and big projects in remote places

John Devlin

This paper discusses the systematic misestimation of costs and benefits of resource mega-projects in Canada. What does systematic misestimation imply for public participation in project assessment and follow-up?

STRATEGIC ENVIRONMENTAL ASSESSMENT

16.1 Experiences with different types of SEA: From legislation to big projects (I)

Tuesday 14 May | 14:30-16:00 | Palomino F-H

Discussion session

Chair(s): Thomas Fischer

The session aims at determining whether the establishment of a more systematic approach to SEA is possible, based on empirical evidence gained from applying the instrument to different decision making situations or decision tiers.

SEA: Endogen process or control procedure?

Giorgio Baldizzone, Carlo Rega

Different regional/national SEA laws in land use planning lead to opposite approaches: endogen process or control procedure. Genoa's new urban plan is an opportunity to understand this issue deeply.

Possible SEA adoption and application by corporations

Steve Bonnell

This paper explores the potential use of SEA in corporate strategic planning, including organizational decision-making around whether, why and how to voluntarily adopt and apply SEA.

Lessons from SEA experience in Australia

Carolyn Cameron, Mary Colreavy

The number of SEAs in Australia has doubled in the past two years as land managers recognise the value of up front certainty and communities seek regional, landscape-scale outcomes.

Sustainability indicators: Planning ethanol by SEA

Amarilis Lucia Casteli Figueiredo Gallardo, Tania Oliveira Braga, Carla Grigoletto Duarte, Caroline Almeida Souza, Maria Lucia Solera, Wellington Gomes dos Santos, Ana Clara Cerminaro, Ana Paula Souza Silva, Ana Paula Dibo

An SEA framework to guide the expansion of sugarcane for producing ethanol composed by eight steps that resulting in 44 environmental indicators was tested in a threatened watershed.

SEA for sustainability in Afghanistan's mineral development

Ernesto Sanchez-Triana, Mohammad Arif Rasuli, Obaidullah Hidayat, Cecilia Belita

Our experience will help countries having low capacity how SEA is used as a tool to mainstream environmental and social concerns into the mineral development policies, plans and programs.

16.2 Experiences with different types of SEA: From legislation to big projects (II)

Tuesday 14 May | 16:30-18:00 | Palomino F-H

Discussion session

Chair(s): Thomas Fischer

The session aims at determining whether the establishment of a more systematic approach to SEA is possible, based on empirical evidence gained from applying the instrument to different decision making situations or decision tiers.

Use of EA by the Canadian offshore petroleum boards

Kimberley Leach, Peter Morrison

This presentation will summarize the key findings from an audit related to the use of environmental assessment by two offshore petroleum boards in Atlantic Canada.

SEA for master plan studies: JICA's experiences

Kiyoshi Masumoto, Shimako Takahashi, Aiko Ueda

Experiences of SEA for master plan studies in developing countries conducted by JICA to date are reviewed and some ideas for further improvement are presented.

SEA experiences in the Mexican electricity sector

Luis E. Montañez-Cartaxo, Francisco J. Díaz-Perea

The lessons learned from the implementation of SEA in the Federal Commission of Electricity are presented along with a scheme for incorporating environmental issues in the company decision processes.

A comparative study of the SEA system in Brazil

Marcelo Montaña, Priscila de Almeida Oppermann, Anne Caroline Malvestio, Marcelo Pereira de Souza

The Brazilian SEA system is compared to other 7 countries whose systems are in different stages of evolution.

SEA issues in Portuguese and Scottish small islands

Alexandra Polido, Elsa João

Territories with specific features may need specific SEA approaches; an analysis of the SEA in two different contexts of European small islands was accomplished identifying their main features and differences.

16.3 Using SEA for effective development planning (I)

Monday 13 May | 14:30-16:00 | Mustang

Paper Session

Chair(s): Cary Anne Cadman

IAIA Section: Strategic Environmental Assessment

The session aims to promote adoption of SEA as an effective tool to mainstream environment into development planning. The expected outcome of the session is improved understanding of when and how to use SEA as an upstream planning tool to effectively manage environmental and social risks associated with development interventions across sectors at the national level.

Cumulative impacts: Public and private sector challenges

Reisha Hartley, Ross Mitchell

Two case studies of rapidly-growing resource-rich regions in Australia and Alaska comparing approaches to addressing energy, water, infrastructure and accommodation challenges.

SEA of a regional transmission development: Mozambique

Adriana Lafleur, Stephen Lindley

A case study using SEA for the sustainable planning of a regional power generation and transmission development in Central and Southern Mozambique.

Uranium SEA

Peter Tarr

Analysis of the application of SEA in transport plans

Nini Luferly Castillo Soto, Marcelo Pereira de Souza

This analysis contributes subsidies and recommendations of the SEA of PTs that could be implemented in the National Plan of Logistics and Transport (PNLT) of Brazil.

Lost assessment integration in Maptaput city planning

Paranee Sawasdirak

The study of Maptaput city plan in Thailand proposed assessment integration in regional and city planning both vertical planning process and horizontal participatory network involvement for well-mixed sustainable landuse zoning.

16.4 Using SEA for effective development planning (II)

Monday 13 May | 16:30-18:00 | Mustang

Practitioners Exchange

Chair(s): Cary Anne Cadman

IAIA Section: Strategic Environmental Assessment

The session aims to promote adoption of SEA as an effective tool to mainstream environment into development planning. The expected outcome of the session is improved understanding of the theoretical underpinnings and application of SEA as an upstream planning tool to effectively manage environmental and social risks associated with development interventions at the national level.

Nigeria: The next generation environmental assessment

Edward Bristol-Alagbariya

Emerging trends in EA have the potential to sensitize Nigeria to formally introduce and institutionalize SEA and generic strategic assessment (SA), for purposes of effective and sustainable development planning.

A research on transport planning SEA based on SD-ECC

Yingying Chai, Ling Xu, Xiaojie Meng, Yating Li, Lu Shen, Chenglin Jiang

The paper incorporates system dynamics (SD) into environmental carrying capacity (ECC) to refine SEA theory and guide transport planning practice. A case is introduced to verify the theory.

Paradigm change from EIA to SEA in developing countries

Nimi Dan-Jumbo, Marc Metzger

For next-generation IAs, the introduction of SEA and application of integrated impact assessment (IIA) model approach can help improve performances and reduce imbalances across developed and developing countries.

Assessing cumulative impacts: An emerging frac'ing play

Simon Toogood, Alan Ehrlich

This paper examines an approach to assessing the cumulative impacts of an emerging regional hydraulic fracturing ("frac'ing") unconventional gas play in a project-specific EIA framework in Canada's Northwest Territories.

SEA and Pakistan: An experience worth replicating

Ahmad Saeed, Abdul Hamid Marwat

Under NIAP, the Government of Pakistan in collaboration with IUCN is working toward the integration of SEA in national development planning through awareness raising, institutional strengthening and development of legal frameworks.

SSA and strategic sustainability planning

Tanya Markvart

How strategic sustainability assessment (SSA) and strategic sustainability planning (SSP) might influence each other, especially with respect to addressing implementation and social change towards sustainability requirements.

Policy SEA on the greening of Pakistan industrial development

Leonard Ortolano, Javaid Afzal, Ernesto Sanchez-Triana

This paper presents the policy strategic environmental assessment on the greening of Pakistan's industrial development.

16.5 Strategic environmental assessment in marine and coastal planning

Wednesday 15 May | 14:30-16:00 | Quarter Horse C

Paper session

Chair(s): *Amanda Chisholm*

IAIA Section: **Strategic Environmental Assessment**

Marine and coastal management both seek to manage the cumulative impacts of human activities, to facilitate continued delivery of ecosystem services. An ecosystem approach has been recently advocated, which overlaps with SEA and EIA. This session will share experience of marine and coastal planning and assessment so far.

SEA and marine planning in Scotland

Amanda Chisholm

The draft National Marine Plan for Scotland will be subject to sustainability appraisal. This presentation describes the planning and appraisal process, and discusses challenges, solutions, and lessons learned to date.

The determining effects of land use on coastal areas

Nermin Merve Baykan, Nuriye Say

The main objectives in this study, to determinate and analyze land use changes on coastal areas in Izmir- Seferihisar which is located on the Aegean coast of Turkey.

SEA process of sustainable island tourism development

Sangbum Lee

This study clarifies the current problems of the island tourism development and suggests strategies to enhance the environmental sustainability of the island tourism development.

16.6 Added value of SEA

Wednesday 15 May | 11:00-12:30 | 100B

Paper session

Chair(s): *Maria Partidário, Jan Nuesink*

IAIA Section: **Strategic Environmental Assessment**

In this session we ask: (1) How can SEA more explicitly consider and communicate how it can add value in any specific context? (2) Assuming that integration into decision-making leads to more effective SEAs: What should integration practically involve, and what are the preconditions to improve SEA effectiveness?

Five years' experience with SEA in Portugal

Maria Partidário, Margarida Monteiro

The effectiveness of the Portuguese methodological guidance to ensure innovative, environment and sustainability-driven strategic-oriented assessments.

SEA for sustainability in energy sector planning

Lisa White, Bram Noble, perez brito

SEA promotes tiering, communication of sustainability issues and institutional learning, but sustainability objectives aren't being linked to assessment criteria, thus SEA guidance is needed to support sustainability in electricity PPPs.

Integration of SEA in flood management planning

Kiran Hameed, Johann Köppel

The integration of SEA in flood management planning in Pakistan can provide opportunity for planners and decision-makers to establish a long-term and effective flood management infrastructure.

How is biodiversity addressed in SEA?

Margarida Monteiro, Maria Partidário

Analysis on how biodiversity is addressed in SEA practice in a strategic way based on six biodiversity-related topics.

Mega-events in Rio de Janeiro: Contributions of SEA

Clara Lemos

This paper looks at the Olympic bid of the city of Rio de Janeiro and the benefits that SEA could have added up to this process.

16.7 Utopian goals or effective tools? Public and stakeholder engagement in SEA

Tuesday 14 May | 11:00-12:30 | Quarter Horse C

Paper session

Chair(s): *Giorgio Baldizzone, Ralf Aschemann, Carlo Rega*

IAIA Section: **Strategic Environmental Assessment**

A participative SEA can be extremely effective, if not limited to a simple "presentation" of the plan/program. Case studies show how good participatory strategies are useful in reducing the time of planning, coping with uncertainties/conflicts, while increasing ownership and alternative visions, deepening key themes and, ultimately, improving the final plan/program.

Public involvement in spatial planning through SEA

Giorgio Baldizzone, Carlo Rega

Case studies demonstrate that both planning and SEA can greatly benefit from effective public involvement. Overall, participatory processes seems to be conducive to more environmental performing land use policies.

IA: Green wash: Opportunity for meaningful outcomes?

Katharine Gotto Walton, Alison McCallum, Hope Sherwin

Paper looks at the role of impact assessment (IA) in aiding "green wash" alongside the conditions under which the IA process enables socially and ecologically intelligent decision making.

Participatory SEA: What doesn't work and what's needed

Carlo Rega, Giorgio Baldizzone

SEA practitioners were surveyed to identify current strengths and weaknesses of participatory SEA and to put forward feasible innovations to enhance the first and improve the latter.

Concurrent sessions



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Papuan Indigenous participation in the Indonesian EIA

Irija Simbiak, Jesmon Sammut

The topic presented is an extensive research conducted based on qualitative methods including case study, direct observation, document analysis, and in-depth interview.

Public perspectives and learning from a SEA case study

Morgan Vespa

This presentation is a qualitative assessment of public participation and learning outcomes of the Western Newfoundland Offshore Area Strategic Environmental Assessment.

Public participation and learning in SEA in Kenya

Heidi Walker, John A. Sinclair, Harry Spaling

An examination of public participation processes in Kenyan SEA reveals strengths, weaknesses, opportunities for learning, and subsequent action that facilitates a transition towards sustainability at the community level.

16.8 Applying SEA: Case studies and innovative approaches

Thursday 16 May | 09:00-10:30 | Quarter Horse A

Paper session

Chair(s): *Ralf Aschemann, Giorgio Baldizzone*

This session reviews innovative SEA case studies and their contribution to creative and new approaches within the SEA process in the European Union and beyond. Papers are invited for promising SEA practice regarding various topics, such as baseline data, scoping, elaborating a high quality environmental report, public participation, or monitoring.

SEA Directive implementation: Unfulfilled potential?

Giorgio Baldizzone, Marco Pompilio, Carlo Rega

Ten years of Italian SEA through the first complete experience: the Milan's Plan. But what is the situation now? What went right or wrong and what is needed to be changed?

Framework for SEA alternative generation and evaluation

John Fry, Ainhoa Gonzalez, Riki Therivel, Walter Foley

A framework for generating and evaluating alternative spatial and non-spatial scenarios for sectoral plans in Ireland.

A question of significance

Felix Sternath, Ernst Mattanovich

SEA directive and habitats directive address "likely significant effects" differently. Perceptions of this ambiguity and a proposal for an unagitated approach to solving the ambiguity in practice are provided.

SEA Review: Ireland's SEA Action Plan 2012-2016

Tadhg O'Mahony, Micheal Lehane

Key aspects of Ireland's SEA Action Plan formulated by the statutory SEA environmental authorities as a mechanism for implementing the key recommendations of Ireland's SEA Effectiveness Review.

SEA for river basin plan and local development plan

Francisco Fabbro Neto, Marcelo Pereira de Souza

The integration between the water basin management plan and local development plan is improved by SEA. However, differences in objectives and results of each plan influence the SEA methodology.

IMPACT ASSESSMENT TOOLS

17.1 BREADTH OF IA: COMPREHENSIVE VS. TIGHTER

17.1 It's all in the mix: The lost art of integration

Wednesday 15 May | 16:30-18:00 | Palomino F-H

Paper session

Chair(s): *Bryony Walmsley, Peter Tarr*

In the same way that lining up the flour, sugar, eggs and butter on the kitchen counter does not make a cake, compiling an appendix of specialist studies does not make an environmental assessment. The session covers tools, methods and approaches for baking the integrated EA cake!

A project management approach to integration in IA

Nigel Fisher

A project management approach to achieving IA integration for the whole project life cycle. Why current approaches need to change and a review of new applications of tools and initiatives.

Strategic social assessment for catchment planning

Nick Taylor, Mike Mackay

Strategic social assessment supports development of plans that set limits for water takes and water quality in a New Zealand catchment, as part of an integrated process of impact assessment.

What about assessing impact on ecosystem services?

Florence Landsberg, Jo Treweek

This paper presents a method to assess impacts on ecosystem services- or the socio-economic dimensions of environmental impacts. Insights from implementation will also be shared.

Maximizing linkages for sustainable assessment

Dana Feltham

This paper discusses the importance of structuring environmental assessments to maximize linkages between the biophysical and the socio-economic environments as they relate to Aboriginal communities.

Understanding CBA: Overcoming dilemmas in IA

Emile Dopheide

Understanding specialists studies, like cost-benefit analysis (CBA), is crucial in integrated assessment. The paper discusses understanding of CBA among EIA/SEA practitioners and ways to overcome dilemmas in the integration of specialists studies.

17.2 NEW TOOLS AND IA PRACTICES

17.2.1 Incorporating ecosystem services in ESIA: Practices, challenges and opportunities

Tuesday 14 May | 14:30-16:00 | Quarter Horse B

Paper session

Chair(s): *Ilse Aucamp, Florence Landsberg*

IAIA Sections: **Biodiversity and Ecology, SIA**

The community of practices around ecosystem services in ESIA has grown as a result of, among others, IFC Performance Standards. Social and environmental practitioners will discuss their experience with ecosystem services in ESIA, including costs and benefits, and potential and limitations of ecosystem services in contributing to a sustainable world.

Reviewing the devastated ecosystem services of Chotiari

Muhammad Husnain

Review of ecosystem services of Chotiari Wetland Complex, ecological and economical destruction of the site after reservoir construction, proposal for ecosystem services restoration, and payments for water services.

Revisiting a new EIS mine using ecosystem services

Luis Sánchez, Josianne Rosa

Reviewing the impact assessment of a mining project under an ecosystem approach services provided a more integrated analysis but missed a number of social impacts identified in the traditional EIS.

Culture ecosystem service by subjective value study

Kii Hayashi, Yasuhiro Hasegawa

The purpose of this study is to examine how to evaluate cultural ecosystem services (CESs) by a subjective value assessment method. A case study was done in Aichi, Japan.

17.2.2 Territorial impact assessment: Tool for territorial cohesion

Thursday 16 May | 09:00-10:30 | Arabian B

Discussion forum

Chair(s): *Thomas Fischer*

Territorial impact assessment (TIA) is a new policy impact assessment instrument which has been brought forward in order helping achieve territorial cohesion within the European Union (EU), by assessing impacts of European policies, including directives. The focus of TIA can be manifold, including, e.g., territorial characteristics as receptors of impacts, the territorial distribution of impacts and territorial evaluation of impacts. This session will consist of a paper explaining the TIA concept and a subsequent discussion on:

- Whether there are any other impact assessment instruments elsewhere in the world that are trying to do the same.
- Whether TIA is a useful addition to the growing IA family, not just within the EU, but elsewhere, too.

The new European concept of territorial impact assessment

Mojca Golobic

17.2.3 Innovative modeling tools for sustainable energy policy assessment

Tuesday 14 May | 11:00-12:30 | Arabian C

Paper session

Chair(s): *Jean-Philippe Waaub*

Energy policy assessment can be achieved through different decision processes and methodological approaches. More integrated analysis is needed. Modelling tools help even to take into account sustainability issues on the long term. Those points can be discussed and analyzed in depth through case studies and presentation of innovative modelling tools.

TIMED approach for energy sustainable development

Maria de Lourdes Vazquez Rascon, Jean-Philippe Waaub, Adrian Ilinca

The new approach Territorial Intelligence Modeling for Energy Development (TIMED) promotes the sustainable wind energy development taking into account socio-cultural and economic-environmental variables that can be identified from citizens' concerns.

Assessing GHG issues in Canadian energy policies

Camille Fertel, Jean-Philippe Waaub

Based on the TIMES-Canada model for long term energy and environmental policy analysis, we discuss the implementation of different Canadian GHG emission reduction targets, focusing on oil, electricity, energy trade.

Bayesian networks to support SEA

Miguel Equihua, Francisco Javier Díaz, Guadalupe Méndez, José Luis Alvarez, Christian A. Delfin Alfonso, María del Carmen Alvarez, Arturo Hernández, Octavio Perez-Maqueo, Arturo Bermudez

We present a spatially explicit support system for decision making, which was based on the use of Bayesian networks. The system was developed in the context of an SEA.

17.3 TOOLS FOR IA PRACTITIONERS

17.3.1 How am I supposed to do this? Methods to address ecosystem services in ESIA

Thursday 16 May | 09:00-10:30 | Arabian A

Pecha Kucha/ Open Space Technology Session

Chair(s): *Florence Landsberg, Ana Gabriela Factor, Jo Trewick*

IAIA Sections: **Biodiversity and Ecology, SIA**

While new impact assessment standards require ESIA to address ecosystem services, guidance on how to do it is sparse. Practitioners with experiences in incorporating ecosystem services in ESIA will present their methods. Then all participants will lead structured groups sessions around selected topics, guided by an experienced Open Space facilitator.

Many tools make light work

Mervyn Mason, Robin Mitchell, Brendan Hart, Myles Mander

Our paper discusses some of the many pitfalls we have encountered in ecosystem services assessment, and how to navigate around them, using real projects as examples.

The Ecosystem Services Review for Impact Assessment

Florence Landsberg, Jo Trewick

This presentation gives an overview of the Ecosystem Services Review for Impact Assessment, a structured method to incorporate ecosystem services into ESIA, including overall conceptual framework, implementation steps and tools.

Natural non-point source management using LID

Jae Woon Lee, Heon Gak Kwon, Se Uk Cheon, Byung Seok, Du Kee Kang

Low impact development (LID) is technology-based urban watershed environment for when you want to restore a system as close to its natural state as possible with the most progressive land planning and engineering design.

Concurrent sessions

17.3.2 Environmental baseline data in the IA process : What is appropriate?

Wednesday 15 May | 14:30-16:00 | Mustang

Paper session

Chair(s): Paul Krause

This session is designed to bring IA professionals from industry, consulting, academia, and agencies together to present case studies and lessons learned on how high quality and robust environmental baseline data have benefited projects. Additionally, it will generate discussion topics and help focus future projects to develop the appropriate level of baseline rigor.

Baseline studies in the IA: Form and function

Paul Krause, Jennifer Holder, Edward Buchak

The use of a long-term regional approach to determining environmental baseline conditions will provide regulatory agencies, project proponents, and stakeholders a higher level of confidence in the IA outcome.

Empirical EIA with long-term wildlife monitoring.

John Kansas, Amit Saxena, Michael Charlebois

Long-term monitoring as part of EIA at the project-level is an often ignored yet useful empirical basis for understanding cumulative impacts, and can help to bridge EIA and regional planning.

Potential benefits and challenges of incorporating ES

Ross Mitchell, Andrea Daezli, Emily Cooper, Kristina Mitchell, Dirk Nuyens, Robert Mugo

Potential risks and opportunities associated with ecosystem services in the Alberta oil sands. Potential implications for EIA proponents, regulators, and stakeholders and a conceptual methodology/framework are discussed.

Ecosystem and Nature Map and public appeal

Myungjin Kim, Jiyeon Kim, Youngkyu Shin, Kyunghwan Ahn

The Ecosystem and Nature Map has done an important role to preserve ecosystem in pressure of development. It will contribute both to ecosystem quality and to increasing impact assessment reliability.

Conservation class of vegetation in impact assessment

Kyunghwan Ahn, Jiyeon Kim, Jeahwa Suh, Hangsoo Cho, Myungjin Kim

Conservation class of vegetation is very important for preparing the Ecosystem and Nature Map. The multicriterion matrix technique can contribute to natural resources management of nation and EIA.

IA LAW, POLICIES, AND PRACTICE

18.1 Governing geoenvironmental through environmental assessment

Monday 13 May | 14:30-16:00 | Palomino D

Paper session

Chair(s): Jason Blackstock

This session will consider the implementation of EA to emerging geoenvironmental technologies. The panel will explore the governance role that EA processes play in generating decision-making conditions that respond to the emergent nature of geoenvironmental technologies, the global nature of the potential impacts from geoenvironmental, and the complex ethical issues that surround these proposals.

Social, political, and ethical issues related to geoenvironmental

Andy Parker

This presentation will consider recent political and scientific developments in the field of geoenvironmental in order to elucidate the possible role of assessment processes in addressing the concerns of stakeholders.

Applying traditional IA to geoenvironmental research

David Keith

This presentation will discuss the relevance of traditional assessment processes for geoenvironmental and the possible roles of the impact assessment community as part of a successful regime for future assessment.

EA and geoenvironmental: The international legal framework

Neil Craik

This paper will examine the application of international obligations to conduct environmental assessments to geoenvironmental proposals.

The international regulation of Ocean Fertilization Act

Anna-Maria Hubert

This presentation will draw on experience in early attempts to regulate marine geoenvironmental experiments in order to draw implications for the role of assessment.

18.2 IA systems and trends: Focus on South Asia

Wednesday 15 May | 14:30-16:00 | 100B

Practitioners Exchange

Chair(s): Yinghua (Cherry) Hu

This session focuses on South Asian IA systems and trends like planning EIA, retrospective EIA and environmental risk assessment developed in recent years. Beyond the new form of EIA, new sectors such as shale gas and new concern such as air emission for those traditional major ecological impact projects are discussed.

Necessity of concise IA for sustainable Japan

Sachihiko Harashina

Why concise IA is necessary in Japanese EIA system is discussed.

Environmental impacts of shale gas development in China

Li Tong, Haisheng Li, Xueshuang Zhou

Environmental Impacts of shale gas development in China and recommendations on management of their environmental impact assessment.

The survey of EIA effectiveness

Bai Yan Bin, Li Xin Hua

The results and discussion have highlighted current opinion about the effectiveness of EIA in the Xinjiang region of China. Some ways, especially follow-up, must be carried out.

Reduced EIA procedure after great East Japan earthquake

Daisuke Uesako, Tetsuro Uesugi, Kenji Kamita

The exemption of EIA procedure and the application of a drastically-simplified procedure for restoration or reconstruction projects after the Great East Japan Earthquake will be introduced.

Actual conditions of EIA Review Committees in Japan

Yuki Shibata, Soichiro Ilie

We conducted a questionnaire survey to find out the actual conditions of EIA review committees in Japan. Our conclusion suggests some important improvements on the review committees are needed.

Study on pollutants' reduction methods on dam road

Jun-Yeon Hwang, Sung-Oh Sa, Sang-Jin Song, Se-Won Kim

Proposed reduction measures for road pollutants from the road cleaning process were very efficient and stable. These measures could reduce pollutants that occur at roads around dam areas.

Estimation on electric savings after nuclear disaster

Masaru Ito

We created the method of calculating "the real and nominal savings" of household's energy consumption. The main factor is a temperature which is out of control.

Factors affecting ecological environment in Xinjiang

Li Xinhua, Wang Lin, Bai Yanbin

The change of natural factors and the disturbance of human factors can bring about positive and negative effects to the development of ecosystems in south Xinjiang.

Reducing environmental conflict with law case analysis

Young Soo Lee, Jun Kyu Choi, Sang Un Han, Kong Jang Cho, Young Sook Lee

The main issues of Korean law cases are obedience of EIA negotiation procedures, properness of plaintiff, inappropriate environmental impact assessment report, and discretion violation and overuse. We suggest several measures.

Developing an EIA curriculum for Pakistani universities

Thomas Fischer, Ahmad Saeed, Bobbi Schifj

Results of a project conducted within IUCN Pakistan's NIAP (National Impact Assessment Programme) initiative in which a standardised EIA curriculum outline has been developed for Pakistan.

CULTURAL HERITAGE

19.1 Who has the right to define cultural heritage values in impact assessments? (I)

Tuesday 14 May | 14:30-16:00 | Quarter Horse C

Paper session

Chair(s): Arne Tesli

The practice of defining cultural heritage values varies between different situations and countries. It is not always clear who can decide cultural heritage values in impact assessments. Should it be locally defined, nationally defined or internationally defined? Who has the right to define the scope and value of cultural heritage?

Heritage value and CHIA: The Hong Kong experience

Ellen Cameron, Julie Van Den Bergh

A discussion of the co-development of cultural heritage impact assessment and evaluation of heritage significance in Hong Kong over the past 15 years and the way forward.

Cultural heritage and the local museums: Two examples

Anne Eiby

The local Danish museums has pointed out the cultural heritage values in the landscape and cities. During the EIA, they are also the authority. How does that work?

The right to an Indigenous past

Marit Myrvoll

The paper will discuss how cultural heritage values and rights are closely connected to 1) the self-identification of an indigenous people and 2) the identification and legislation from state authorities.

Construction pipeline challenges in the Incas's earth

Lucia Balbuena, Jose Carlos Hernani, Alan Marlon Garcia, Gisella Vilca, Enrique Tovar, Germán Sulca

TgP's archaeological protection project during pipeline construction allowed identifying, delimiting, and rescuing archeological sites, to preserve the cultural heritage and knowledge.

19.2 Who has the right to define cultural heritage values in impact assessments? (II)

Tuesday 14 May | 16:30-18:00 | Quarter Horse C

Paper session

Chair(s): Inge Lindblom

The practice of defining cultural heritage values varies between different situations and countries. It is not always clear who can decide cultural heritage values in impact assessments. Should it be locally defined, nationally defined or internationally defined? Who has the right to define the scope and value of cultural heritage?

Monitoring cultural significance and impact assessments

Ana Pereira Roders

The application of a framework to monitor cultural significance in historic urban landscapes, including the attributes and values defining cultural significance, and their relation in time.

Assessing Amsterdam's heritage management framework

Loes Veldpaus, Johan Swart, Ana Rita Pereira Roders, Karel Bakker

This paper reveals how Amsterdam assesses and controls the impact of development on attributes of outstanding universal value through their local policies and management procedures.

Doing credible cultural assessment

Patricia McCormack

This presentation proposes that consultants doing cultural assessments should have qualifications equivalent to those of expert witnesses for the courts.

Definition of cultural heritage values in IAs

Arne Tesli, Inge Lindblom

The paper discusses to what extent conventional criteria for defining cultural heritage values are well suited for application in modern impact assessments.

19.3 The Contribution of New Approaches in Cultural Heritage Studies for IA

Monday 13 May | 16:30-18:00 | Arabian A

Paper session

Chair(s): Christopher Polglase

IAIA Section: Cultural Heritage

This session will explore a number of new approaches and how they contribute to cultural heritage studies in support of impact assessment. The session participants will provide examples of the application of such technologies and as GIS, remote sensing, and data organization to enhance protection of cultural heritage.

LiDAR at Caracol, Belize, and heritage management

Arlen Chase, Diane Chase, John Weishampel

Airborne LiDAR is revolutionizing landscape archaeology in tropical areas and also has the potential to greatly enhance the cultural heritage management of both modern and ancient resources.

Historic urban landscapes: An assessment framework

Loes Veldpaus, Ana Rita Pereira Roders, Bernard Colenbrander

Introducing an assessment framework that allows comparison between the current policies: planning and heritage protection and the critical steps recommended by the UNESCO Historic Urban Landscape.

Determining effectiveness in heritage impact assessment

Ana Pereira Roders, Jacques Teller, Alan Bond

The application of a framework to determine the effectiveness of (cultural) heritage impact assessments, distinguishing significance, change agents, management, impact and effectiveness assessments.

New technologies and cultural heritage

Christopher Polglase

The contribution of new technologies to cultural heritage studies for impact assessment, with a focus on the papers presented during this session.

Concurrent sessions

RESEARCH AND EA

20.1 Research and impact assessment (I)

Monday 13 May | 14:30-16:00 | Arabian A

Roundtable

Chair(s): *Richard Morgan*

The first of two sessions, this will be an opportunity for IA researchers to meet other researchers and to discuss practical issues of doing research in this field, and the role of IAIA in supporting research. Themes for discussion might include: How can IAIA better support researchers, including research students? Do we need mechanisms within IAIA to facilitate researcher interaction, especially between conferences? Are there ways to use IAIA to access research funds?

20.2 Research and impact assessment (II)

Thursday 16 May | 09:00-10:30 | Palomino E

World café

Chair(s): *Richard Morgan*

This will be a dynamic "research brokerage" session! Come with a research idea, including topics inspired by the conference itself, for which you are seeking collaborative partners (e.g., research project, edited book, etc.). Present an outline of your idea in no more than three minutes; then we will use breakout groups to discuss individual ideas and explore ways forward. Groups will make brief reports back to the whole session.

DISASTERS & CONFLICTS

21.1 Impact assessment and disaster management: Lessons from recent disasters

Monday 13 May | 14:30-16:00 | Quarter Horse A

Paper session

Chair(s): *Charles Kelly*

Disasters result in significant negative impacts on lives and society. Assessing the impacts of disasters and defining the practical and policy lessons identified through these assessments is critical to improving disaster management. The session will review the results of impact assessments for recent disasters.

Environmental health management in evacuation shelter

Siriwan Chandanachulaka, Amporn Bussarangsri

Experiences from Thailand in environmental health disaster management can be shared among Impact Assessment practitioners. Disaster preparedness is an important issue for the next generation.

Policy integration between EA and disaster management

Thomas Fischer, Sachihiko Harashina, Tom Gore

This paper reports on the results of a Japan - UK workshop on policy Integration between EA and Disaster Management, held in Tokyo and Miyaga Prefecture in 2012.

Impact assessment and mass casualty events: Considering the Boston Marathon bombing and similar events

Charles Kelly

The process of assessing impacts has rarely been formally applied to potential mass casualty events, or as part of the management of these events once they occur. The paper considers how the process of impact assessment, including assessing the social, economic, health, environmental and other impacts, can be applied before and after mass casualty events. Recommendations on further research and practical actions are provided.

SPECIAL TO IAIA

22.1 Writing and submitting papers to IAPA journal: An interactive workshop

Monday 13 May | 14:30-16:00 | Arabian C

Panel/Workshop

Chair(s): *Bill Ross*

Come and meet **Angus Morrison-Saunders** and **Francois Retief**, the editors of IAIA's journal, *Impact Assessment and Project Appraisal*. Angus and Francois will give advice to IAIA members and potential contributors of papers about the process of writing and submitting articles, including the process of dealing with reviewer comments, and even being a reviewer. It is all about what IAIA members need to know and provides the opportunity to meet the editors and ask questions about the mysteries of the publication process.

22.2 IAIA Affiliates forum: Making IAIA work for you

Tuesday 14 May | 18:10-19:10 | Quarter Horse A

Workshop

Chair(s): *Iñigo Sobrini*

Any member of an IAIA Affiliate is invited to participate in this forum. The agenda is to review common threads from a recent survey of affiliates by IAIA's Affiliates Task Force. Discussions will also include time for sharing best practices for operations and marketing of the Affiliate, in order to learn from each other.

As a result of the recent survey, all Affiliate members will now receive a free ConnectPass, giving them access to IAIAConnect, our professional networking site. Affiliates will also be able to establish their own separate groups within Connect. This forum will include an overview of Connect. Information on how affiliates can access articles from IAIA's journal, *Impact Assessment and Project Appraisal*, will also be included.

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Section activities

MEET THE IAIA SECTIONS!

IAIA is a member-based organization which currently has fifteen Sections that cover different types and aspects of impact assessment.

IAIA Sections provide opportunities for IAIA members with these mutual interests to share experiences and discuss ideas in an informal setting. Sections provide a forum for active topical debate and for development and promotion of good practice.

IAIA Sections have a chance to meet during each annual conference, and they also have a rolling program of work throughout the year.

The members of the Sections and their activities are the life-blood of IAIA: through the Sections, IAIA members can feed into the organization of each annual conference, publish different materials, and develop new lines of thought.

When you pay the non-member conference rate, you automatically become an IAIA member and are eligible to join one or more Sections.

WHY JOIN AN IAIA SECTION?

- Sections are a networking forum for IAIA members, where you can meet your colleagues with similar professional interests.
- Sections promote your personal professional development.
- Sections develop interesting activities that you may want to join.
- See www.iaia.org/sections/ for more information.

WHERE CAN I FIND THE SECTIONS AT IAIA13?

- All sessions that have been organized by the Sections are clearly identified in the preliminary and final programs.
- Each Section will hold one or more Section meetings during the conference, which everyone is welcome to attend.
- Rendezvous tables will be identified at lunch times, where Sections can meet informally to continue discussions.
- Section chairs will be identified by ribbons on their name tags so that you can find them during the conference.

ANY QUESTIONS?

Please contact Ben Cave, chair of the Sections Coordinating Committee (Ben.cave@bcahealth.co.uk) or the coordinator of a specific Section as listed at right, or visit www.iaia.org > Sections for more information.

Did you know that when you paid the non-member conference rate, you received a one-year IAIA membership and are eligible to participate in Sections?

CURRENT SECTIONS

SEE PAGE 63 FOR A LIST OF SESSIONS ORGANIZED BY IAIA SECTIONS.

Agriculture, Forestry and Fisheries

Patrick Duffy
pjduffy@shaw.ca

Ijeoma F. Vincent-Akpu
ijvincentakpu@yahoo.com

Biodiversity & Ecology

Liz Clarke
elizabeth.clarke@zsi.org

Orlando Venn
orlandovenn@btinternet.com

Climate Change

Arend Kolhoff
akolhoff@eia.nl

Wes Fisher
wfisher@cadmusgroup.com

Patrick Driscoll
patrick@plan.aau.dk

Corporate Stewardship & Risk Management

Sara Bice
sarabice@unimelb.edu.au

Rita Sully
ritasully@yahoo.com

Cultural Heritage

Arlene Fleming
arlenefleming@gmail.com

Disasters & Conflicts

Charles Kelly
72734.2412@compuserve.com

Michel Bouchard
michel.a.bouchard@cogeos.com

Energy

Rocio Diaz-Chavez
rociolaraceli04@yahoo.co.uk

Steeff van Baalen
steeff.vanbaalen@arcadis.nl

Health Impact Assessment

Ben Harris-Roxas
ben@harrisroxashealth.com

Francesca Viliani
francescav@internationalsos.com

IA Law, Policies & Practice

Christine Asare
christina.asare@yahoo.com

Integrated Assessment of Trade-Related Policies

(vacant)

Indigenous Peoples

Martin Haefele
ykmusher@gmail.com

Murray Jones
Murray_8@sympatico.ca

Angeles Mendoza Sammet
angeles@angelesmendoza.com

Public Participation

John Devlin
jdevlin@uoguelph.ca

Sukhad Keshkamat
sukhadkeshkamat@gmail.com

Strategic Environmental Assessment

Monica Fundingsland Tetlow
monica.tetlow@gmail.com

Marie Hanusch
m.hanusch@boschpartner.de

Social Impact Assessment

Daniel Franks
d.franks@smi.uq.edu.au

Rauno Sairinen
rauno.sairinen@uef.fi

Students and Early Professionals

Sophia Carodenuto
sophiacarodenuto@gmail.com

Claudia Valencia
claudia.valencia@snclavalin.com

Networking activities and events

WELCOME RECEPTION: COWBOY ZEN

Combining a world-class nightclub setting with a rustic bar feel, Cowboys Club in Calgary is the best taste of Calgary nightlife. Cowboys Dance Hall attracts as many visitors to the city as locals who come each week for its boot-tapping dance floor. But Cowboys will be open exclusively to IAIA delegates for this event, so put on your jeans and cowboy hat and come join your fellow colleagues for a unique networking experience. In true IAIA fashion of cultural blending, Asian snacks will be featured.

Proudly sponsored by Cenovus.

Monday 13 May | 18:15-20:15 | Cowboys

Cowboys is adjacent to the BMO Centre.

Pre-registration is required.

BANQUET

The week is nearly over and it's time to relax and visit with colleagues old and new. Enjoy Treaty 7 drummers before dinner and kick up your (boot)heels with after-dinner entertainment while you exchange conference experiences and make plans for meeting again next year.

Wednesday 15 May | 20:00-01:00 | Hall D

Pre-registration is required.

BOOK SHARE

Bring one or two of your favorite environmental reference books, new or recycled, as a contribution to the book share table. The books are available on a first-come, first-served basis to delegates who might not readily find such books in their own locales.

30 UNDER 30

IAIA recognizes the vital importance young environmental professionals play in our field, and we are excited to highlight the best and brightest at this year's conference.

In celebration of our theme of "the next generation" at this year's IAIA 2013 conference in Calgary, IAIA members and conference attendees were invited to submit nominations for the best, most creative young professionals in the field of impact assessment who have achieved great success in their careers or have been a part of a single event that makes them an outstanding professional. Nominees were evaluated by a panel of judges in the areas of vision and leadership, innovation and creativity, career achievements, and growth and development strategy. The selected individuals are featured in Hall C, and those in attendance will be acknowledged at the banquet.

JOBS BOARD

A bulletin board specifically designated for job advertisements is available in the exhibition area. If you are looking for a job or if your company has jobs to post, post the announcement! Also see Career Central (www.iaia.org/careercentral/) before and after the conference for the latest job openings.

FUN RUN

The Fun Run continues to grow in popularity. This is a great way to start the day and network with fellow runners. The morning run along the Bow River will invigorate your mind and body and offer a chance to meet people you might not otherwise meet during formal sessions.

Everyone is welcome: runners, walkers, spectators, and volunteers. Pre-registration and a nominal fee is required from runners/walkers to cover prizes.

To volunteer to assist with the run or for more information, please contact Sandra Lukas-Amulung (sandra.lukas-amulung@mwhglobal.com).

Wednesday 15 May | 07:00-08:00

Meet at Centre Court (north), Eau Claire Market, 200 Barclay Parade SW
Pre-registration and nominal fee (\$5) is required.

SECTION RENDEZVOUZ

Rendezvous tables will be identified at lunch times on Tuesday and Wednesday, where Sections can meet informally to continue discussions.

BUFFET OF IDEAS

IAIA13 continues a simple methodology introduced at IAIA09 for hosting conversation about issues of interest and concern.

The "Buffet of Ideas" is an informal networking session that provides participants the opportunity to create their own workshops in small groups over lunch.

This meeting method allows yet another opportunity for participants to network, sharing ideas on topics of interest and connecting with colleagues who have similar interests, but you might not meet during formal sessions.

At lunch on Monday, select tables will be labeled with discussion topics. Find a table with a topic you would like to discuss and have a seat. Lunch is provided, and discussion flows.

SPEED MENTORING

IAIA invites mentees who are currently in post secondary education and young professionals to attend a Speed Mentoring session. Like speed dating, we will put you together with a number of mentors over the course of an hour so you can seek advice and ideas from these mentors on how to advance your career, improve your networking and anything else you would like to ask.

How it works: Mentors will be distributed one per table throughout the space. The mentee will move to a mentor's table for introductions and to ask questions of concern to them with the mentor responding. Every five minutes, a bell will sound, and the mentee will move to the next table to repeat the process. After an hour, each mentee will have had discussions with approximately 12 mentors.

Tuesday 14 May | 17:00-18:00 | Hall C

DINE OUTS

The tradition of dine-outs is back for IAIA13! Share an evening with your colleagues at a "pay your own way" dinner. Organizing committee members have that all-important local knowledge about where the best food and the best dining experiences can be found in Calgary, and they are ready to take you to experience it!

To join, sign up on the forms posted in Hall C. Dine-outs are a great opportunity to meet new people and see some different parts of the city of Calgary.

Tuesday 14 May | 20:00 onward

CSRSM SECTION MEETING

The Corporate Stewardship and Risk Management section invites delegates to this special section meeting. In this special section meeting representatives from IPIECA and the Danish Human Rights Institute will profile their organization and activities in the field of impact assessment. CSRSM members and Conference delegates are encouraged to come along and understand the broader activities of the section.

Poster session

Monday 13 May | 12:40 - 13:30

Posters are listed by general topic areas and then in alphabetical order by the presenting author.

Use the ballot provided with your name tag package to vote for your favorite poster by 11:00 on Wednesday 15 May! Drop off your ballot at the registration desk.

BIODIVERSITY & ECOLOGY

BE1. Assessing ecological value of a dam reservoir in Korea

Seok-Bae Bang, Sang-Jin Song, Hyeongsik Kang

Through this assessment method, a dam ecological restoration planning process is expected to be able to develop efficiently.

BE2. Feasibility, scope for an ecofriendly project in Mexico

Norma Fernández Bucos, Susana Ortega Hernández, Alejandra García Angeles, Sergio López Noriega

Multidisciplinary scoping of a project considering environmental feasibility allow to preview, reduce or avoid environmental impacts that otherwise would need to be mitigated; decreasing impact severity and mitigation costs.

BE3. Runoff characteristics of nonpoint sources in orchard

Jae Woon Lee, Heon Gak Kwon, Du Kee Kang, Byung Seok Kal, Se Uk Cheon

In this study, the occurrence status of nonpoint sources and the characteristics of runoff by each nonpoint source were examined through monitoring on nonpoint sources caused by rain in an orchard.

BE4. Water quality change after reservoir impoundment

Sung-Oh Sa, Sang-Jin Song, Jun-Yeon Hwang, Seung-Yoon Lee, Sang-Uk Lee, Jae-Ki Shin

We analyzed several methods of monitoring water quality change for pre- and post-trial impoundment: origin analysis of organic materials in streams and reservoirs, elution of soil, water quality modeling, etc. The purpose of this study is to obtain the corresponding technology against water quality deterioration in water resources (dam construction) development projects and to ensure eco-friendly water management technology.

BE5. Minding the gaps of EIA on biodiversity conservation

Yue Yao, Tony Walker

In light of recently-updated CEAA 2012, we conducted a review of historical EIAs to analyze their effectiveness on "biodiversity conservation" and identify gaps between past theory and practice.

HIA

H1. The method selection and effectiveness analysis of HIA

Zhao Dongfeng, Liu Bingguo, Ouyang Zhenyu

Selecting the appropriate method to carry out health impact assessment in the oil industry and to evaluate the validity of the evaluation.

H2. Using HIA in regeneration planning: Lessons from Wales

Liz Green

How HIA has been effectively integrated into regeneration plans and projects in north Wales as part of long-term sustainable development planning.

H3. Health impact assessment: The basics

Francesca Viliani, Ben Harris-Roxas

The key procedural elements associated with HIA as well as some of the key underlying concepts, such as "health," "determinants of health," and "equity."

H4. Health risk assessment technical standards

Chih Kai Yang, Jen-Hai Yu, Yen-Nan Chen

The mechanism of "Health Risk Assessment Technical Standards" and how the "Health Risk Assessment Technical Standards" changed and developed in Taiwan from 2010 to now.

IA TOOLS & METHODS

TM1. Visual analysis tools and stakeholder surveys

Monte Alves, John Gangemi

Tools for evaluating aesthetic and visual resource preferences of stakeholders during the impact assessment process for hydropower projects.

TM2. Environmental risk in EIAs

Simon Catchpole, Roberto Moreno

EIAs deal with potential impacts. Uncertainty associated with prediction calls for a risk-based approach to assessing the potential impacts of an enterprise, hence the need for environmental risk assessment (ERA) in EIA.

TM3. Highways & Wildlife: An infographic

Rachelle Haddock, Tracy Lee, Tony Clevenger, Matt Knapik

The Highways & Wildlife infographic is a communications tool to elevate the conversation on building or expanding highways with both wildlife and people in mind.

TM4. Applying SEA to Korean hazard reduction plan

Juchul Jung, Sung Ho Lee, Seonju Jang, Hyungjun Park

The purpose of this study is to improve the sustainability of the plan by applying strategic environmental assessment (SEA) to the Korean Storm and Flood Reduction Comprehensive Plan (KSFRCP).

TM5. Urban infrastructure suitable for flood hazard mitigation

Tae Jung Kwon

Integrated flood management emphasizes the additional role of general urban infrastructure in flood mitigation. This study aims to identify appropriate infrastructure types that function well without damaging society and ecosystems.

TM6. Coupling GIS-based techniques in ethanol LCA

Marcelo Montaña, Giulio Capestrani, Paula Madeira Gomes, Ana Laura Raymundo Pavan, Natália Crespo Mendes, Aldo Ometto

A study focused on the potential of coupling GIS and life cycle assessment (LCA) using the ethanol production from sugarcane in São Paulo state, Brazil, as a case study.

TM7. EIA review methodology

Roberto Moreno, Simon Catchpole

The independent reviewer provides a bridge of understanding between the proponent and the EIA consultant and reassures that the EIA has a high probability of approval.

TM8. Methodological rigor for human rights impact assessment

Kendyl Salcito

Human rights impact assessment (HRIA) is a growth field in need of a methodological framework. This poster presents a methodology that has been piloted and validated in diverse field settings.

TM9. Estimating WTP for mortality risk and VSL in Korea

Youngchul Shin

This study applied the contingent valuation method (CVM) to estimate willingness-to-pay (WTP) for mortality risk reduction and the values of statistical lives (VSLs). The implied VSL is 1,600 - 1,684 million won in Korea.

TM10. IMPERIA project improves EIA practices in Finland

Elisa Vallius, Mika Marttunen, Timo Karjalainen

IMPERIA is a partially EU-financed (LIFE+) project aiming to recognize and enhance the use of good practices and develop new MCDA and internet-based tools for EIA and SEA.

Note: Only official exhibitor posters and/or technical posters approved by the Program Committee during the review process may be displayed.

TM11. Landscape changes and its driving force in Kashi

Huarong Zhou, Shiwei Liu

Based on statistical data and three TM images in 1990-2008 and using the technology of GIS and RS (remote sensing), the land use change and its driving forces in Kashi were analyzed.

RESEARCH & TRAINING

RT1. Training of environmental managers in the UK

Thomas Fischer, Urmila Jha-Thakur, John Phylip-Jones

This study establishes the trend of EAM Higher education in the UK by looking at University/ College courses along with the students composition of such courses.

RT2. A study on the performance of SRI funds in Korea

Eui-Kyung Lee

This study deals with the feature of socially responsible investment (SRI) funds in Korea and finds some economic implications from the results.

RT3. Aggressive campaigns and subliminal suggestion

Miriam Moonga, Timothy Phiri

We can do more to deliver the core message of impact assessment and sustainability to the masses. Formal education behind walls and books is not the only media.

RT4. Connecting students with EA practice and public input

Maureen Padden

Students complete a real-time assignment writing as members of the public in response to calls for public input during an EA.

RT5. Practice teaching analysis of petroleum universities

Dongfeng Zhao, Shi Li, Chaocheng Zhao

Petroleum universities should cultivate excellent petroleum talents for the healthy and sustainable development of petroleum industry.

RESOURCE DEVELOPMENT

RD1. Environmental restoration in Ogoniland, Nigeria

Adebanji Adekoya, Franklin Igbodo

The Ogoni Restoration Project unit of the Shell Petroleum Development Company of Nigeria (SPDC) implements environmental restoration of hydrocarbon impacted land on its right of way in Ogoniland, Nigeria.

RD2. EIA in oil and gas sector using numerical modeling

Michael Fichera, Venkat Kolluru, Craig Reid

Techniques employed and pitfalls encountered during a typical application for the comprehensive modeling approach in the upstream oil and gas industry.

RD3. Early tree growth responses

Deo A. Heeraman, Christina Brodribb, Marianne van Doorn, Lelaynia Cox

Early tree (white spruce) growth responses from a standard rate of fertilizer application versus several commercial fertilizer treatments on a reclaimed Suncor mine lease are examined in this study.

RD4. Carbon offset portfolio approaches

Tyler Tamoczi

Carbon offsets are an economically efficient mechanism to reduce greenhouse gas (GHG) emissions. This work explores carbon offset portfolio approaches in Canada's oil and gas sector.

RD5. Effect of oil spillage on its sea area and risk evaluation

Jianling Xu, Wenkui Zhao

Spilled oil, effect on marine environment, risk evaluation, preventive measures.

RD6. Health protection zone in petrochemical enterprise

Xue-shuang Zhou, Dong-feng Zhao, Ming-juan Wu

Through monitoring of the concentration of unorganized emissions from petrochemical enterprises in five regions of China, this paper proved the key impact on the protection zone and confirmed its necessity.

SIA, SEA, PUBLIC PARTICIPATION

SSP1. An SEA for a policy plan: The case of a spatial policy

Katrien Debeuckelaere

SEA will be integrated in the preparation process of the Spatial Policy Plan for Flanders. A presentation of how this SEA will be integrated.

SSP2. Civil society participation in decision making: Brazil

Nemésio Neves Batista Salvador, Maria José Ferreira Berti

The analysis in this study showed that there are different forms of public participation in SEA in Brazil and that this process needs further attention and improvement.

SSP3. Eliminating conflict states by proactive planning

Muhammad Irfan Tariq, Muhammad Mansoor Khan, Sameen Khokar

The prospects of proper SIA planning by narrating a case study of social conflict: includes the background, introduction, methodology, results, and discussion conclusion.

POLICY, DECISION MAKING

PDM1. Policy measure of tourism development in islands

Yong-Joon Joo, Hee Sagong

For environmentally friendly development on an island in Korea, it is necessary to prepare environmental conservation plan, intensify the role of the tourism master plan, and systematize information about the island.

PDM2. Disaster resilience assessment of cities in metro areas

Juchul Jung, Sung Ho Lee, Ja Eun Kim, Kyung Min Seo

The purpose of this study is to identify whether the cities which are so vulnerable to natural hazards have the ability for self-resilience through the standard framework of multi-dimensional resilience.

PDM3. Railway environmental licensing and design evolution

Maria Madalena Los, Maria Claudia Paley, Norberto Lopes Hulle, Claudio Zillig

During the EIA, technical discussions between the consulting team, the entrepreneur and the environmental agency resulted in changes to the engineering project that improved the environmental performance of the project.

PDM4. A sustainable urban solid wastes management system

Ernesto Pirillo, Julián Simonelli, Analía Gonzalez

The environmental feasibility of the implementation of a new sustainable urban solid waste management system in the town of Navarro, Buenos Aires, Argentina.

PDM5. EIA on development of industrial complexes

Hee Sagong, Yong-Joon Joo

We analyzed EIA reports of development of industrial complexes in South Korea to suggest indices and criteria with regards to a project site for assessment.

PDM6. ACEE in twenty years

Xinfeng Zhao, Peng Liang, Huixian Zhao, Wei Huang

The history, structure and duties of the Appraisal Center for Environment and Engineering (ACEE), as well as its contributions to China's EIA system development.

PDM7. Overview of EIA in China

Xinfeng Zhao, Peng Liang, Huixian Zhao, Wei Huang

The EIA system, status quo, achievements, and future trends of EIA development in China.

My favorite posters: _____

My choice for Best Poster: _____ (remember to turn in my ballot)

Technical visits

ABOUT TECHNICAL VISITS

Participants must be pre-registered and pre-paid to participate. Written cancellations prior to 22 April qualified for a refund, less a 25% administration fee. No refunds are issued for cancellations or no-shows after 22 April. Prices for technical visits are shown in US dollars.

Fees and services included in the prices are noted in the tour descriptions. Delegates are not expected to pay tips to the servers.

The tours will be hosted in English.

Casual clothing and walking shoes are recommended.

Tours depart from the main entrance of the Stampede/BMO Centre. Please plan to check in for the visit a minimum of 15 minutes prior to the noted departure time. [Due to visit schedules and air transportation for some visits, busses will not wait for latecomers.](#)

IAIA, the organizing committee, and the venue will not be responsible for medical expenses, accidents, losses or other unexpected damage to property belonging to conference participants, either during or as a result of the conference and during all tours and events. Participants are strongly advised to arrange their own insurance for health and accident, lost luggage and trip cancellation.

Participants will be required to sign a liability release waiver upon check-in for the visits.



A | ATHABASCA OIL SANDS

This tour of the Athabasca oil sands in the Fort McMurray area includes a charter flight and guided visit to two projects: an open pit mine and a SAGD (steam injection) project.

A chartered jet will leave Calgary early in the morning and will over fly the oil sands areas prior to landing in Fort McMurray. Busses will take the participants to the sites. Lunch will be hosted by Fort MacKay First Nation.

They will provide an aboriginal context to oil sands development in a brief talk and Q and A following lunch. Participants will re-board the jet to return to Calgary.

Friday 17 May

Depart 06:30 | **Return** 19:00-20:00

Passport is required.

Minimum-Maximum 90-125

Price \$450

Price includes chartered air transportation, ground transportation, and lunch.

Special notes: Moderate level of physical activity. Sturdy shoes, warm and waterproof outer layers recommended. Odors are possible.

The return time on this visit may be subject to change due to weather conditions.

Pre-registration and pre-payment is required by 22 April.

Proudly sponsored by the Oil Sands Development Group.

B | ATHABASCA OIL SANDS AND FORT MCKAY: ABORIGINAL COMMUNITY VISIT IN THE OIL SANDS REGION

The Fort McKay First Nation and Métis Community is at the centre of Canada's oil sands mines. It is now in the process of a major cultural shift as it adapts to new economic and environmental realities of intensive resource development.

We will spend our first day in the Athabasca oil sands, as described in technical visit A. On our second day, we will visit this community in transition, and hear presentations on history and culture, initiatives to work with its industry neighbors and to manage impacts, such as its odor monitoring program.

There will opportunities to meet with the elders and observe traditional activities such as a trap line, a traditional cabin, and the reserve itself.

Saturday 11 May and Sunday 12 May

Depart 07:00 | **Return** 18:00-19:00

Passport is required.

Minimum-Maximum 25-60

Price \$550

Price includes chartered air transportation, ground transportation, meals, and overnight accommodation.

Special notes: Moderate level of physical activity. Sturdy shoes and warm, waterproof outer layers are recommended. Odors are possible.

The return time on this visit may be subject to change due to weather conditions.

Pre-registration and pre-payment is required by 22 April.

Proudly sponsored by Suncor and Fort McKay First Nation.

C | EIA LESSONS FROM THE KANANASKIS VALLEY

Kananaskis Country is a large, multi-use provincial wild land recreation and environmental protection area bordering the east side of Banff National Park.

With Calgary, a city of 1.1 million people within an hour's drive, the challenges to maintain the ecological integrity of this spectacular Rocky Mountain front range country are large. Measures to protect Kananaskis country and Heads of State during the 2002 G8 Summit Meeting just nine months after 9/11 were elaborate. These and other subjects will be reviewed on site. Outstanding photography and wildlife watching opportunities are also part of the experience.

Saturday 11 May

Depart 08:00 | **Return** 16:00

Minimum-Maximum 15-48

Price \$105

Price includes transportation, lunch, and taxes.

Special notes: Moderate level of physical activity. Sturdy shoes, cold/wet weather gear appropriate for mountain environment, sunscreen, and camera recommended. The return time on this visit may be subject to change.

D | BANFF NATIONAL PARK: TRANSPORTATION CHALLENGES IN A WORLD HERITAGE SITE

The controversial TransCanada Highway twinning project in Banff National Park, a World Heritage Site, is now acknowledged as a world-class example of sustainable development and "design with nature" in a precious natural environment. An on-site explanation of the project, its successes and surprises since inception in 1972 will be presented by former and current principal personnel involved in the project.

A new project to resolve the untenable circumstance of grizzly bear mortality from a major rail line traversing the same Bow River Valley has just begun. The elements of this problem, the partnership with Canadian Pacific Rail and the first 18 months of research accomplishment will be reviewed with on-site presentation.

A pre-trip Saturday evening presentation will introduce details about both projects.

Sunday 12 May

Note Saturday evening presentation.

Depart 08:00 | **Return** 16:00

Minimum-Maximum 30-51

Price \$100

Price includes transportation, lunch, snacks and drinks, admission fees, and taxes.

Special notes: Moderate level of physical activity. Wear sturdy shoes and warm wet-weather gear. Sunscreen and camera recommended.

E | DINOSAUR PROVINCIAL PARK

A trip to Dinosaur Provincial Park—a UNESCO World Heritage Site—will take you back 75 million years in time.

Dinosaur Provincial Park is a treasure trove of fossils and one of the most productive fossil beds in the world. Forty dinosaur species have been discovered at the park.

We will take an on-foot hike into the park with an interpreter to discover what lies hidden just beneath the age-old sandstone and shale and how development is reconciled with this preserved area.

In addition to exploring the badlands, we will enjoy a trip to the Royal Tyrell Museum Field Station where bone fossils, footprint fossils, egg fossils and more are displayed and interpreted.

This tour will especially interest those with an interest in paleontology, archaeology, geography or history.

Sunday 12 May

Depart 08:00 | **Return** 18:00

Minimum-Maximum 15-53

Price \$150

Price includes transportation, lunch, snacks and drinks, and admissions and interpreter fees.

Special notes: Moderate level of physical activity (hiking). Sturdy boots, wet weather gear, sunscreen, insect repellent and camera recommended. The return time on this visit may be subject to change.

F | HEAD-SMASHED-IN BUFFALO JUMP AND WIND FARMS

Head-Smashed-In Buffalo Jump—a UNESCO World Heritage Site—has been continuously inhabited by Aboriginal peoples of the plains for more than 5,500 years.

This tour will allow participants the opportunity to learn about aboriginal culture in the Plains region, including the cultural importance of land and animals.

The area is also home to some of the first wind farms developed in Alberta. A wind farm tour will allow participants an opportunity to learn about technical aspects of wind farm operations including siting, mechanics and will allow participants to hear and see for themselves the impacts of a wind turbine.

Sunday 12 May

Depart 08:00 | **Return** 18:00

Minimum-Maximum 15-53

Price \$140

Price includes transportation, lunch, technical guide fees, and taxes.

Special notes: Moderate level of physical activity. Sturdy shoes, wet weather gear, and camera recommended. The return time on this visit may be subject to change.

H | HISTORICAL BUILDINGS IN THE TOWN OF BANFF

The Town of Banff is the birthplace of Canadian National Parks. This tour, guided by Parks Canada historians and project architects, will include visits to several historical buildings that have undergone recent historically accurate updates. The sites include:

- The Cave and Basin hot springs (not operating)
- The Banff Springs Hotel
- The Banff Park Museum
- Parks Administrative Building

These sites reflect the evolution of Parks Canada policies in the past 100 years and the existence of a successful Townsite within an ecologically sensitive national park. Time will also be available to visit the operating Upper Hot Springs and the Banff townsite.

Friday 17 May

Depart 08:00 | **Return** 18:00

Minimum-Maximum 10-53

Price \$155

Price includes transportation, lunch, admission fees, and taxes.

Special notes: Moderate level of physical activity. Wear sturdy shoes and warm wet-weather gear. Sunscreen and camera recommended.

I | BAR U RANCH NATIONAL HISTORIC SITE/ LESSONS IN IMPACTS OF LAND USE CHANGE

The Bar U Ranch National Historic Site is a preserved ranch that for 70 years was an original ranching operation in Canada, extending over 160,000 acres with 30,000 cattle and horses. The Historic Site provides a window into the rapid transformation from pre-European culture to a vast ranching culture. At present, the same changes are ongoing elsewhere (e.g., East Africa, Brazil, and Australia).

Located in scenically breathtaking area, the Historic Site is a fascinating way for us to learn from history.

Lessons on the field trip will be carried over to AFF sessions in the conference.

Friday 17 May

Depart 09:00 | **Return** 18:00

Minimum-Maximum 40-51

Price \$110

Price includes transportation, lunch, snacks, wagon ride, and taxes.

Special notes: Moderate level of physical activity. Wear sturdy shoes and warm wet-weather gear. Sunscreen and camera recommended.

World Bank Group Special Meeting

WORLD BANK GROUP DAY

Part A. Consultation with IAIA Conference Participants on the Review and Update of the World Bank Safeguard Policies

Convener: Stephen F. Lintner, World Bank

The purpose of the review and update process is to develop the next generation of Safeguard Policies to better enable the World Bank and its borrowers to achieve sustainable development results. The consultation will provide conference participants with an overview of the progress in development of an integrated safeguards framework and give them an opportunity to provide comments. Documents concerning this ongoing process are available at www.worldbank.org/safeguardsconsultation.

Part B. Applying IFC Performance Standards: Progressive Realization of Key Principles

Presentation and discussion

Convener: Reidar Kvam, IFC

IFC's Performance Standards, which became effective in January 2012, represent a comprehensive framework for addressing environmental and social risks and opportunities in private sector projects.

During this session, IFC will present the Performance Standards Achievement Rating approach (PSAR), the indicators used, and how IFC uses this information in its decision making and support to clients.

Part C. Country Safeguard Systems: Asian Development Bank and World Bank Experience

Presentation and discussion

Conveners: Xiaoying Ma, Asian Development Bank, and Stephen F. Lintner, World Bank

Over the past 20-30 years, developing countries, with the support of international financial institutions and other parties, have made great strides in assessing environmental impacts of projects, compensating for involuntary resettlement, and protecting vulnerable groups. They have developed their legal frameworks, their national and local implementing institutions, and a whole range of relevant standards and regulations to manage environmental and social risks and impacts of development activities. This totality of laws, regulations, and institutions constitute country safeguard systems. In the future the readiness of country systems will also be important for countries seeking to access the Climate Investment Fund (CIF) and Reduced Emissions from Deforestation and Forest Degradation (REDD+) funds. The focus of this part of the program will be on innovation, new ideas and new approaches from around the world on how to continue to develop and improve these country systems.

Thursday 16 May | 13:45-18:00 | Price \$20. Pre-registration required.

Price includes light lunch and afternoon coffee break with snack.

Ghostpine Environmental Services Ltd. is a dynamic environmental consulting company dedicated to providing a full range of services to meet the diverse needs of any project.

Our company offers clients the depth of experience necessary to provide timely, reliable, cost-effective and balanced environmental solutions for all phases of industrial development, road building and heavy construction projects.

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- Erosion and Sediment Control Plans
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- Vegetation, Rare Plant & Weed Surveys
- Wetland Assessments (QWAES)
- Aquatic & Fisheries Assessments (QAES)
- Soil Surveys and Inventories
- Archaeological Survey
- Operations and Maintenance
- Reclamation / Remediation Services

Ghostpine has offices in Calgary, Medicine Hat, and Fort St. John, B.C. to serve you.

For further information on all of Ghostpine's services, contact us at:

111, 10699 - 46th Street SE, Calgary, AB T2C 5C2

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Toll Free: 1-866-291-9238

Email: info@ghostpine.com



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AFFILIATE POSTERS

IAIA encourages the establishment of organizations that serve to spread the mission of IAIA. Current IAIA Affiliates are listed below. All IAIA Affiliates are invited to present a poster; stop by and learn more about their unique regions, goals, and activities.

- Cameroon.** Cameroon Association for Environmental Assessment (ACAMEE)
acameeonline.org/ | Dieudonné Bitondo, contact | acamee@yahoo.fr
- Germany.** Germany UVP-Gesellschaft e.V. (pilot) (Association for Environmental Impact Assessment in the German Speaking Countries)
Aranka Podhora, contact | info@uvp.de
- Ghana.** IAIA-Ghana
Yaw Amoyaw-Osei, contact | wayoma59@hotmail.com
- Italy.** IAIA-Italia
iaiaitalia.org | Giuseppe Magro, contact | info@iaiaitalia.org
- Korea.** Korea Society of Environmental Impact Assessment (KSEIA)
eia.or.kr/korean/ | Jong-Gwan Jung, contact | asset@cdi.re.kr |
- Mozambique.** Associação Moçambicana De Avaliação Do Impacto Ambiental (pilot) (AMAIA)
amaia.org.mz/ | Hélder Lima Muianga, contact | info@amaia.org.mz
- New Zealand.** New Zealand Association for Impact Assessment, Inc. (NZAI)
nzai.org.nz/ | Richard Morgan, contact | rkm@geography.otago.ac.nz
- Nigeria.** Association for Environmental Impact Assessment of Nigeria (AEIAN)
aeian.org/ | Adebunji Adekoya, contact | patrick.adekoya@shell.com
- Ontario, Canada.** Ontario Association for Impact Assessment (OAIA)
oaia.on.ca/ | Adam Chamberlain, contact | achamberlain@blg.com
- Portugal.** Associação Portuguesa de Avaliação de Impactes (APAI)
apai.org.pt/ | Ana Roque, contact | apai@apai.org.pt
- Quebec, Canada.** Association québécoise pour l'évaluation d'impacts (AQÉI)
aqei.qc.ca/ | Francoise Mondor, contact | mondorf@aqei.qc.ca
- South Africa.** IAIA South Africa (IAIA-sa)
iaia.co.za/home/ | Liz Warren, contact | operations@iaia.co.za
- Spain.** Asociación Española de Evaluación de Impacto Ambiental (AEEIA)
eia.es/nueva/portada.htm | Iñigo Sobrini, contact | isobrini@eia.es
- Western and Northern Canada.** (IAIA-WNC)
iaia-wnc.ca/ | Susan Wilkins, contact | swilkins@pgggroup.com
- Zambia.** Impact Assessment Association Zambia (pilot) (IAAZ)
Nancy Mushota, contact | muyanje@yahoo.com

IAIACONNECT

Learn more about IAIA's professional networking site and get your questions answered during afternoon coffee breaks 14-15 May, or stop by the registration desk for information.

BOOK SHARE

Drop off a reference books, new or recycled, as a contribution to the book share table. The books are available on a first-come, first-served basis to delegates who might not readily find such books in their own locales.

Tables are provided for IAIA members to display information, distribute conference papers, or announce/distribute non-commercial items. Delegates must be in attendance personally to display materials.

Only official exhibitor posters and/or technical posters approved by the Program Committee during the review process may be displayed.

BOOTHS AND EXHIBITS



HATCH



TAYLOR & FRANCIS
GROUP



ROYAL
HASKONINGDHV



STANTEC

- AMEC
- Gamut Consulting
- Golder Associates Corporation
- IAIA14 Viña del Mar
- TERA Environmental Consultants
- Western and Northern Canada IAIA Affiliate

KAINAY'KOOKAAN (ALL DESIGNS) TIPI

Oki,

The designs painted on Blackfoot tipis are more than symbolic; they connect us with the Spirit Beings in the world around us. These painted tipis are Sacred Bundles. The right to use the designs is an honour and privilege and must be formally transferred in a ceremony.

The Blackfoot people make up the Blackfoot Confederacy, which is comprised of the four tribes: Blood Tribe (Kainai); Piikani Nation (Peigan); Siksika Nation (Blackfoot) and Southern Peigan (Blackfeet – Montana). Tipi designs come to us in dreams, by Papai- tapiksi, the Dream Beings. They also come by transfer or inheritance. Each painted tipi has a ceremony for a specific purpose. The design protects the family inside and helps them to live happy, successful, and safe lives.

The paint design—named Kainay'kookaan (all designs)—on the IAIA 2013 Conference bags was the idea of Treaty 7 Grand Chief Liaison Brent (Nii'danamaska) Scout from the Blackfoot Nation (Blood Tribe). Nii'danamaska (Lone Holy Pipe Owner) is employed with the Treaty 7 Management Corporation (T7MC) and works closely with the Treaty No. 7 Chiefs and Elders. The T7MC is one of the sponsors of this year's IAIA Conference and Brent has been working in-kind with the IAIA as Cultural Advisor and Liaison. The T7MC logo—featuring all five Treaty No. 7 Nations—is also highlighted on the back of the environmentally-friendly canvas (tipi) bags.

The "tipi paint"—or design—was acquired from Piikani Elder Dr. Reg (Awakasina) Crowshoe, who transferred the right to use the tipi design on the IAIA 2013 Conference bags. Awakasina (Deer Chief) is a well-known Blackfoot Elder, spiritualist, ceremonialist, teacher and Former Chief of the Piikani Nation. Awakasina earned an honorary Doctorate in Law from the University of Calgary and is currently teaching First Nations' Perspectives on Holistic Science at the Faculty of Indigenous Studies at the University of Calgary.

As with all Blackfoot tipis, each part of the IAIA 2013 Kainay'kookaan design has a special significance. These meanings may be different on different tipis. For example, the bottom of a tipi represents Mother Earth; therefore, round shapes may be used to signify hills, or mountains if they are pointed. In the Kainay'kookaan design, Mother Earth is symbolized as mountains and prairie to denote the geographic location of this year's conference in Calgary, Alberta.

The middle sections of tipis show the animals that are the spirit helpers to the tipi owners (conference organizers). In this case, the paint used to indicate or celebrate the IAIA "story/song" are the logos of the IAIA on the front, and the T7MC on the back.

The upper part of tipis represents the heavens and the stars. Circles are stars, representing the Big Dipper (seven circles) and Pleiades or the Bunch Stars (six circles). A single circle is for Ipiiso-waahsa, Morning Star. Our ancient creation stories tell of these stars as the children who were lost or neglected and went to live in the sky. When we see these on tipis we remember to always care for our children. The seven stars on the IAIA conference bags symbolize the 7 Brothers who went to live with the Above-Ones. The red lines represent the colors of the rainbow, therefore, All the People of the World. Kainay'kookaan!

Respects,

Nii'danamaska

ABOUT IAIA

The International Association for Impact Assessment was organized in 1980 to bring together researchers, practitioners, and users of various types of impact assessment from all over the world.

IAIA members number over 3,100 from over 100 countries, including those from its 14 national Affiliates. IAIA activities are carried out locally and regionally through its extensive network of Affiliates and Branches.

IAIA's Vision: IAIA is the leading global network on best practice in the use of impact assessment for informed decision making regarding policies, programs, plans, and projects.

IAIA's Mission: IAIA provides an international forum for advancing innovation and communication of best practice in all forms of impact assessment to further the development of local, regional, and global capacity in impact assessment.

IAIA's Values: IAIA promotes the application of integrated and participatory approaches to impact assessment, conducted to the highest professional standards.

IAIA believes the assessment of the environmental, social, economic, cultural, and health implications for proposals to be a critical contribution to sound decision-making processes, and to equitable and sustainable development.

IAIA as an organization promotes the following:

- We compile or review impact assessments with integrity and honesty, and free from misrepresentation or deliberate bias.
- Our personal beliefs should not interfere with fair representation of the potential impacts of policies, plans, programs, and projects.
- We uphold the principle of freedom of access to information and the right of citizens to participate in decisions.
- We subscribe to a holistic approach to impact assessment.
- We seek sustainable and equitable outcomes from human actions that affect ecosystem and social functions.
- We will seek to encourage a process of impact assessment that averts infringement of the human rights of any section of society.
- We do not condone the use of violence, harassment, intimidation or undue force in connection with any aspect of impact assessment or implementation of an intervention arising from impact assessment.
- We conduct impact assessments in the awareness that different groups in society experience benefits and harm in different ways. We seek to take gender and other social differences into account, and we are especially mindful of the concerns of Indigenous Peoples.
- We strive to promote considerations of equity as a fundamental element of impact assessment.
- We give due regard to the rights and interests of future generations.
- We strive for excellence by maintaining and enhancing our own knowledge and skills, by encouraging the professional development of co-workers, and by fostering the aspirations of potential members of the profession.
- We do not advance our private interests to the detriment of the public, our clients or employing institutions.

ANNUAL GENERAL MEETING

Tuesday 14 May | 12:40-13:30 | Palomino A-C

This is the annual business meeting of the Association. All meeting participants are encouraged to attend, learn more about the operation of the organization, and ask questions.

2013 AGM Agenda

1. Welcome, introductions, and confirmation of the 2012 AGM minutes.
2. IAIA 2012-13: What have we done and where are we going?
3. Treasurer's presentation of the financial report.
4. IAIA Honors Excellence: Presentation of the Rose-Hulman Award.
5. Address by the Rose-Hulman Award recipient.
6. Any issues submitted in writing by members.
7. Informal discussion of matters that members wish to raise.
8. Closing remarks.

COUNCIL MEETING

Wednesday 15 May | 12:40-13:30 | Arabian B

The IAIA Council serves as an advisory resource to the IAIA Board of Directors. The Council meeting is an opportunity for face-to-face interaction among IAIA leadership, serves to raise awareness of and communicate the scope of IAIA activities, and allows the IAIA President the opportunity to acknowledge the individuals involved in the IAIA Board, Committees, Sections and Affiliates.

The Council is composed of the Board, all Committee chairs, Section chairs, representatives of Affiliates and Branches, the CEO and Headquarters representatives, and the Conference Program Chair(s) for the current-year conference and any future known conferences. Council meetings are open; all IAIA members are encouraged to attend.

The current IAIA President introduces Board members. The standard agenda includes *brief verbal reports invited by the President* from the chairs and representatives for *items of general interest to all IAIA*. Issues requiring formal Board action and/or feedback would have been submitted in Committee/Section written reports to the Board, which the Chair should acknowledge receiving. Aside from a vote to close the meetings, no votes are taken at the Council meeting. Any issues raised are included as agenda items for discussion at the Board's next meeting.

Council Meeting Agenda

1. **Welcome and introduction of IAIA Board of Directors**
2. **Introduction of Committee Chairs and Committee Reports** (as applicable)
 - a. Publications
 - b. Training & Professional Development
 - c. Editorial Board
 - d. Awards Committee
 - e. Sections Coordinating Committee (SCC) Chair (reporting for all Sections, as appropriate* and introducing all Sections and Section Chairs)
3. **Affiliates & Branches** (introductions and update re: new/pilot organizations from Affiliate Forum Organizer)
4. **Reports from Conference Chairs: Past/current/future**
5. **Commendations/appreciation for service**
6. **Questions from the floor**
7. **Close of meeting**

*The SCC Chair may deem it appropriate to ask the Chair of any Section involved in an IAIA project to report separately on that project.



Global Environment Award

The International Finance Corporation (IFC) was chosen to receive the IAIA Global Environment Award for developing, evaluating, and revising the IFC Performance Standards, a global benchmark for environmental and social assessment in developing and emerging markets.



Rose-Hulman Award

Sachihiko Harashina, Japan, receives the Rose-Hulman Award for his dedication to improving and promoting impact assessment through his work in environmental assessment and environmental planning, developing environmental guidelines for agencies and institutions and increasing public understanding of EIA in Japan, as well as his service to IAIA.



Regional Award

With IAIA's 2013 annual conference being held in Canada, the **Government of Nunavut** has been selected to receive the Regional Award. The Government of Nunavut was chosen for this award because of its Environmental Assessment Capacity Building Initiative, which has promoted leadership and best practices in environmental assessment.



Individual Award

Peter Tarr, Namibia, was chosen for the Individual Award because of his sustained and significant contributions to impact assessment, visible through his work establishing the Southern African Institute for Environmental Assessment and championing EIA throughout Africa.



Corporate Initiative Award

The **Equator Principles Association** was selected for the Corporate Initiative Award specifically for adopting the IFC's Performance Standards and promoting impact assessment in the private sector.



Outstanding Service to IAIA

Patrick Duffy, Canada, has been active in EIA in Canada and internationally since the early 1970s. He chaired the 12-man Environment Canada Task Force on Environmental Impact Policy and Procedure which drafted the Canadian Federal Environmental Assessment and Review Process (EARP) which came into effect in 1974. His career exemplifies his long-term dedication to the promotion and application of impact assessment as well as his dedication to IAIA and the next generation, serving enthusiastically in the IAIA mentorship program. Patrick was the founder and chair of IAIA's Section on Agriculture, Forestry, and Fisheries from 2004-2010 and is the current co-chair of the Section. He has also served as a guiding hand in the preparations for IAIA13.



Institutional Award

The **Federal Ministry for Economic Cooperation and Development (BMZ)**, **Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH**, and **KfW Development Bank** of Germany have been jointly awarded the Institutional Award because of their implementation of a two-stage environmental and climate assessment process and their efforts in raising institutional awareness and building capacity for the new assessment tool.



If you would like to nominate an individual or organization for a 2014 award, please submit name and justification to the IAIA13 registration desk or e-mail info@iaia.org. Online nominations will open soon.

IAPA Best Paper of 2012

The 2012 IAPA Best Paper Award is presented to Alan Bond and Jenny Pope on behalf of all the authors of the March 2012 special issue on the state-of-the-art of impact assessment; i.e. in recognition of the standing and contribution of the special issue as a whole.

Conference tips and information

PUBLICATIONS

List of participants: A list of pre-registered participants is provided in the delegate packets. A final list of participants will be posted online following the conference.

Proceedings: IAIA will be publishing reviewed and finalized papers online following the conference.

Accuracy of information: The program committee and IAIA cannot guarantee the accuracy of presentation or author information received or changed following published deadlines, and/or not submitted via the online system.

Journal: Participants are encouraged to submit their papers for possible publication in IAIA's journal, *Impact Assessment and Project Appraisal*. See www.tandfonline.com/action/authorSubmission?journalCode=tiap20&page=instructions for submission information and attend the IAPA workshop on Monday 13 May at 14:30 in Arabian C.

PRESENTATION EQUIPMENT

LCD (PowerPoint) projectors and laptop computers are provided in each session room.

Presenters were responsible for arranging and paying in advance for any other equipment needed for their presentations by 15 March. Availability of equipment for on-site requests is not guaranteed, and payment is required on-site.

PowerPoint files should be saved to memory stick. Presenters load their own files on the laptops provided; this should take no more than 2 minutes. Use of the provided laptops is required; use of personal laptops for session presentations will not be permitted. For security reasons, the session rooms and laptops may not be available until the break just prior to the start of the sessions, so plan to load your presentation during the break preceding your session. Preparation of files on a Mac computer is not recommended. Testing of a Mac presentation on an IBM or HP should have been done prior to arriving at the conference, and Mac presenters must provide their own VGA connectors.

VIDEO/AUDIO POLICY

Individuals officially identified by IAIA may photograph, videotape, and/or audiotape conference events. By attending the conference, you agree to allow your image to be used by IAIA.

During the session and abstract submission process, session conveners and presenters indicated their permission for recordings of their sessions or presentations to be broadcast online by IAIA; those preferences will be honored.

Individuals are not permitted to record with personal audio or video equipment or other recording devices such as cell phones, cameras or recorders, without prior permission from IAIA.

BUSINESS SERVICES AND INTERNET

Presenters are responsible for supplying their own session or poster materials. Because of rental costs that would necessarily be passed on to all delegates in the form of higher registration fees, IAIA does not provide copying, printing, computers, or other business services. The Stampede/BMO Centre has a business office that provides some services for a fee; see the desk near the main entrance, or check with your hotel.

Internet kiosks for basic browsing (Internet Explorer) are available in the Palomino foyer at no charge. Internet access on personal laptops or other electronic devices may be purchased for \$99 per day; use the "Stampede" network, and payment will be requested online via credit card.

MEALS AND BEVERAGES

Based on the data collected via registration forms, IAIA has estimated a percentage of vegetarian meals. **This does not guarantee accommodation of individual preference or special need.**

Reusable bottles are provided in the delegate bags, and water refill stations are located in the common areas and Hall C.

Water bottles and water filling stations are sponsored by AMEC.

REGISTRATION AND FEES

All conference participants, including delegates, sessions chairs, invited speakers, organizers, exhibitors, and paper and poster presenters, are required to register for the conference at the full, student, or exhibitor registration rate.

Full and student registration fees entitle delegates to attendance at all sessions, coffee breaks, lunches 13-15 May, participants list, delegate satchel, online conference proceedings, and special events, unless an additional fee is noted.

NAME BADGES

All conference participants, including speakers, exhibitors, and media, receive a name badge at check-in. The badge is your official pass and must be worn to ensure entrance to conference activities.

Please drop off your badge holder at the registration desk at the end of the conference: IAIA will reuse/recycle!

PAYMENT AND REFUND POLICIES

Fees are accepted in cash (US dollars or Canadian dollars) or by MasterCard, Visa, or American Express (charged in USD). Checks or money orders made payable to IAIA in USD or CAD are also accepted.

Any registration after 22 April 2013 must be made on-site. Official receipts for registrations made after 22 April 2013 will be issued after the conference.

IAIA will refund registration fees upon written request received before 15 April 2013. A US\$75 processing fee will be retained. After 15 April 2013, no refunds will be

issued for cancellations or no-shows. Substitutions for paid registrants may be made in writing without financial penalty. Refunds will be issued after the conference.

INSURANCE AND LIABILITY

IAIA, the organizing committee, and the venue will not be responsible for medical expenses, accidents, losses or other unexpected damage to property belonging to conference participants, either during or as a result of the conference and during all tours and events. Participants are strongly advised to arrange their own insurance for health and accident, lost luggage and trip cancellation.

CONFERENCE EVALUATION

An evaluation form will be sent electronically to all participants following the conference.

LANGUAGE

English is the primary language used at IAIA conferences.

DEFINITION OF CONFERENCE TERMS

A **session** is a block of time, typically 90 minutes, during which discussion centers on a particular topic. A **thematic session** refers to a session that is specifically oriented toward the conference theme.

Sessions and thematic sessions may utilize a variety of formats, and the length of time available for presentations depends on the format that has been selected by the session chair. Session formats include:

Theme forum: Smaller than plenaries and larger than concurrent sessions, Theme forums include "cut-above" presentations and discussions which address the conference theme, bring together on a particular topic the various aspects of impact assessment, and examine how those aspects apply to different sectors and issues.

Paper session: In a Paper session, authors orally present the findings of a prepared paper or project. A chaired Paper session typically allows 4-5 presentations of 15-20 minutes each, including time for specific questions. Ideally, the chair allocates time for general questions and open discussion following the presentations.

Workshop: In a workshop, the topic is specific and seeks to resolve a defined problem, often through a combination of 2-3 short paper presentations and active discussion.

Panel discussion: In a panel, the speakers are invited. The chair introduces each speaker and puts each talk in perspective. Each speaker gives a brief (10-15 minutes) prepared presentation, usually presenting a different view or experience on the topic, followed by debate between the speakers and questions from the audience facilitated by the chair.

Roundtable: Involves a group of individuals, some of whom may be invited, holding an informal discussion on a specific topic or problem, with no formal presentations.

Debate: A debate takes place between two or more opponents who are experts in their fields as well as being entertaining presenters. The debate topic is clearly defined in terms of a question, with one side presenting the affirmative case and the other the negative case.

Pecha Kucha is a presentation methodology in which 20 slides are shown for 20 seconds each (six minutes and 40 seconds in total). This format allows for concise and fast-presentations and will be tried by IAIA for the first time at IAIA13.

World Café: World Café comprises progressive rounds of conversation among groups of 5-6 participants. Each round lasts 15-20 minutes, after which participants are invited to form new groups and continue the conversation drawing in ideas and comments from earlier discussions. The session concludes with a whole-group discussion.

Practitioner exchanges provide an opportunity for as many as 10 to 12 conference participants to present a brief (3 minutes) overview of their work and to network with others in the same field. Time does not permit presentation of full papers during the session, but abstracts will be included in the final program.

Indaba: For issues that arise during the conference and that delegates want to pursue through follow-up discussions. During the morning, participants post potential topics for discussion, and individuals interested in each topic sign up. If a topic generates sufficient interest, space is made available for the discussion to take place in the late afternoon.

HOW TO GET THE MOST FROM THIS CONFERENCE

- **Inform, prepare, and orient yourself.** Check in early and then take time to walk through the venue to familiarize yourself with locations of activities before the rush of the conference begins. Read through the program carefully and highlight the sessions you want to attend. Read the summaries and prepare questions for the speakers.
- **Make a goal sheet.** Why did you decide to register for this program? What is it you expect to gain? Take a moment to think about your goals. Then clarify them by writing them down in your program. Look over your goal page throughout the conference; it will help you keep your goals focused.
- **Meet other people.** This is an excellent opportunity to expand your network of contacts. Sit next to someone you don't know, even if you've come with a group. Mingle during the breaks. Exchange business cards. Every participant here has a specific area of expertise; find out what it is instead of chatting about the weather. Let us suggest that one of your goals be to meet at least one person each day whom you intend to communicate with again on a business or social basis.
- **Participate!** Ask questions. Make contributions. Actively participate in the exercises. Consider the meeting room to be a "mental gym" where it's okay to run, fall, and get up again. You'll benefit much more by participating in the game than sitting on the sidelines.
- **Relate what you learn to yourself.** Don't settle for "abstract" knowledge. Have your current problems, conflicts and interests foremost in your mind. As you learn new approaches and techniques, relate them to your own situation.

- **Make a commitment to review your notes.** Right now, take out your calendar and make a one-hour appointment with yourself in a few weeks to "retake" the program. Don't put your good ideas away with your notes. And consider reviewing your notes each evening during the conference while your ideas and enthusiasm are fresh.
- **Write a "Dear Boss" letter.** If your boss or company sent you to the conference, thank them with a letter. Include a list of your action ideas based on your action plan and goals - what you intend to do or change as a result of what you have learned. If you paid your own way, still send the letter. It will show how committed you are to your own professional growth.
- **Enjoy yourself.** Start relaxed (rest and rehydrate to help recover from jet lag) and you'll leave refreshed, inspired and recharged. Forget about what's happening at the office. This is your conference. Get all you can out of it.

PRESENTERS: ONE FINAL QUALITY CHECK!

Before you take the stage, please consider the following tips and information in order to make the most of your presentation, both for yourself and your audience.

Tips for oral presentation

- Build a story. Presentations are boring when they present large amounts of information without any context or meaning. Instead, tell a story, with the audience as the main characters.
- Keep it relevant. Audiences pay attention only to stories and ideas that are immediately relevant to them. Consider what decision you want them to make, then build an appropriate case.
- Cut your introduction to a sentence or two. A too-long introduction that describes you, your firm, your topic, and how you got there only bores people.
- Begin with an eye-opener instead. Kick off your talk by revealing a shocking fact, a surprising insight, or a unique perspective that naturally leads into your message and the decision you want made.
- Use facts, not generalities. Fuzzy concepts reflect fuzzy thinking. Buttress your argument, story and message with facts that are quantifiable, verifiable, memorable and dramatic.
- Never read from your slides. Your audience can read.
- Practice speaking slowly and clearly, and avoid jargon. Cut business and company- or sector-specific jargon from your slides and your vocabulary. For much of the IAIA audience, English is a second language. If English is your primary language, consider what it is like for you to listen to a presentation in your second language and adjust your presentation style accordingly.
- Have a separate handout. If there's data that you want the audience to have, put it into a separate document for distribution after your talk. Don't use your slides as a data repository.

Tips for slide preparation

If you choose to use PowerPoint slides, make the most of your presentation. A good-quality visual presentation can make your message stronger and clearer; a poor one can muddle your message even if your oral presentation is outstanding. Please consider the following tips:

- Make sure each slide builds on the previous slide and that all slides have a logical progression.
- A visual graph or chart can be worth a thousand words. Include graphs or charts to back up or emphasize your main points. Studies show that half of what an audience learns during a presentation is provided by the visuals.
- But keep the slides simple. People shut off their brains when confronted with complicated drawings, tables, and distracting backgrounds. Use very simple graphics and bullet the important data points.
- A general rule for MAXIMUM amount of text per slide is the 6-6-6 rule (no more than 6 words per bullet, no more than 6 bullets per slide, no more than 6 text slides in a row). But remember: even fewer words and more effective imagery will have the most powerful effect.
- Be careful with your font choices. Use high-contrast, easy-to-read fonts that are common to most computers. Do not use ALL CAPS, italics, and other enhancements that clutter and are distracting. A good guideline is a minimum of 30-point text.
- Don't get too fancy. You want your audience to remember your message, not how many special effects and visual gimmicks you used.
- Share your thoughts on the sessions, receive feedback on your presentation, and help spread the word about the good work being done at the conference: please consider adding #iaia13 to your presentation slides.

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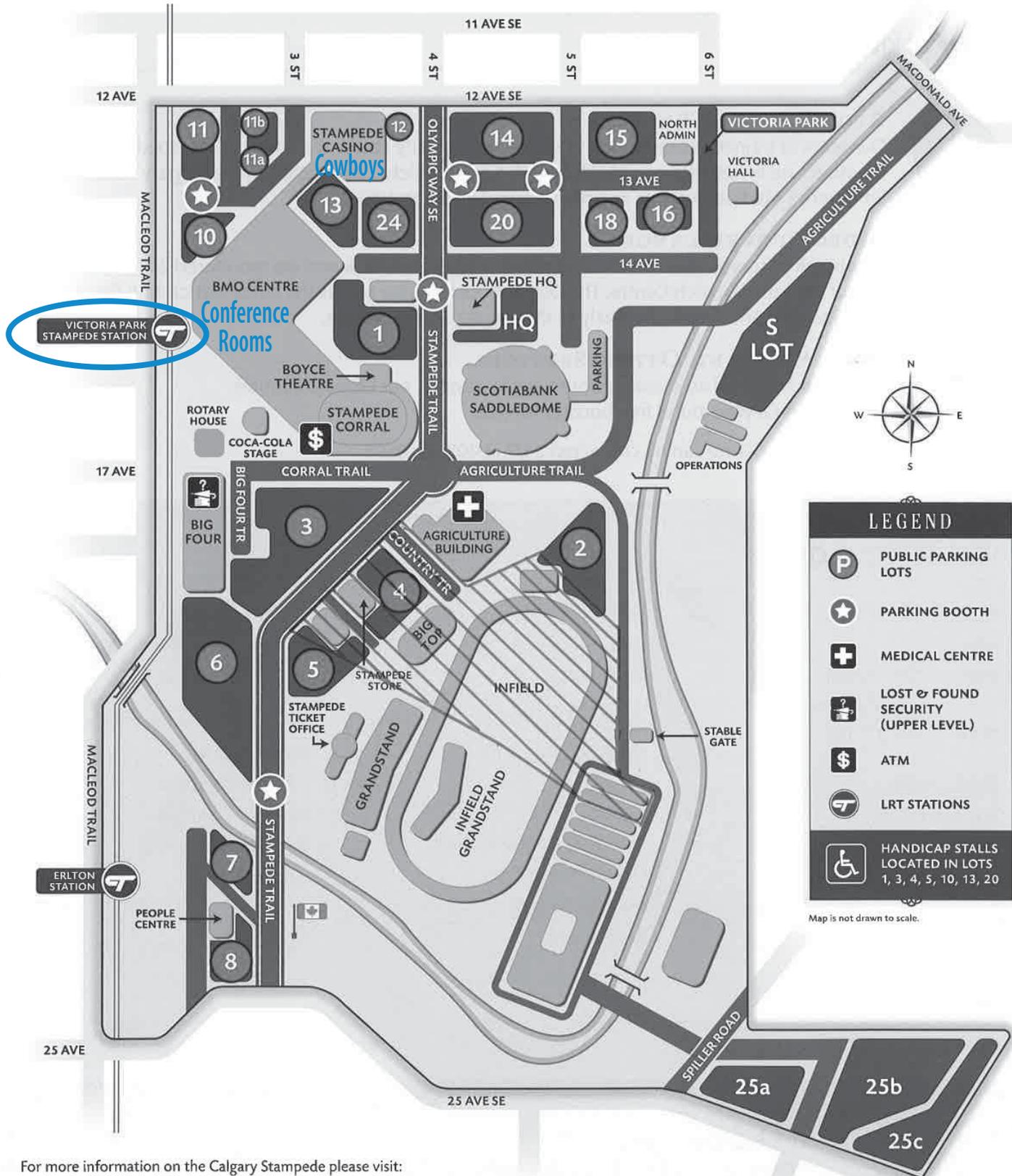
- 14.1 Voluntary SIA: Ideas and insights from beyond a regulatory context
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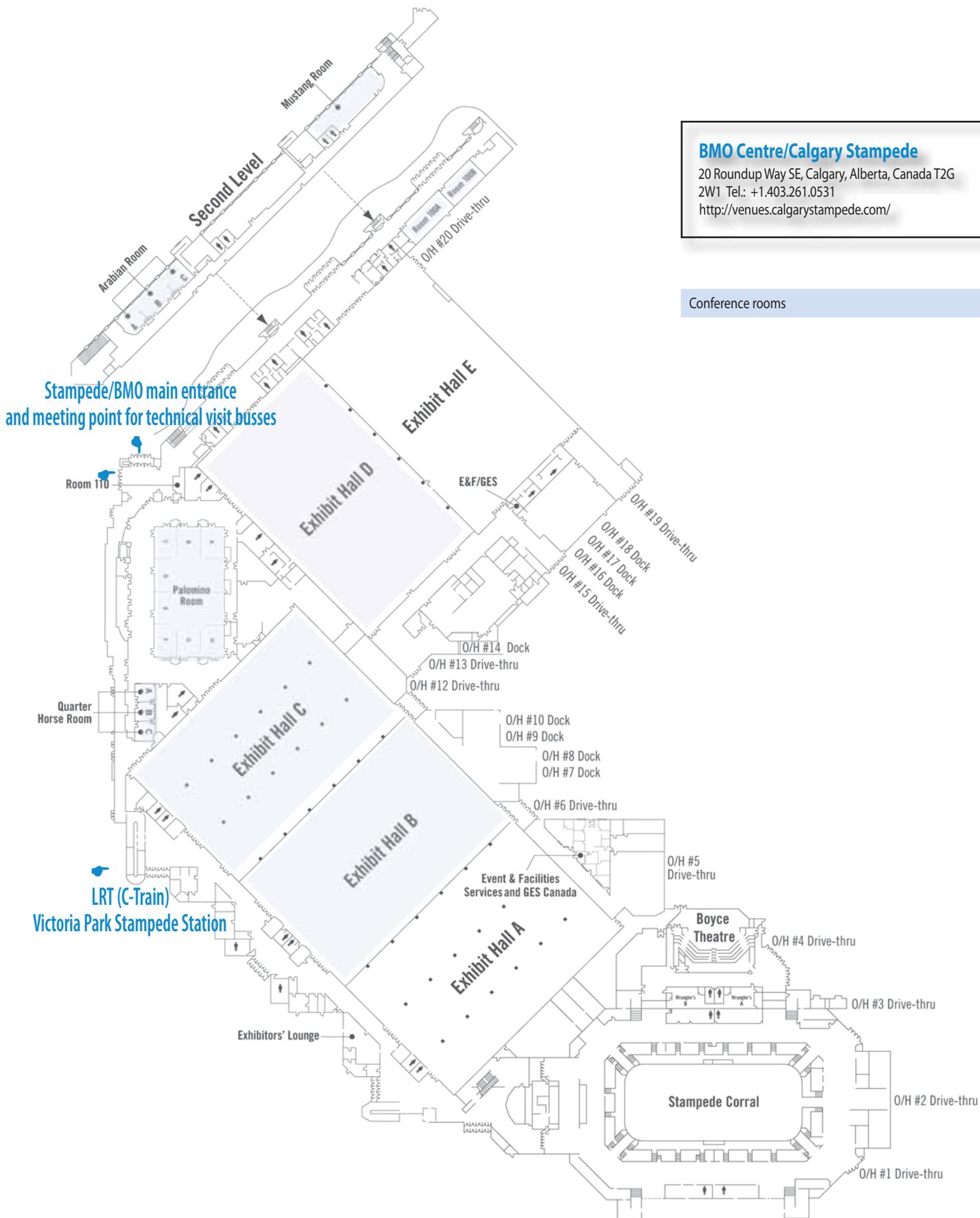
- 16.3 Using SEA for effective development planning (I)
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Venue map

FINDING YOUR WAY THROUGH STAMPEDE PARK



For more information on the Calgary Stampede please visit:
www.calgarystampede.com



General information

TRANSPORTATION WITHIN CALGARY

Allied Downtown Shuttle Service. This new service provides affordable, regularly scheduled on-demand transportation in fully automated GPS-dispatched shuttle buses between designated pick-up points within the City of Calgary and Calgary International Airport.

Airport departures are every 30 minutes at Bus Bay #8. To purchase tickets, please visit the Allied Shuttle counter on the Arrivals level near Gate C between 08:00 and midnight. Alternatively, you can reserve and buy tickets online. One way ticket = CAD15.

Downtown pick-ups are based on a scheduled on-demand system; however, the shuttle will only stop at pre-determined locations if there is a booking. Please review the schedule online. Bookings can be made either over the phone or online. It is recommended that you leave at least three hours prior to your airplane departure. For more information: www.airportshuttlecalgary.ca | +1 403 299-9555

Public transport. Public transportation in Calgary is efficient and clean. **You can choose from the Light Rapid Transit (LRT) rail system, also known as the C-Train, and ordinary buses.** One fare entitles you to transfer to other buses or C-Trains. The C-Train is free in the downtown area along 7th Ave, between 10th St SW and 3rd St. SE. If you're going further or need a transfer, buy your ticket from a machine on the C-Train platform. The conference centre is one stop past the free zone. Most of the buses run at 15- to 30-minute

intervals daily. There is no late-night service. The C-Train and bus fare per single/day is \$2.25/6.75. **Use the C-Train's "Victoria Park/Stampede" stop for direct access to the Stampede/BMO Centre.** For more information: www.calgarytransit.com/route_maps/lrt_stop.html.

Taxi. Taxis are not recommended by local organizers due to cost. For a cab, call Checker Cabs (+1 403 299-9999) or Yellow Cab (+1 403 974-1111). Fares are CAD3 for the first 150m, then CAD0.20 for each additional 150m. To get downtown from the airport is CAD45-50.

BUSINESS HOURS

Most businesses open at 09:00 or 10:00 and remain open to at least 17:00. Major stores and shopping malls remain open until 21:00.

CURRENCY AND CREDIT CARDS

Canadian Dollars (\$/CAD) is the national currency. U.S. dollars and traveller's cheques are accepted in most hotels and tourist areas. Most foreign currencies can be exchanged for Canadian dollars at banks, currency exchange counters and at many hotels. Banks tend to offer the best exchange rate. Automated Teller Machines (ATMs) or bank machines) are common though there may be a service fee. Major credit cards are widely accepted.

TIPPING

Tipping in restaurants is customary and is not included in the bill. If you are happy with the service, a 15% tip is typical. Tipping for other services, such as porters, bellhops and taxi drivers, is also common and at the discretion of the customer.

SMOKING

In the City of Calgary, smoking is prohibited in public places and workplaces. This includes nearly all indoor spaces that are public (including restaurants and bars). Smoking in outdoor spaces is prohibited within 5m of a doorway, window, or air intake.

TAXES

Most purchases are subject to 5% Goods and Services Tax (GST). Visitors to Canada can obtain a GST tax refund. Find more information at border crossings, duty-free stores or tourism information centres. In Alberta, there is also a 4% tax on hotel rooms.



Australian Government
AusAID

Australian
AID 

www.ausaid.gov.au



Mining for Development: Sharing the Australian Experience

The Australian Agency for International Development (AusAID) is the Australian Government agency responsible for managing Australia's overseas aid program. The fundamental purpose of Australian aid is to help people overcome poverty.

Through its Mining for Development Initiative, the Australian Government aims to share its significant expertise and experience in mining to assist

resource-rich developing countries to maximise the benefits and opportunities of mining. The initiative aims to support the efforts of partner governments in Africa to build their capacity to manage their resource wealth in ways that promote equitable and sustainable economic development.

With well-managed exploitation of natural resources, including minerals, resource-

rich African countries could attain broader economic and social development.

In 2011 and 2012, Australia worked with 40 countries in Africa on mining-for-development cooperation through **Australia Awards** (scholarships) and the **Australia-Africa Partnerships Facility** (study tours and technical assistance). This is cooperation that builds sustainability, prosperity and wealth for the future.



ABOUT THE HOST

The Western and Northern Canada Affiliate of the International Association for Impact Assessment was founded in 2004 and includes members from government, consultancies, resource management boards, industry, Aboriginal organizations, and non-government organizations. Its goal is to promote and develop best practice in environmental impact assessment. Members are at the cutting edge in areas such as cumulative effects, monitoring and follow-up, cultural impact assessment, public and stakeholder participation, and responsible resource development. The Affiliate has active chapters throughout western and northern Canada and offers its members activities such as guest speakers, conferences, and networking opportunities. See www.iaia-wnc.ca for more information.

IAIA-WNC is hosting the conference in association with Canada's two other IAIA Affiliates, the Ontario Association for Impact Assessment (www.oaia.on.ca) and l'Association québécoise pour l'évaluation d'impacts (www.aqei.qc.ca).

ABOUT IAIA



IAIA as an organization promotes the following:

- We compile or review impact assessments with integrity and honesty, and free from misrepresentation or deliberate bias.
- Our personal beliefs should not interfere with fair representation of the potential impacts of policies, plans, programs, and projects.
- We uphold the principle of freedom of access to information and the right of citizens to participate in decisions.
- We subscribe to a holistic approach to impact assessment.
- We seek sustainable and equitable outcomes from human actions that affect ecosystem and social functions.
- We will seek to encourage a process of impact assessment that averts infringement of the human rights of any section of society.
- We do not condone the use of violence, harassment, intimidation or undue force in connection with any aspect of impact assessment or implementation of an intervention arising from impact assessment.
- We conduct impact assessments in the awareness that different groups in society experience benefits and harm in different ways. We seek to take gender and other social differences into account, and we are especially mindful of the concerns of Indigenous Peoples.
- We strive to promote considerations of equity as a fundamental element of impact assessment.
- We give due regard to the rights and interests of future generations.
- We strive for excellence by maintaining and enhancing our own knowledge and skills, by encouraging the professional development of co-workers, and by fostering the aspirations of potential members of the profession.
- We do not advance our private interests to the detriment of the public, our clients or employing institutions.

GREENING THE CONFERENCE

Does IAIA practice what it preaches? Yes, and more so every year. IAIA takes the following steps (as practical and possible) to mitigate the impacts of our conferences:

- Limit printed materials; communicate via e-mail and Web to the extent practical and possible
- Contract with venues that participate in green programs (e.g., hotels that provide a linen and towel reuse program)
- Use bulk servings and pitchers rather than individual bottles; use china and silverware rather than disposables
- Provide recycling bins for discarded paper products
- Ask delegates to confirm their attendance at events and functions to reduce waste and leftovers
- Encourage delegates to purchase carbon-offset credits for their flights
- Encourage delegates to return name badge holders
- Provide refillable, reusable bottles and bulk water source

Reducing the Carbon Footprint



IAIA continues to strongly support the need to reduce our carbon footprint around our conferences.

To this end, we are partnering with the Calgary Parks Society to offset our footprint. For IAIA13, we invite you to make a \$5.00 donation, to be used to plant a grove of trees along the new pathway system along the Calgary ring road.

A plaque will be placed with the grove as a tribute to the IAIA conference attendees.

Delegates are welcome to make additional suggestions on the IAIA13 conference evaluation form (which will be distributed electronically to delegates following the conference) or by contacting IAIA HQ any time.

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The IAIA13 Local Organizing Committee would like to honor **Roger Creasey**, an IAIA member from Calgary, who passed away unexpectedly on September 16, 2012. Roger was a long-time and well-liked member of IAIA who, in addition to his current professional duties as Owner/Operator of TerrainFX, generously donated his time and talents in various capacities to IAIA over the years, including serving as a newsletter editor, founding member of the IAIA-Western and Northern Canada Affiliate, and, until his passing, IAIA13 program committee member.

THE ONLY INTERNATIONAL, INTERDISCIPLINARY, EDUCATIONAL CONFERENCE DEDICATED TO ADVANCING THE ART AND SCIENCE OF IMPACT ASSESSMENT!

IAIA gratefully acknowledges these companies and organizations for their generous financial and in-kind support of IAIA13.

By sharing their resources, these companies and organizations demonstrate their commitment to the environment and contribute to the improvement of impact assessment around the globe.

When you meet a representative of these sponsors, at the conference or in the months ahead, please be sure to thank them for their contributions.

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International Headquarters
1330 23rd Street South, Suite C • Fargo, ND
58103-3705 USA • Phone +1.701.297.7908
Fax +1.701.297.7917 • info@iaia.org
www.iaia.org