

# **Energy Future The Role of Impact Assessment**

Centro de Congressos da Alfândega | 27 May-1 June 2012 | Porto, Portugal

# Final program





32<sup>ND</sup> Annual Conference of the International Association for Impact Assessment

### Hosted by





### **Premier Sponsor**



# Table of contents

Table of contents 2
Special activities and events
Welcome   Keynote speakers
Conference theme 5
Conference overview6
Daily schedule8
Technical program overview
Concurrent sessions 12
Section activities 44
Networking activities and events 45
Posters 46
Technical visits48
Special meetings
Exhibits51
IAIA business52
2012 Award winners53
Conference tips and information 54
General information55
Index of presenting authors
Committees   About the hosts
Maps

### IAIA12 AT-A-GLANCE

### Sunday, 27 May

Training courses	All day
Technical visits	All day

### Monday, 28 May

Training courses	. All day
Technical visits	. All day
Special meeting	. All day

### Tuesday, 29 May

Plenary, forums, sessions	All day
Poster session	Afternoon
Welcome reception: Porto de Honra	Evening

### Wednesday, 30 May

Forums, sessions, AGM	All day
Banquet	Evening

### Thursday, 31 May

Forums, sessions, Council meeting	All day
Social & networking events Mornin	g, Evening

### Friday, 1 June

Sessions, plenary	Morning
Special meetings, technical visits	Afternoon

### WELCOME RECEPTION: PORTO DE HONRA

IAIA12 will open with a reception. This event is traditionally a highlight of the conference, and the IAIA12 opening reception promises to be something very special! Meet up with old friends, make some new ones, and get your conference off to a great start.

Tuesday, 29 May | 19:00-20:00 | Salão Nobre Pre-registration is required.

### TRAINING COURSES

IAIA offers a wide range of exceptional pre-meeting training courses. Note: Registration after 31 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 11 May.

### 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).

### Tuesday, 29 May | 12:40-13:30 | Main Hall

### 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 Thursday, 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.

### SOCIAL NETWORKING NIGHT

Following the opening reception, this social event is another great opportunity to meet new people and see some different parts of the city of Porto. This event will be held at the Boulevard Club, located at Porto's most famous avenue: Aliados. The night will start around 22:00 with one hour of live music from traditional Fado music. After the Fado, prepare yourself for a night of dance mania and fun. See page 45 for details.

### Tuesday, 29 May | 22:00 | Boulevard Café

### 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 is opportunity to attend more than one topic area.

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 52.

Wednesday, 30 May | 12:40-13:30 | Infante

### 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 2012 Outstanding Service Award will be presented at the Council meeting. See the agenda on page 52.

Thursday, 31 May | 12:40-13:30 | S. João

### AFFILIATES FORUM

A special session is dedicated to the activity of IAIA's Affiliates and Branches. Scheduled as a concurrent session, this session is open to all conference participants.

Representatives will participate from Korea, New Zealand, AQEI, Portugal, Germany, Italy, South Africa, Ireland-UK, Western and Northern Canada, Spain, Western and Northern Canada, and Zambia. See page 43 for a description of the discussion.

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

Wednesday, 30 May | 16:45-18:30 | Miniaturas

# Special activities and events

### 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 the Main Hall during afternoon coffee breaks on Wednesday and Thursday, or stop by the registration desk.

### TECHNICAL VISITS

See pages 48-49 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, firstserved basis until the visits reach the maximum number of participants. Registrations are confirmed in the order that payment is received, and preregistration 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 Porto. Selection of students took place in February.

### Student Fee Waiver Program Orientation Monday, 28 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 om Tuesday morning (08:00-08:50) in Miragaia.

### 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 some of the companies represented in the conference, with a Career Development for (Future) Impact Assessment Professionals session in which they can gather information on future professional prospects in close contact with those companies.

Institutional presentations in the morning from APAI and IAIA will be in Portuguese, and the rest of the events will be in English.

See pages 50, 43, and 41 for more information.

### LIVE TWEETING AT #IAIA12

Are you keen to share your thoughts on a presentation or reflect on the day's events? Conference participants will be live tweeting throughout the event on the hashtag #iaia12. 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 route along the Douro River will refresh your mind and body and offer a chance to meet people you might not otherwise meet during formal sessions. See page 45 for details.

Thursday, 31 May | 07:00-08:00

### 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 Monday, 28 May | 17:10-17:40 Meet at registration desk.

### **BOOK SHARE**

Drop off 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.

### TABLE FOOTBALL WORLD CUP

Four years after Perth08, the table football World Cup is back for Porto12. There is no bigger prize in world sport than the IAIA12 Table Football World Cup! See page 45 for details.

Thursday, 31 May | 19:00-21:30 Centro de Congressos da Alfandega Bar Lobby

### BANQUET

Join colleagues old and new in this elegant setting to exchange experiences and make plans for the rest of the week. See page 45 for details.

Wednesday, 30 May | 19:00-22:30 Taylor's Port Wine Cellars 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?

# Welcome | Keynote speakers



### Miguel Coutinho

Chair, Local Organizing Committee Co-chair, Program Committee

Welcome to IAIA12! There have always been plenty of reasons to visit Portugal's second city, but I truly believe that there's

never been a better time to visit my hometown of Porto. I am certain that you will enjoy the striking contemporary and timeless attractions, the new metro system and the renovated World Heritage center where the convention centre stands.

The theme of the 2012 conference is crucial. If impact assessment is to be effective in helping society move closer to the goals of sustainability, then we have to stand still for three and a half days and focus with a holistic view and an open-minded perspective on the most important challenge that the future will bring: Energy. What will future energy sources be? And how will the future be shaped by these new energy sources?

True to the spirit of IAIA, we will grapple with the challenges of energy decision making in an increasingly complex world by openly sharing views, ideas and experiences. At this meeting we want plenty of communication between and among all participants!

Please enjoy your week in Porto.



### Carlos Borrego Co-chair, Program Committee

I am very pleased, on behalf of the Program Committee, to welcome you to IAIA12. The IAIA series of conferences has

long supported the gathering of impact assessment experts, IAIA members and newcomers, who again have the opportunity to enjoy a great professional meeting as well as the warmth of Portuguese hospitality.

It should be considered, as usual in IAIA conferences, a challenge for all the participants to look at impact assessment as a cornerstone for shaping the future. The need for urgency in our actions, which leads to often difficult economic choices, requires effective communication between all elements of society. This reinforces the value of what can be called the knowledge-action chain. The knowledge-action chain has developed differently for the different thematic areas under discussion in the conference. So, it is our interest to understand what mechanisms successfully push or pull issues from the research domain to knowledge and to political actions in order to streamline and speed up the decisionmaking process. Your contribution presenting your work and participating in the discussions is of paramount importance.

Taste a little bit of the amazing Portuguese way of life while you are here. We are happy to see you in Porto!

### Stephen F. Lintner, Ph.D. President, IAIA

Dear Colleagues,

Welcome to Porto and the 32nd Annual Conference of the International Association for

Impact Assessment. This year we address issues of critical importance both to the global economy and sustainable development.

What the search for new energy sources and new ways to use finite resources will mean for our environment and future are among the key challenges that the impact assessment community faces in 2012.

I am confident that this beautiful location and exceptional historic setting will provide opportunities to network among colleagues, learn from experts and share experiences that will energize us for the work ahead.

# **George Kremlis**

Georges Kremlis started his career in the European Union in 1981. In 1995 he joined DG Environment. In his current position, since 2005, he is the Head of the "Cohesion Policy and Environmental Impact Assessments" Unit, responsible for the compliance with environmental law of projects (and plans and programmes) co-financed by the EU, as well as the evaluation of their impacts. He is also responsible for environmental integration in Cohesion Policy and the Trans European Networks for Energy and Transport. From March to August 2011, he served as Acting Director of the Directorate "Legal Affairs and Cohesion". In his current position, he is Chairman of the European Network of Environmental and Managing Authorities, and the EIA/SEA Experts Groups. He is also a Member of the Board of the Espoo Convention.

### Keynote speakers

# Jorge Moreira da Silva

Jorge Moreira da Silva is the First Vice President of the Executive Board of Partido Social Democrata (PSD), centre-right party chaired by the Prime Minister Pedro Passos Coelho. He is also the Chairman of the board of the think tank Platform for a Sustainable Growth. He is a visiting professor on climate change and energy and a senior consultant on environment and energy to international organizations.

Mr. Moreira da Silva has served as Director on Climate Change Innovative Finance at United Nations Development Programme (UNDP) in New York (2009-2012), Senior Advisor on Science, Environment and Energy to the President of Portugal (2006-2009), Senior Advisor to the President of the European Commission on the post-2012 climate change negotiations, Consultant on Biodiversity to the European Investment Bank (2007-2008), Member of the Portuguese Parliament (2005-2006), Member of the European Parliament (1999-2003), Secretary of State (Vice-Minister) on Science and Higher Education (2003-2004), and Secretary of State (Vice-Minister) on Environment and Spatial Planning (2004-2005). As Member of the European Parliament (MEP), 1999-2003, he gained recognition particularly for his work as Standing Draftsman and Spokesperson on Climate Change and as author of the EU Emissions Trading Directive in 2003.

# Paulo Pinho

Paulo Pinho is Full Professor of Environment and Territory Planning on the Faculty of Engineering (FEUP) of the University of Porto. He is the Coordinator of the Environment and Territory Planning Section of the Department of Civil Engineering of FEUP and the Director of the Research Centre of Territory, Transports and Environment of the same institution. He is also a Consultant in Urban Planning and Environmental Management.

He has served as Advisor to the Presidency of the North Regional Development and Coordination Commission; Consultant to the Commission of European Communities (DG XI- Directorate General of Environment, Nuclear Safety and Civil Protection); Consultant of the Presidency of the Centre Regional Development and Coordination Commission; and Consultant of the Ministry of Environment, Planning and Territory Administration.

# Conference theme





There are many international energy issues today that display energy and environment as two competing factions, when the real choice is to ensure sound energy decision making that resolves these trade-offs and ultimately protects the environment. IAIA12 will help the practitioner better understand these energy trade-offs and make decisions in the best long-term interests for energy and the environment. Impact assessment has proven to be a powerful evolving tool in decision making for these difficult energy choices because of its ability to address in a single analysis the environmental, social and health concerns, among others that could occur from our choices in energy sources. More integrated approaches are now being tested for application to a variety of societal/environmental issues such as biodiversity, climate change, and economics. In fact, understanding the future of energy must be one of the highest priorities for impact assessment professionals. How can we tackle the environmental and social risks that will occur as a result of our quest for the development, production and management of existing and new energy sources?

**ENERGY FUTURE: THE ROLE OF IMPACT ASSESSMENT** 



The value of impact assessment is the overarching focus of IAIA12 ... we will focus on three energy themes and a broad range of non-energy-related topics important to the impact assessment practitioner ...

Although our view of the world and the world economy over the last 3-4 human generations has been shaped by assumptions of infinite energy supplied primarily by fossil fuels, the need to develop renewable energy supplies to avoid the environmental impacts that have occurred over time is the core of our global future. Impact assessments have scrutinized thousands of energy projects, but few have considered the long-term future supply and sources of non-renewable and renewable energy as critical to decision-making. Now, however, the basic principle of limitless energy is under challenge. IAIA12 will help attendees better understand and address the issues that we all must consider for our global future.

The value of impact assessment is the overarching focus of IAIA12 with the use of impact assessment in complex decisions related to the development, production, and management of energy sources. IAIA12 will aid all delegates in understanding the complex energy issues being discussed and resolved in today's environment. The conference will focus on three energy themes: renewable energy, fossil fuels and electric power leap. Presentations planned for IAIA12 are working examples for defining and resolving the energy issues from an impact perspective. IAIA12 sessions and presentations on the use of impact assessment in energy development will help all attendees gain a better understanding of the role of impact assessment for resolving our energy dilemmas.

IAIA12 will also include a broad range of non-energy-related topics for consideration, such as topics of importance to the impact assessment practitioner—physical and natural resources, biodiversity, cultural heritage and indigenous peoples, public participation, climate change, and health, among others. IAIA12 training sessions will help the practitioner learn new tools for assessing impact assessment in this global economy.

# Conference overview



session to #IAIA12.

Thursday, 31 May

08:30-14:30

# Conference overview



All delegates are invited to the AGM ...

Vote for your favorite poster by 11:00 today! See page 53 for 2012 award winners.

# Daily schedule

	Saturday, 26 May		Tuesday, 29 May	
15:00-17:00	<b>Registration</b> Training course and technical visit participants only	08:00-08:50 08:00-08:50	<b>IAPA Editorial Board Meeting</b> (S. João) <b>Section meeting</b> Students and Early Professionals (Miragaia)	
		08:00-16:45	Registration	
Sunday, 27 May           08:00-10:00         Registration Training courses and technical visits A (Douro-Humanity Heritage), B (Guimarães 2012), C (Historical Centre)		09:00-10:30	Opening plenary (Arquivo) Chair: Miguel Coutinho, IDAD (Institute of Env Development) IAIA12 Program Committee co- Carlos Borrego, University of Aveiro and IAI Committee co-chair: Welcome address.	
08:30-18:00 09:30-17:30	Technical visit A: Douro: Humanity Heritage Technical visit B: Guimarães 2012: European Capital of Culture		Jorge Moreira da Silva, Platform for Sustain Keynote speaker. George Kremlis, DG Environment, European Keynote speaker.	
10:00-12:30 09:00-17:00	Technical visit C: World Heritage Historical Centre Training courses Room locations will be provided at check-in. 1. Achieving Full Potential of SIA 2. Cultural Heritage Component of IA 3. Cumulative Effects and Follow-up in IA 4. Increasing Tangibility in SEA 5. Involuntary Resettlement: Principles & Practice 6. Mainstreaming Biodiversity Conservation 7. Planning for Effective Public Participation 8. Quality Assurance in EIA 9. Theory and Practice of Multicriteria Analysis		Paulo Pinho, University of Porto: Keynote s Stephen F. Lintner, IAIA President: Stateme Pedro Paulo, Secretary of State of Environmer	
		10:30-11:00	<b>Break</b> (Main Hall) Sponsored in part by Taylor & Francis, on beh Impact Assessment and Project Appraisal.	
		11:00-12:30	Theme forums and concurrent sessions	
		12:40-13:30	Poster session (Main Hall)	
		13:30-14:20	Lunch (Main Hall) Sections: See reserved table	
	10. Understanding IA Principles, Methods, Trends	14:30-16:15	Concurrent sessions	
14:00-17:00	Registration	16.15-16.45	Break (Main Hall)	

Monday, 28 May

**Student Fee Waiver Program orientation** 

Room locations will be provided at check-in.

5. Involuntary Resettlement: Principles & Practice 6. Mainstreaming Biodiversity Conservation 7. Planning for Effective Public Participation

9. Theory and Practice of Multicriteria Analysis 10. Understanding IA Principles, Methods, Trends 11. Issues in HIA for the Energy Industry

Exhibit and poster setup (Main Hall)

Special meeting: World Bank Training Session (Infante)

Technical visit G: World Heritage Historical Centre

Technical visit H: World Heritage Historical Centre

Mentor/Buddy meeting (meet at registration desk)

Sections Coordinating Committee (meet at registration desk)

08:00-16:45	Registration
09:00-10:30	<ul> <li>Opening plenary (Arquivo)</li> <li>Chair: Miguel Coutinho, IDAD (Institute of Environment and Development) IAIA12 Program Committee co-chair.</li> <li>Carlos Borrego, University of Aveiro and IAIA12 Program Committee co-chair: Welcome address.</li> <li>Jorge Moreira da Silva, Platform for Sustainable Growth: Keynote speaker.</li> <li>George Kremlis, DG Environment, European Commission: Keynote speaker.</li> <li>Paulo Pinho, University of Porto: Keynote speaker.</li> <li>Stephen F. Lintner, IAIA President: Statement by IAIA President.</li> <li>Pedro Paulo, Secretary of State of Environment and Land Planning.</li> </ul>
10:30-11:00	<b>Break</b> (Main Hall) Sponsored in part by Taylor & Francis, on behalf of Impact Assessment and Project Appraisal.
11:00-12:30 12:40-13:30	Theme forums and concurrent sessions Poster session (Main Hall)
13:30-14:20	Lunch (Main Hall) Sections: See reserved tables
14:30-16:15	Concurrent sessions
16:15-16:45	Break (Main Hall)
16:45-18:30	Concurrent sessions
19:00-20:00	Welcome reception: Porto de Honra (pre-registration required) (Salão Nobre   Noble Room)
22:00-onward	Social networking night: Portuguese music and dancing
	(Boulevard Café) See the announcement board at the IAIA registration desk for meeting time and location.

### Wednesday, 30 May

08:00-08:50	Committee meeting Training & Professional Development (Ribiera 1)			
08:00-08:50	Section meetings Biodiversity & Ecology (Ribiera 2) Disasters & Conflicts (Porto) Health (Miragaia) Indigenous Peoples (Arrábida) IA of Trade-Related Policies (D. Maria) Energy (S. João) Public Participation (D. Luis)			
08:30-16:45	Registration			
09:00-10:30	Theme forums and concurrent sessions			
10:30-11:00	Break (Main Hall)			
11:00-12:30	Concurrent sessions			
12:40-13:30	Annual General Meeting and Rose-Hulman Award Presentation (Infante) The AGM is the annual business meeting of the Association. All members are encouraged to attend.			
13:30-14:20	Lunch (Main Hall) Sections: See reserved tables			
14:30-16:15	Concurrent sessions			
16:15-16:45	Break (Main Hall)			
16:45-18:30	Concurrent sessions			
19:00 onward	Banquet (pre-registration required). Meet at Salão Nobre (Noble Hall)			

08:00-17:00

08:15-08:45

08:30-17:00

09:30-18:00

09:00-17:00

09:00-17:00 10:00-12:30

13:00-17:00

14:30-17:00

16:00-17:00

17:10-17:40

Registration

**Training courses** 

(meet at registration desk)

**Technical visit E: Wind Power** 

Technical visit F: LIPOR/Petrogal

1. Achieving Full Potential of SIA 2. Cultural Heritage Component of IA 3. Cumulative Effects and Follow-up in IA 4. Increasing Tangibility in SEA

8. Quality Assurance in EIA

**Committee meeting** 

# Daily schedule

	Thursday, 31 May		
7:00-08:00	Fun Run (meet at Convention Center)	09:00-10:30	)
:00-08:50	Committee meetings	10:30-11:00	
	Awards (Infante) Publications (Ribiera 1)	11:00-13:30	
08:00-08:50	Section meetings Agriculture, Forestry & Fisheries (Porto) Corporate Stewardship & Risk Management (D. Luis) Cultural Heritage (D. Maria) Environmental Law, Policies & Practice (Arrábida) Social Impact Assessment (S. João) Climate Change (Ribiera 2) Strategic Environmental Assessment (Miragaia)		
8:30-14:30	Registration		
9:00-10:30	Theme forums and concurrent sessions	14:30-17:00	
0:30-11:00	Break (Main Hall)	14:30-17:00	
1:00-12:30	Concurrent sessions	13:30-16:00	
2:40-13:30	<b>Council meeting</b> (S. João) 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 (Main Hall) Sections: See reserved tables		
14:30-16:15	Concurrent sessions		
6:15-16:45	Break (Main Hall)		
6:45-18:30	Concurrent sessions		
18:30-19:30	Ecosystem Services Working Group (Miragaia)		
18:40-20:00	Indaba (See flip charts in registration area for information)		
19:00-21:30	<b>Table Football World Cup</b> (Centro de Congressos da Alfandega Bar Lobby)		

# Technical program: Topical streams

Electric Power Leap Fossil Fuels	
Renewable Energy	
Tools and Methods	
Agriculture, Forestry and Fisheries	23
Biodiversity	24
Climate Change	
Corporate Stewardship	
Cultural Heritage	

Health	29
IA Law, Policies, and Practice	30
Indigenous Peoples	32
Public Participation	32
Social Impact Assessment	
Strategic Environmental Assessment	
Students and Early Professionals	
Other Topics	42
Special to IAIA	

# Design your program

Session/event I want to attend	Day	Time	Room/Location	Page #

# Technical program overview

	Arquivo	Infante	Porto	D. Maria	D. Luís	Arrábida
Tuesday 09:00-10:30	Opening plenary Page 8					
Tuesday 11:00-12:30	4.1 Trust me: I'm an expert?! Page 20	1.1 Should there be a conflict between communities and power infrastructure? Page 12	2.1 Putting free, prior and informed consent into practice in the energy sector Page 14	4.2 Cumulative effects and energy development: Making it work I Page 20		11.1 Research for policy impact assessment for energy policies Page 30
Tuesday 14:30-16:15	1.2 Can IA help decide the future of Energina? Page12	3.1 Renewable Energy Projects: Lessons learned and future trends I Page 16	15.1 Asian SEA, EIA and sustainability assessment I Page 37	4.3 Cumulative effects and energy development: Making it work II Page 20	4.4 International finance and impact assessment I Page 20	17.1 Practitioner views on the future of the EU's EIA Directive Part I Page 42
Tuesday 16:45-18:30	1.3 Managing trade-offs and offsets in IA decision making Page 12	3.3 Renewable Energy Projects: Lessons learned and future trends II Page 16	15.3 Asian SEA, EIA and sustainability assessment II Page 37	13.1 Stakeholder consultation and public participation Page 32	4.5 International finance and impact assessment II Page 20	17.2 Practitioner views on the future of the EU's EIA Directive Part II Page 42
Wednesday 09:00-10:30		17.3 Sustainable Portugal Page 42	13.2 Mainstreaming stakeholder consultation and engagement Page 32 Sponsored by JICA	10.3 Around the world in 80+ minutes with HIAs in the energy sector Page 29	4.6 EIA co-ordination: Orchestrating the EIA process Page 21	7.1 Changing climate and its influence in energy ElAs Page 26
Wednesday 11:00-12:30		2.2 Oil and gas industries and responsible development Page 14	15.6 Asian SEA, EIA and sustainability assessment III Page 38	10.4 Around the world in 80+ minutes with HIAs in the energy sector-discussion Page 29	15.7 Modelling tools for energy policy design and SEA I Page 38	7.2 Urban development and climate change: Future directions for EIA Page 26
Wednesday 14:30-16:15		2.3 New opportunities in reducing air emissions from energy development Page 14	15.10 SEA practice I Page 39	15.11 Strategic environmental assessment and climate change I Page 39	15.12 Modelling tools for energy policy design and SEA II Page 39	8.1 Delivering environmental outcomes in infrastructure and energy projects I Page 26
Wednesday 16:45-18:30		1.4 Community responses to new energy sources: The role of impact assessment Page 12	15.13 SEA practice II Page 40	15.14 Strategic environmental assessment and climate change II Page 40	15.15 Modelling tools for energy policy design and SEA III Page 40	8.3 Delivering environmental outcomes in infrastructure and energy projects II Page 27
Thursday 09:00-10:30		3.5 Even renewables may not be acceptable Page 17	IAIA + APAI student's welcome Page 43	9.4 Energy development and the cultural landscape of the Alto Douro wine region Page 28	2.4 How can we make the oil & gas industry environmentally responsible? Page 15	14.4 Resettlement planning in a development context l Page 35
Thursday 11:00-12:30		3.6 Cumulative effects from renewable energy planning Page 17	1.5 Applications for sustainable energy development Page 12	13.4 Public participation and IA follow-up Page 33	15.16 SEA practice III Page 40	14.5 Resettlement implementation in a development context II Page 35
Thursday 14:30-16:15		3.9 Bioenergy and biofuels for sustainability I Page 18	1.6 "Gone with the Wind" An IA Strategy Game Page 13	13.5 Public participation, value conflict and the politics of impact assessment I Page 33 Sponsored by JICA	2.5 Country experiences with oil industries and the environment Page 15	14.6 Social impact management plans l Page 36
Thursday 16:45-18:30		3.11 Bioenergy and biofuels for sustainability II Page 19	16.1 Career Development for (Future) Impact Assessment Professionals Page 41	13.6 Public participation, value conflict and the politics of impact assessment II Page 34	2.6 Impact assessment approaches and challenges in the oil and gas sector Page 15	14.7 Social impact management plans II Page 36
Friday 09:00-10:30		14.8 Social aspects of energy consumption and production Page 36	1.9 Impact assessment of nuclear related activities Page 13	13.7 Social media and public participation in IA Page 34	15.17 Strategic aspects of energy projects Page 41	14.9 Social impact management plans III Page 36
Friday 11:00-13:30		Closing plenary Page 9	Closing plenary (overflow room) Page 9			

# Technical program overview

	Miniaturas	Ribeira 2	Ribeira 1	Auditorium	Miragaia	S. João
Tue 09:00-7						Кеу
					Concurrent sessions	Plenaries
Tue 11:00-7					Other sessions	Theme forums
	14.1 Gender integration in impact assessment Page 35	10.1 Health and safety issues in environmental and social impact assessment I Page 29	9.1 The contribution of linear energy projects to world heritage Page 28	6.1 The ecosystem services review for impact assessment: Assessing project impact on ecosystems services and well-being Page 24	15.2 Lessons learned in energy-related SEAs I Page 37	3.2 Assessing the sustainability of hydropower projects I Page 16
ral 16:45-7	12.1 Assessing project impacts on the cultural survival of indigenous peoples Page 32	10.2 Health and safety issues in environmental and social impact assessment II Page 29	15.5 Stakeholder engagement and related specific EIA issues Page 38	6.2 The ecosystem services review for impact assessment: Assessing project risks related to ecosystems services Page 24	15.4 Lessons learned in energy-related SEAs II Page 37	3.4 Assessing the sustainability of hydropower projects II Page 16
Wedne 09:00-				4.7 How are the orphans of impact assessment doing? Page 21		
s 11:00-7	6.3 Biodiversity data needed for new approaches to impact assessment Page 24	14.2 When and where is social impact assessment required? Page 35	15.9 Specific SEA issues Page 39	4.9 Orphans of impact assessment: Dealing with significance Page 21	15.8 Lessons learned in energy-related SEAs III Page 38	4.8 Environmental assessment of energy projects Page 21
	14.3 Livelihood integration in impact assessment Page 35	13.3 Public responses to energy initiatives Page 13.3	9.2 Cultural heritage, landscape, visual impact and development Page 28	4.10 Tiering: A missing link Page 21	6.4 Planning for energy and biodiversity conservation I Page 24	8.2 Human rights impact assessment: One year on Page 27
Wedne 16:45-	Affiliates forum Page 43	6.6 Publishing, sharing and accessing EIA biodiversity data Page 6.6	9.3 Cultural heritage, landscape, environmental assessment - development impacts Page 28	4.11 Foundations of impact assessment Page 22	6.5 Planning for energy and biodiversity conservation II Page 24	8.4 Human rights impact assessment roundtable Page 27
Thu 09:00-			Writing and submitting papers to IAPA journal: An interactive workshop Page 43	4.12 Partnerships in IA (I): Towards sustainable development Page 22		
Thu 11:00-7		3.8 Environmental impacts of geothermal development Page 18	6.7 Biodiversity tools for businesses and impact assessors Page 25	4.13 Partnerships in IA (II): Good practices Page 22	5.1 Maximizing ecological benefits from agriculture, fisheries and forestry Page 23	3.7 Impact monitoring of energy facilities Page 17
Thu 14:30-		1.7 Transmission and distribution line development: The pivotal role of SEA and EIA I Page 13	10.5 Health baseline within different impact assessments Page 30	4.14 Partnerships in IA (III): Mining and communities Page 22	17.4 EIA and SEA national experiences I Page 42	8.10 Understanding impacts of renewable energy projects Page 19
Thu 16:45-7		1.8 Transmission and distribution line development: The pivotal role of SEA and EIA II Page 13	6.8 Interpreting standards for biodiversity Page 25	4.15 Partnerships in IA (IV): Future directions Page 23	17.5 EIA and SEA national experiences II Page 42	12 Understanding and reducing social and environmental impacts of wind projects Page 19
F 09:00-						8.5 ISO26000: Explaining the new standard on social responsibility Page 27
F 11:00-1						

### 1.1 Should there be a conflict between communities and power infrastructure?

### Tuesday, 29 May | 11:00-12:30 | Infante

Chair(s): Maria Partidário, Rita Sully Panel

Electricity infrastructure, specifically the Grid, is a much maligned piece of engineering. Yet its mere existence represents a country's progress in its ability to provide critical community services such as power to its constituents. Is it possible for the community to reconcile the need for electricity infrastructure, particularly when it is in their community, leading to an accepted co-existence?

Panelists from Hydro Québec, REN and CIGRE will provide their perspectives and insights on this highly contentious topic.

# 1.2 Can IA help decide the future of Energina?

Tuesday, 29 May | 14:30 – 16:15 | Arquivo

Chair(s): Jack Krohn, Sandra Mols Panel

A hypothetical community, Energina, assembles "experts" to illuminate its future energy options. As the experts expound the costs and benefits of the alternatives, the listening "community" will experience the sustainability, assessment and communication challenges to be resolved if the community's future is to be both long and bright. The panel members will give a very brief (2-3 minute) presentation at the beginning of the session, then engage in a debate, firstly among themselves and then interactively with the audience, about the different possible future energy scenarios from which Energina must choose. Each panel member will advocate for a different option. The options that will be presented:

- Minimum change from current (coal-based) energy generation, but with some demand management
- Shift to natural gas power generation
- Shift to wind power generation
- Shift to hydro power generation
- Shift to geothermal power generation
- Shift to solar power generation

### Panelists

- Maria Rosaria Partidário
- Sukhad Keshkamat
- Angus Morrison-Saunders
- Jonathan Allotey
- John Fry
- Lea den Broeder

# 1.3 Managing trade-offs and offsets in IA decision making

### Tuesday, 29 May | 16:45 - 18:30 | Arquivo

Chair(s): Angus Morrison-Saunders

Paper session

The sustainability challenge to achieve net gains is undermined by trade-offs. How can trade-offs

### **ELECTRIC POWER LEAP**

in impact assessment decision-making best be managed? To what extent can offsets, a kind of tradeoff themselves, be used to mitigate residual impacts from trade-off decisions? Come and join discussions that seek to answer these questions.

### Addressing trade-offs and offsets in IA decision-making

Morrison-Saunders, Angus; Pope, Jenny What are effective strategies for conceptualising and managing trade-offs and offsets in IA decision-Making? Using models and case studies including energy projects, this presentation outlines cuttingedge theory and practice.

### Trade-offs and the design of assessment regimes Gibson, Robert

Two key approaches to trade-off dilemmas are evaluation of broadly different alternatives and application of context-specified trade-off criteria. Both have major implications for the overall design of assessment regimes.

### Making trade-offs count in sustainability assessment Sadler, Barry

The use of trade-off methodology.

### **Offsets and risk**

Middle, Garry

This paper explores the risks that are associated with the use and application of offsets in environmental impacts assessment (EIA). Four broad categories of risk are identified and discussed.

### Trade offs and offsets of wind farms in Mexico

*Villicaña, Grethel; Quijano, Martin* Analysis of environmental and social trade-offs and offsets related to wind power generation through the case study of two wind farms in Mexico.

### IA decision-making: Trade-offs

### by the HK energysSectors

Lee Hon, Shirley

IA decision-making, when properly managed and supported by good solid EIA findings, should be key to successfully provide a more sustainable mode of energy supply to benefit the community.

### 1.4 Community responses to new energy sources: The role of impact assessment

### Wednesday, 30 May | 16:45 – 18:30 | Infante

Chair(s): Daniel Franks, Ana Maria Esteves, Francesca Viliani Paper session

IAIA Sections: SIA and Health

Unconventional and "green" energy are playing a larger role in supply and bringing new technical, environmental and social challenges. Health and livelihood issues are at the forefront of many community concerns. The session traverses, shale gas, ethanol, hydro and wind projects to explore how impact assessment is addressing community issues.

# Non-technical risks of tight and shale gas exploration

ale gas explora Prinsloo, Marja

The debate around tight and shale gas is controversial, yet primarily a non-technical one. Shell responds to the non-technical risk debate based on existing operations and experience.

### HIA of a fuel ethanol project in Sierra Leone

Nyaundi, Christian; Divall, Mark; Knoblauch, Astrid; Winkler, Mirko Health impact assessment of a green energy project in Africa. What are the potential impacts?

### Hydraulic fracturing in Australia's Northern Territory Smith. Howard

Describes Australian Aboriginal concerns about hydraulic fracturing and how they are addressed during negotiations with exploration companies.

### The study of predictors of new projects acceptability

Moreira, Sérgio; Lima, Luisa; Marques, Sibila In this paper we address an approach to SIA that provides both descriptive and explanatory data regarding social impacts—the study of psychosocial predictors of new projects acceptability.

### 1.5 Applications for sustainable energy development

### Thursday, 31 May | 11:00-12:30 | Porto

Chair(s): Rocio Diaz-Chavez

IAIA Section: Energy

Paper session

New approaches in sustainable energy development: energy-related EIAs that identify practices that help ensure long-term energy use and sustainability.

### Combining developed RIAM and Beyesian networks

Moradi, Hossein; Farhadian, Mojgan; Bashari, Hossein We evaluate the applicability of the combination of modified RIAM developed by Ijäs et al. (2010) and Bayesian networks to assess the environmental impacts of large dams.

### Eco-planning of integrated waste

### management facilities

Lam, Josh

Environmental planning and design of energy generating waste management facilities based on IA, providing objective and scientific inputs to public engagement processes and implementation of the project.

### **Carbon counting and EIA process**

### Durning, Bridget

There is great variation in the extent to which "carbon" is accounted for during the EIA process with different tools and methods being used and minimal mitigation.

# Assessing environmental pressures of energy strategies

Stoeglehner, Gernot; Narodoslawsky, Michael Environmental capacity oriented methods like the energy footprint or the sustainable process index can help to select alternatives for to assure environmental sustainability in energy planning on a systems level.

### Managing uncertainty: Offshore wind EIAs in the UK Walker, Beverley

Offshore wind EIAs need a flexible approach to the definition of the "project description" in order to allow the UK to meet timelines for legally binding renewable targets.

### **ELECTRIC POWER LEAP**

### An environmental IA of a pilot solar plant

Acero Rueda, Roberto; Peralta, Juan Manuel A study of a pilot plant with photoelectro-Fenton technology for the treatment of domestic and industrial wastewaters was performed. The results show that the technology can help in the solution of severe water pollution.

### 1.6 "Gone with the Wind" An Impact Assessment Strategy Game

### Thursday, 31 May | 14:30 - 16:15 | Porto

### Chair(s): Patrick Driscoll World Café

Gone With the Wind is a real-life, turn-based strategy game where players will have to navigate difficult policy choices and trade off competing environmental, social and economic goals in order to achieve a 100% renewable energy system in Denmark. Will you support wind energy interests, or stand up for socially and environmentally fragile communities? Let's play!

Session schedule: 20-minute introduction to the case and explanation of game rules, 40-minute game play, and 20-minute review and reflection.

### 1.7 Transmission and distribution line development: The pivotal role of SEA and EIA I

### Thursday, 31 May | 14:30 - 16:15 | Ribeira 2

### Chair(s): Francesco Belfiore, Martha Ly

Paper session The session will bring together a selection of papers showcasing emerging best practice in relation to developing transmission and distribution lines. It will highlight the pivotal role that both SEAs and EIAs play and seek to cover public and stakeholder engagement, project feasibility and site selection, routing studies and corridors selection, environmental baseline studies, environmental and social impact assessment methods and tools including 3D visualisation exhibition, GIS and information management, environmental mitigation and compensation.

### Integrated siting: Regulatory

### stakeholders and technology

Zwolak, Richard

The paper will identify the broader considerations of electrical power transmission project development and the ability to integrate those considerations into transmission line routing, impact assessment and permitting.

### SEA and the organizational changes

### of an energy company

Augusto, Bernardo; Partidário, Maria We examine the organizational and institutional changes motivated by the adoption of SEA in a transmission system operator company and the change in their stakeholder's perceptions.

### Long-term planning of energy corridors in the absence of SEA

Barnes, Jeffrey; Harriman, Joseph; Jamieson, Lee

A strategic long-term planning initiative for energy corridors is described in New Brunswick, Canada, where there is no SEA process and cumbersome project EIA.

### Performance of EIA in transmission line projects Jantunen, Jorma

The paper studies the performance of EIA in transmission line projects in Finland.

### 1.8 Transmission and distribution line development: The pivotal role of SEA and EIA II

### Thursday, 31 May | 16:45 – 18:30 | Ribeira 2

Chair(s): Francesco Belfiore, Martha Ly Paper session

The session will bring together a selection of papers showcasing emerging best practice in relation to developing transmission and distribution lines. It will highlight the pivotal role that both SEAs and EIAs play and seek to cover public and stakeholder engagement, project feasibility and site selection, routing studies and corridors selection, environmental baseline studies, environmental and social impact assessment methods and tools including 3D visualisation exhibition, GIS and information management, environmental mitigation and compensation.

### EIA for transmission lines in Chile

Bergamini, Kay

In this study we make a preliminary diagnosis of EIA for transmission lines in Chile and analyze the procedure for two projects where it is possible to see the applied experience.

### IA of transmission lines in Brazil: Best practices

Andrade, Andre; Forattini, Gisela; Queiroz, Adriano; Macedo, Rafael Best practices adopted by the Brazilian Environmental Institute (IBAMA) in impact assessment processes of transmission lines in Brazil.

### Electricity distribution: Screening of infrastructures

Jesus, Júlio; Partidário, Maria; Augusto, Bernardo A screening methodology, developed by EDP-Distribuição in partnership with IST, for infrastructure projects of the electricity distribution network is presented and discussed.

# Spatial analysis of sustainability applied to SEA: The experience of Terna

Rescia, Pietro; Dragan, Massimo; Fernetti, Michele; Terpin, Maurizio; Persia, Giuseppe Description of the user-friendly Web GIS site portalevas.terna.it that has been developed to present the SEA results of the Italian electric transmission line master plan.

### A Least-Cost-Path (LCP) toolbox for optimal routing

Hanssen, Frank; Thomassen, Jørn; May, Roel Optimal routing of power lines are important to avoid environmental and societal impacts, and must be considered in relation to the modern societal needs for a stable, secure power supply.

# 1.9 Impact assessment of nuclear-related activities

### Friday, 1 June | 09:00 - 10:30 | Porto

Chair(s): Tea Aulavuo

Paper session

Due to plans to increase nuclear energy production and associated risks, environmental impacts of nuclear plants are of special interest worldwide. Yet opinions largely differ about what is good practice in EIA and SEA regarding nuclear projects. This session discusses good practices and future developments in nuclear energy-related EIA and SEA.

### Lessons for IA from the Fukushima nuclear accident Harashina, Sachihiko

The Fukushima nuclear accident gave us lessons for impact assessment. Though EIA law was amended in 2011, the concept of assessment was not changed to address the lessons. Why has this happened?

### Nuclear risk perception assessment:

Nigerian case study Saidu, Zainab Bello; Umar, Abubakar Malah; Ikeme, Chinwe

Without factual information, or with misinformation, we are faced with making an uninformed decision. The implications of findings might help policy makers understand public concerns and approach nuclear risk management.

### Social impacts induced by radiation risk in Fukushima

### Murayama, Takehiko

This paper analyzes social impacts by the risk in terms of a gap in emergency response between national and local governments, corruption of communities, and economic impacts.

### **Uranium mining and Indigenous**

### **Peoples: The role of SIA** Graetz, Geordan

Graetz, Geordan

Social issues have emerged as the principal barrier to successful resource developments. This paper examines advancements in social risk and impact assessment in the context of the uranium industry.

### Fuel choice, nuclear energy, climate and carbon Shpyth, Al

SEAs of fuel choices in electricity generation that consider life cycle assessment information provide a comparative assertion of the impacts of the nuclear fuel choice on climate and carbon.

### **EA practice in radioactive waste disposal projects** *Gough, Mark; Macdonald, Alastair*

A review of environmental assessment practice in radioactive waste management organisations. How can the lessons learned be applied to geological disposal of higher activity radioactive waste in the UK?

# FOSSIL FUELS

### 2.1 Putting free, prior and informed consent into practice in the energy sector

### Tuesday, 29 May | 11:00 - 12:30 | Porto

Chair(s): Ana Maria Esteves, Murray Jones

### Theme forum

There is growing consensus around the world that clear guidelines and procedures are required for implementing Free, Prior and Informed Consent. As with IA, FPIC faces the risk of becoming token consultation rather than being a powerful instrument to build respectful relationships amongst those who have ownership in development outcomes. This panel discussion will allow participants to consider the questions of how impact assessment can support the implementation of FPIC, and what does "leading practice" look like.

- Introduction: Ana Maria Esteves
- Perspectives of a panel representing international development assistance, Indigenous, international project finance, developers and practitioners
- Panel discussion and audience discussion facilitated by Murray Jones

### Value of FPIC to good development

Croal, Peter | CIDA, Canada

Good engagement with Indigenous Peoples and local communities not only secures the social license to operate, but can provide a company and the Indigenous Peoples with direct and indirect benefits that have long lasting positive implications. Peter will explore current Indigenous Peoples-private sector relationships, and a way forward for better negotiations and agreements.

### Informed consent in Australia's Northern Territory

Smith, Howard Northern Land Council, Australia Howard will describe the processes and protocols used by the Northern Land Council to ensure that maximum exchange of information occurs prior to Aboriginal people making decisions about developments on their land. Using the Ranger Uranium Mine as an example, Howard will also seeks to outline initiatives to provide Aboriginal people with a stronger voice in decisions being made during operational and closure phases of projects. A special focus on tying together traditional and western scientific knowledge is applied.

### Implementing FPIC through the IFC Performance Standards

Villega, Jorge | IFC, USA

During the process of revising the IFC Sustainability Policy and Performance Standards, IFC introduced the Free, Prior and Informed Consent (FPIC) criterion to PS7 Indigenous Peoples. In so doing, IFC defined FPIC as building on and expanding upon a process of Informed Consultation and Participation through Good Faith Negotiation between the client and Affected Communities of Indigenous Peoples. Diana will provide an overview of the IFC PS 7 requirement for Free, Prior and Informed Consent and highlights considerations and challenges in its operationalisation.

### Indigenous communities

Harvey, Bruce | Rio Tinto and FPIC, Rio Tinto Australia Resource developers are obliged to respect the law of the countries in which they operate and, therefore, must also seek permitting as defined in relevant jurisdictions. Bruce will share Rio Tinto's competency in agreement making with Indigenous communities.

### Agreeing on "consent" and the way forward Sarkar, Sunrita | ERM, USA

FPIC: Is it merely semantics, or does it really mean different things to companies and Indigenous Peoples; and challenges faced by extractive companies when there is no political will to address the issues of FPIC. Sunrita will also share a case study in Suriname highlighting the preparation of an FPIC protocol by indigenous groups and the impacts on private sector

# 2.2 Oil and gas industries and responsible development

### Wednesday, 30 May | 11:00 - 12:30 | Infante

### Chair(s): Peter Croal, Peter Tarr

### Theme forum

Oil and gas production is expanding into new areas previously left in peace, and no areas seem to be out of bounds. Oil shale and tar sand exploitation, as well as gradually deeper and deeper marine oil field exploitation, pose serious environmental and social threats and challenges unless impact assessment gets a bigger say in planning and management. This forum will focus on recent cases, but even more on future challenges and the role that impact assessment can or should play. The impact assessment community must not stand on the outside in this process, but be closely involved with government regulatory bodies, international financing agencies, and the oil industry itself.

# Environmental and social issues of the oil sands of Alberta

### Croal, Peter

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

### Sustainability assessment for

responsible development

Gibson, Robert B.; Pope, Jenny This paper discusses the potential of sustainability assessment to promote lasting desirable outcomes from major resource developments, drawing especially on two recent Australian and Canadian cases.

### IDB financing of oil and gas

responsible developments Brito, Elizabeth; Herbas, Ximena

The Inter-American Development Bank (IDB) financing of responsible oil and gas projects in Peru has helped generate significant environmental and social benefits at the national, regional and community levels.

# The Oil for Development program and the integrated management plan for sustainable use of marine areas in the Barents Sea area Lind, Terje

The Norwegian Government has committed itself to the development of integrated management plans for all Norwegian sea areas. The purpose of the management plans is to provide a framework for the sustainable use of marine natural resources in coexistence with the offshore oil industry in the Norwegian and Barents seas.

### Panel:

This panel will sum up the lessons learned from the presentations and discuss challenges and solutions: speakers plus Peter Croal, Morgan Hauptfleisch, Verwati de Oliveira, Census Lo-Liyong, and Sigurd Kinn.

# 2.3 New opportunities in reducing air emissions from energy development

### Wednesday, 30 May | 14:30 - 16:15 | Infante

Chair(s): Jong-Gwan Jung Paper session

Air emissions represent a substantial impact from energy use. What new technologies should be considered when attempting to decrease emissions from a power plant or other energy source? What are the advantages, disadvantages, and constraints of these new technologies? This session focuses on EIA approaches used to reduce air emissions and carbon footprint for proposed projects. This session is particularly focused on the air quality assessment and its follow-up process for renewable energy and more alternatives including abatement technologies.

# Urban expressway authority's challenge for electric vehicles (EVs)

### Ogura, Kenji

Hanshin Expressway Co. Ltd. has launched a car sharing project with electric vehicles (EVs). Dissemination of EVs is expected as a kill-two-birds-with-one-stone solution that means environmentally friendly highway business.

### Assessing impacts of carbon capture technology Chapman, Lucy; Maxwell, Marina

Carbon capture is an emerging technology to remove the CO2 emissions from fossil fuel power station emissions. Assessing impacts of novel technologies presents challenges for the EIA process.

# Switchover of the renewable energy in polluted sources

Jung, Jong-Gwan; Han, Sang-Wook

In a view of fuel conversion, what are the main consideration points to estimate the environmental impact, particularly in the case of severely polluted area by heavy metals?

### Air quality impact assessment: Scales of application

Ribeiro, Clara; Coutinho, Miguel; Borrego, Carlos The main purpose of this work is to discuss the need and the importance of making air quality studies more detailed for a correct analysis of the environmental impact assessment.

# **FOSSIL FUELS**

### Modeling and management of the impact of air emissions

Sheng, Xiangyu; Carruthers, David

This paper introduces the main applications of energy management and greenhouse gas reduction scenarios. The methodology for the use of EMIT for various research projects along with ADMS-Urban is discussed.

### Environmental impacts of China's SO2 scrubbers Xu, Yuan

This article quantifies the impacts of China's SO2 scrubbers in coal-fired power plants from the perspectives of water consumption, solid waste, and the emissions of SO2, CO2 and mercury.

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

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

### Workshop

This workshop will use practical examples from recently completed IAs in the oil and gas sector. The conveners will also discuss sustainability criteria in the context of tar sand or oil shale exploitation and how to identify cumulative, synergistic and antagonistic impacts. They will also discuss how to develop strategic environmental management plans relevant for a greener oil and gas industry. 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.



### **Globally Renowned** Environmental and Social Impact Assessments

Golder Associates is a respected, employee-owned, global company providing consulting, design, and construction services in earth, environment, and energy. Our purpose, "Engineering Earth's Development, Preserving Earth's Integrity", demonstrates our commitment to service and technical excellence and sustainability.



### 2.5 Country experiences with oil industries and the environment

Thursday, 31 May | 14:30 - 16:15 | D. Luis

Chair(s): Trine Hay Setsaas, Solveig Andresen Paper session/workshop

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 to a wider audience.

### **Environment management of oil exploration** Elidrisy, Ahmed

The role and experience of Sudan's Ministry of Petroleum in enforcing regulations to manage the challenges as well as strategy applied by companies to overcome any disturbance to the environment.

### Health impacts of oil and gas exploration in Timor Leste

de Oliveira, Verawati

Experiences from working with health, safety and the environment for the national petroleum institute.

### Assessing impacts in the petroleum industrial sector in South Sudan

Lo-Liyong, Census

Experiences from working with the new government of South Sudan in establishing impact assessment as a mainstream way of thinking.

### Tanzania: An upcoming gas province in the East African Community. EIA experiences and challenges ahead seen from the regulator (NEMC) and a proponent (Statoil) side Mchallo, Ignace A. J.

Tanzania is a country that suffers from lack of energy. Some minor gas developments near-shore/onshore have been done in previous years, but during the last years exploration has started in deep waters offshore. This presentation will discuss experiences in this context from directing the National Environmental Management Council in Tanzania.

### The oil industry and the Nigerian environment Anyanwu, Chukwudi

The oil industry has caused greater environmental degradation due to lack of regulatory control such as EIA at the inception of oil activities in Nigeria.

### **Notes**

### 2.6 Impact assessment approaches and challenges in the oil and gas sector

### Thursday, 31 May | 16:45 - 18:30 | D. Luis

Chair(s): Ineke Steinhauer, Terje Lind Paper session

This session explores recent experiences and challenges in the oil industry sector, including progress in SEA engagements and experiences with the application of different IA methods and technology. It will also look at management of health impacts, advancement in risks analysis, and special requirements for off-shore IA and the marine environment. The session has a broad approach to issues related to environmental and social impacts in the oil and gas sector.

### Advanced experiences with SEA

### in the oil and gas sector

Steinhauer, Ineke

What happened with the early experiences in SEAs for oil and gas from Mauritania, Ghana, Bolivia, and Uganda one year after IAIA11 in Mexico?

### Impacts of petroleum development in Uganda

Owiunji, Isaiah; Jones, Carys; Kingston, Richard Assessing the impacts of petroleum exploration and development on biodiversity and communities of the Albertine Graben in Uganda using Driver-Pressure-State-Impact-Response.

### Life cycle approach to impact and risk: 5 years on

Witchalls, Ben; ESHIA Taskforce

A tool developed by leading oil and gas companies to deliver quality and consistency in how they approach, deliver and communicate on ESH risks and impacts.

### Managing public health impacts

of oil and gas development Pfeiffer, Michaela; Clarke, Edith

Strengthening country systems to anticipate and respond to the public health impacts of oil and gas extraction activities: insights from a pilot strategic HIA in Ghana's petroleum sector.

### Securing the functioning and

productivity of marine areas Sylling, Guro

A cross-sector approach to management planning and environmental assessment is providing a framework for sustainable use of marine areas in the Barents Sea area.

### 3.1 Renewable energy projects: Lessons learned and future trends I

### Tuesday, 29 May | 14:30 – 16:15 | Infante Chair(s): Elke Nickel, Hans-Guenter Lind

### Paper session

Spending on renewable energy projects is increasing worldwide, which will result in the need for preparing sound EIAs. Presenters will discuss lessons learned and identify challenges to be addressed in future EIAs by presenting their experiences with developing and applying guidelines and strategies. Following presentations, authors will discuss their results in a panel.

### Increasing renewable energy for power generation

Zúñiga-Gutiérrez, Guillermo; Hernandez-Alvarez, Francisco; Rincón Rojas, Oltic; Vite de León, Berenice The integral strategy proposed by the National Power Company of Mexico (Comisión Federal de Electricidad) for promoting hydropower and wind farms is descibed.

# Role of impact assessment in renewable energy projects

Amekor, Emmanuel M. K.

The presentation examines the role of impact assessment in the development of VRA's energy supply diversification programme (Hydro through Thermal (Oil and Gas)) to solar/wind energy plants.

### Challenges in wind and solar EIAs in South Africa

Levendal, Minnelise This paper draws on case studies from recent EIAs, highlighting some of the challenges and providing recommendations for improving the effectiveness of EIAs for wind and solar photovoltaic projects.

# First specific biodiversity assessment in the Portuguese Pilote Zone (PPZ)

Coelho, Helena; Ferreira, Rita; Rodrigues, Sandra; De Silva, Ruth; Pendlebury, Chris; Walls, Richard; Mascarenhas, Miguel; Mesquita, Silvia; Costa, Hugo The first specific biodiversity assessment in the Portuguese Pilote Zone was conducted during spring 2011 and contributed to the establishment of guidelines to support project developers/ stakeholders across the project life-cycle.

### **RENEWABLE ENERGY**

### 3.2 Assessing the sustainability of hydropower projects I

### Tuesday, 29 May | 14:30 - 16:15 | S. João

Chair(s): Joerg Hartmann, Cameron Ironside Paper session

Hydropower is the largest and often most controversial source of renewable energy. This double session will familiarize impact assessment professionals with the Hydropower Sustainability Assessment Protocol, report on early applications and explain its multi-stakeholder governance mechanisms including the accreditation process for assessors. It will also present a variety of impact assessment experiences with hydro projects at the project, basin and national level.

### Assessing the sustainability of hydropower projects Hartmann, Joerg

From 2007 to 2010, a global multi-stakeholder process created a new framework for assessing the sustainability of hydropower projects. The current chair of the Hydropower Sustainability Assessment Council will provide an overview of existing sustainability approaches and explain the role of the new Protocol.

### Sustainability of a hydropower watershed in Brazil

Köppel, Johann; Maciel Barros, Alessandra; Rodorff, Verena; Siegmund-Schultze, Marianna; Sobral, Maria do Carmo

The bi-national INNOVATE project assesses the sustainability of a resettlement area and watershed of the Itaparica hydropower reservoir in Brazil. More sustainable water and land use concepts will be explored.

### Environmental risk and geohazards in EIAs

Catchpole, Simon; Moreno, Roberto A complete EIA should address both expected impacts and potential risks. The effects of natural hazards in enhancing the environmental risks and potential impacts should be assessed.

### Strategy for sustainable hydropower: Coatzacoalcos River

Barajas, Nelida; Vazquez, Lidia; Rodriguez, Horacio; Calahorra, Oscar; Marengo, Humberto

The Federal Electricity Comission strategy on implementing new approaches towards an integrated sustainable hydropower at the country level in Mexico.

### 3.3 Renewable energy projects: Lessons learned and future trends II

### Tuesday, 29 May | 16:45 - 18:30 | Infante

Chair(s): Elke Nickel, Hans-Guenter Lind Paper session

Spending on renewable energy projects is increasing worldwide, which will result in the need for preparing sound EIAs. These presenters will focus on methodological approaches, following presentations with panel discussion.

### Social network analysis to assess SI of wind farms

Maille, Marie-Eve; Saint-Charles, Johanne Modifications to the social structure could be good indicators of the social divide and conflict in a community, but also of the coping strategies employed by concerned people.

### Characteristics of household energy saving in Japan Ito, Masaru

Using our methods of evaluation on household electric consumption and characteristics, we assess the effects of the nuclear plant disaster and compare it with usual days.

### Sustainable off-grid solar electrification in Ghana

Essandoh-Yeddu, Joseph

Ghana has an electrification scheme to achieve 100% coverage by 2020. It is estimated that 24% of the population will not have access by 2020. Solar offers opportunity for complementation.

### Renewable energy potentials in Nigeria Vincent-Akpu, ljeoma

This presentation highlights the potentials, current utilization, benefits, challenges and way forward for renewable energy in Nigeria.

### 3.4 Assessing the sustainability of hydropower projects II

### Tuesday, 29 May | 16:45 – 18:30 | S. João

Chair(s): Joerg Hartmann, Cameron Ironside Paper session

Hydropower is the largest and often most controversial source of renewable energy. This double session will familiarize impact assessment professionals with the Hydropower Sustainability Assessment Protocol, report on early applications and explain its multi-stakeholder governance mechanisms including the accreditation process for assessors. It will also present a variety of impact assessment experiences with hydro projects at the project, basin and national level.

### IA of hydroelectric dams: The Brazilian experience

Toledo, Thomaz; Forattini, Gisela; Queiroz, Adriano; Nina, Rafael Ishimoto Della; Andrade, Andre de Lima The experience of the Brazilian Environment Institute in reviewing EIA Reports of Hydroelectric projects in the Amazon region.

### Tweet your thoughts to #IAIA12!

### **RENEWABLE ENERGY**

### Not sustainable: The sad business

of Portuguese dams

Joanaz de Melo, João The Portuguese large dam program is a sad example on how cost-ineffective, unsustainable hydropower projects can go through SEA and EIA procedures.

### **Objective Assessment Using**

Qualified Protocol Assessors

Ironside, Cameron

This paper will present the launch of a global network of experts, accredited to deliver assessments using the Hydropower Sustainability Assessment Protocol that are objective and promote effective stakeholder dialogue.

# 3.5 Even renewables may not be acceptable

### Thursday, 31 May | 09:00 - 10:30 | Infante

Chair(s): Daniel Franks, Francesca Viliani Theme forum

### IAIA Sections: Health, SIA

The global energy mix is shifting and with this change new community, social and health challenges have arisen. Green energy sources are often assumed to have public support but they too must negotiate a social license like the carbon intensive fuels they are replacing. Presentations will reflect on the role of impact assessment in the implementation of energy transitions and address issues at the local community level.

# Did impact assessment influence the decision makers?

Baines, James; Taylor, Nick

An SIA practitioner reflects on the experience of articulating community responses to a wind farm proposal and the extent to which the Board of Inquiry decision reflected the community's response.

### Stakeholder engagement in wind energy projects

Sanchez, Isolina; Wall, Caleb The importance and benefits of working in partnerships from both the community and the developers of wind energy generation projects.

### Understanding the social impacts of wind farms

Vanclay, Frank; Langbroek, Martijn The social impacts of a planned windfarm for Urk (Netherlands) are considered. A former island, Urk has a unique identity. The value of SIA in managing landuse change is highlighted.

### EIA as a conflict mitigation tool for a wind farm project

Azechi, Keita; Nishikizawa, Shigeo; Harashina, Sachihiko Environmental conflict poses a significant barrier to developing wind farms in Japan. This research shows how EIA could help/couldn't help conflict mitigation for wind farm projects in Japan.

# 3.6 Cumulative effects from

renewable energy planning

Thursday, 31 May | 11:00 – 12:30 | Infante

Chair(s): Gesa Geissler

Paper session

Renewable energy is seen as an asset to reducing dependency on fossil fuels. As renewable energy projects expand across the landscape, what are cumulative impacts to natural resources and what approaches are suggested to reduce these effects when more than just a few renewable projects are placed in a specific area?

# Cumulative effects of wind farms on bird populations

Poot, Martin; van Horssen, Peter; Collier,

Mark; Lensink, Rob; Dirksen, Sjoerd This study represents the first attempt to estimate the

cumulative effects of multiple offshore wind farms in a part of the North Sea on the population levels of bird species.

# Cumulative effects of water environment of cascade hydropower development

Shi, Wanli; Yu, Xuezhong

Cumulative effects of water environment of cascade hydropower development.

### Managing mini-hydros: A framework approach

Gautam, Surhid; Shi, Xiaoxin; Quintero, Juan The paper proposes a framework for the management of environmental impacts, particularly cumulative impacts, from small hydropower projects in the same river basin.

# Systems approach for cumulative effects identification

Montgomery, Matt; Fox, John; Isaac, Steve; Pearce, Ollie A systems-based approach using causal loop diagrams for the identification of cumulative impacts is applied to the location of renewable energy projects in and around Scottish coastal waters.

### 3.7 Impact monitoring of energy facilities

Thursday, 31 May | 11:00 – 12:30 | S. João

Chair(s): Miguel Coutinho

### Paper session

After the implementation, construction, and beginning of operations of a project, real impacts might occur either confirming or not confirming the ex-ante assessment. This session focuses on impact monitoring programs of energy facilities such as waste-to-energy, wind power, large scale solar plants and other renewable energy sources.

### Monitoring of energy facilities in Portugal 2009-2011

Lourenço, Inês; Jesus, Julio; Nuno, Carlos; Henriques, Catarina; Sequeira, Cristina; Brites, Sergio; Machado, Susana; Pereira, Francisco; Rodrigues, Joao

The types of monitoring required for energy projects in Portugal (2009-2011) are presented and discussed, including the organization and availability of the data, and the actual role of monitoring.

### Small hydro and EIA follow-up: Opportunities Wilkins, Susan

Operational montoring is required for small hydro projects in BC. This form of EIA follow-up is building knowledge on the accuracy of impact predictions and succees of mitigation programs.

### Preliminary EA for four French offshore wind farms Piaeon. Jean-Luc

Preliminary EAs were carried out for four French offshore wind farms, with techniques such as numerical modeling of sub-marine sound-wave propagation and proposed new technologies for marine ecology monitoring.

### Long term monitoring of waste-

to-energy facility, Porto

Pereira, Margaret; Coutinho, Miguel; Borrego, Carlos; Silva, Alexandra; Ribeiro, Clara An External Monitoring Program has been running since 1998 and was developed to assess the potential impact over the environment of the construction and operation of a waste-to-energy facility.

### Are we properly assessing bird and bat mortality?

Bernardino, Joana; Bispo, Regina; Mascarenhas, Miguel; Costa, Hugo Which methods and tools should or may be adopted to accurately estimate the bird and bat mortality associated with onshore wind farms?

### Indicators to follow-up hydro

impacts and mitigation

Gomez-Balandra, Maria Antonieta; Saldaña-Fabela, Maria del Pilar; Lecanda-Teran, Carlos; Llerandi-Juarez, Rosa Dina

River flow regime indicators are master variables to monitoring changes in ecosystem connectivity, riverbed geomorphology, and transport of sediment and nutrients for a proposed hydropower dam in a coastal area.

### **RENEWABLE ENERGY**

# 3.8 Environmental impacts of geothermal development

### Thursday, 31 May | 11:00 – 12:30 | Ribeira 2

### Chair(s): Pamela Gunther

Paper session

This session provides a diversity of environmental and social impacts and challenges from geothermal developments occurring in Japan, Indonesia, Iceland, and Iran. Presentations review geothermal exploration, need for power, risks, monitoring, and public perceptions.

### EIA and impact on the geothermal resource

Gunnarsson, Jakob

Practical experience of impact assessment on the geothermal natural resource in the EIA process and how sustainable exploitation is addressed in the process

### Case study of Ulubelu Geothermal SIA in Indonesia

Streather, Tom; White, Hannah; O'Brien, Matthew Case study of the SIA for the World Bank financed Ulubelu Geothermal Power Project in Indonesia, with focus on benefit sharing, consultation, employment and community investment benefits, resettlement and health and safety.

### Balancing geothermal energy and forest protection

Ardiansyah, Fitrian; Ardiansyah, Fitrian; Budiman, Arif; Wardhani, Indra Sari; Putri, Desak Putu Adhityani The works carried out and presented in this paper have been and will continue to be contributing to Indonesia's platform to accelerate geothermal energy development.

### Conflicts in geothermal power projects in Japan

Uechi, Jouju; Nishikizawa, Shigeo; Harashina, Sachihiko Conflicts between developers and local communities are one of the main barriers to developing geothermal power plants in Japan. This research shows how risk communication process could help for geothermal projects.

### Challenges for geothermal energy: Examples from Iceland

Ingimarsson, Jón

The environmental impact of developing geothermal fields is challenging. The impact during exploration, construction, and operation will be presented and discussed referring to three geothermal projects in Iceland.

### Social Impacts of the first geothermal plant in Iran

Rabiei, Maryam Najibi; Hekmatnia, Soodeh In this paper we present the methods of monitoring social indicators and the results of social impact assessment of the first geothermal plant in Iran.

# 3.9 Bioenergy and biofuels for sustainability I

Thursday, 31 May | 14:30 - 16:15 | Infante

### Chair(s): Ulla Mörtberg

Paper session

This session will focus on how EIA and SEA can help guide the development of bioenergy and biofuels supply systems and use in a sustainable way and how to find strategies for aiding such development.

### Biomass extraction and tools for impact prediction Mörtberg, Ulla

Potential policy goal conflicts concerning biomass extraction calls for development of appropriate methods and tools for assessing environmental impacts and for providing solutions concerning multiple uses of landscapes.

### Sustainability assessment for Brazilian ethanol

Grigoletto Duarte, Carla; Pope, Jenny; Lucia C. F. Gallardo, Amarilis; Gaudreau, Kyrke; B. Gibson, Robert; Fabricio Malheiros, Tadeu This paper proposes a suitable design for a sustainability-based strategic assessment for the Brazilian ethanol expansion policy.

# For more information, visit www.ausaid.gov.au uww.ausaid.gov.au uww.ausaid.gov.au Australia's international development cooperation program (AusAlD) has one overarching objective: assist developing countries to reduce poverty and achieve sustainable development. Australia is a niche player with focused programs in areas where Australian expertise can make a difference. We do what we say we will do and we work with international communities in a spirit of equal partnership.

Another important mechanism for engagement with Africa is the Australia Africa Partnerships Facility (AAPF), which is managed by Cardno Emerging Markets (Australia) Pty Ltd. This Facility is:

- Demand-driven and responds to requests from African partner governments and institutions;
- Focused on providing training, exchange visits, study tours and applied research as well as short-term advisory support and grant support;
- Well-placed to provide skills development support in the areas of African mining governance, agriculture and public policy reform.

Importantly, the AAPF is sponsoring 65 African delegates to attend the 2012 IAIA conference. AusAID encourages these delegates to make the most of their learning and networking opportunities at this forum.



### **RENEWABLE ENERGY**

### Assessment of energy production from WWTP Brazil

Costa, Luzia B. O.; Fukurozaki, Sandra Harumi; A. Paschoal, José Octavio Methodology and assumptions, calculations of primary energy and CO2 equivalent emissions, energy and materials balances, environmental impact assessment.

### Assessing bioenergy potentials in rural landscapes

Arodudu, Oludunsin Tunrayo; Voinov, Alexey; van Duren, Iris

Using Life Cycle Inventory(LCI) and GIS tools as part of an SEA framework for estimating the Net Energy Gain(NEG) and energy efficiency of different conventional and unconventional biomass/bioenergy production activities.

### Do it right! Identifying sustainable biomass supplies

Leonardi, Marco; Favilli, Andrea; Invernizzi, Valentina: Di Caro, Giuditta

Through the illustration of two Italian bioenergy projects, the paper shows how the results of EIA and SEIA could be a powerful tool for supporting strategic and sustainable decision making.

### Biofuel industry and future sustainability in Mexico

Pulido-Castañon, Jesus; Martinez-Garcia, Jaime The biofuels industry can cover an important part of future energy demands as well foster agricultural development in Mexico. The development of this industry is important for future sustainability.

### 3.10 Understanding impacts of renewable energy projects

### Thursday, 31 May | 14:30 – 16:15 | S. João

Chair(s): Jack Mozingo

Paper session

This session should capture large scale energy plant development and associated environmental impacts, as well as how to involve the community in energy plant planning.

### Integration of wind farm generation in Québec

Major, Nathalie

Hydro-Québec is faced with many challenges in integrating wind farm generation onto its transmission grid, especially the construction of lines in populated areas.

### SEA of mountain wind power plant in Korea

Lee, Sangbum

The construction of a wind power plant in a mountain area unavoidably causes severe social conflicts in Korea, and the government should make strategic decisions between inland and off-shore wind power plants.

### **Compensation measures at**

Amareleia solar power station

Rufino, Rui; Silva, Ricardo; Pacheco, Carlos; Madeira, Nuno

The implementation of these compensation measures opens new ground and shows that it is possible to reduce/compensate impacts of solar power plants.

### Turbine shutdown ensures zero mortality at a wind farm

Tomé, Ricardo; Canário, Filipe; Leitão, Alexandre; Pires, Nadine; Cardoso, Paulo; Teixeira, Inês; Repas, Miguel Visual and radar surveillance and turbine shutdown grant zero mortality of soaring birds at a wind farm installed in an important migratory route, electing it as best practice case study.

### Honolulu seawater air conditioning project Sage, Paul; Krasnick, George

An overview of applying an ocean thermal exchange technology to reduce consumption of fossil fuels to include the challenges faced in meeting the project permitting requirements.

### 3.11 Bioenergy and biofuels for sustainability II

### Thursday, 31 May | 16:45 - 18:30 | Infante

Chair(s): Rocio Diaz-Chavez Paper session This session will focus on how EIA and SEA can help guide the development of bioenergy and biofuels supply systems and use in a sustainable way and how to find strategies for aiding such development.

### Wastewater energy recovery in **EIA technology options**

da Silva, Felipe

An idea to impose wastewater energy recovery solutions as an important alternative technology in EIA.

### Fuelling the ecosystem: Opportunities and challenges

Sarkar, Sunrita

The challenges and opportunities in biofuels.

### Life-cycle impact assessment of palm oil biodiesel Freire, Fausto

A Life-Cycle Impact Assessment (LCIA) of biodiesel produced in Portugal based on palm oil imported from Colombia is presented. Two alternative LCIA methods (CML 2001 and El'99) are comparatively assessed.

### Agricultural residues for bioenergy in Senegal

Gaudreau, Kyrke; Gibson, Robert B.; Fraser, Roydon A. This paper discusses how a sustainability-based assessment initially focused on combustion of agricultural residues for cooking applications in Senegal was forced to address much broader national energy and agricultural issues.

### Licensing process in producer countries of sugarcane

Oliveira Silva, Raphael Antonio; Angelieri, Cíntia Camila; Gomes, Priscila Rodrigues; Regra, Ana Paula The positioning of the environmental licensing process for the sugarcane industry and its relationship with the planning and decision making process in Brazil, India, and Colombia.

### Impacts of biodiesel use on air quality over Portugal

Ribeiro, Isabel; Lopes, Myriam; Cascão, Pedro; Monteiro, Alexandra; Figueira de Sousa, João; Miranda, Ana Isabel; Borrego, Carlos Among other benefits, biodiesel use can help to reduce air pollution levels, especially regarding SO2 and PM10.

### 3.12 Understanding and reducing social and environmental impacts of wind projects

### Thursday, 31 May | 16:45 – 18:30 | S. João

Chair(s): Robert Adamczyk

Paper session

What is the latest technology used to monitor wind power impacts during operation? How has monitoring demonstrated the accuracy of initial EIA predictions? What new approaches have been recently developed to reduce and/or more accurately predict wind power impacts? What are the most significant wind power impacts recently identified that should be considered for wind power environmental assessments?

### New approach to direct impacts

monitoring on windfarms Saraiva, Teresa; Marques, Luis;

Matos, Cláudia; Rim, Arlindo

The proposed methodology includes optimization of several procedures of determination of correction factors and bird and bat mortality, allowing a great approximation to the real direct impacts of these projects.

### Making wind power more biodiversity-friendly

Ledec, George

Wind power can significantly harm birds, bats, and natural habitats. Careful site selection, postconstruction monitoring, operational curtailment, and conservation offsets are needed to make wind a truly "green" energy source.

### Impacts predictions of multiple windfarms

Beaulac, Genevieve; Beaulac, Genevieve This paper presents the experience of the Inter American Development Bank (IDB) with regards to the monitoring of three wind power projects in the State of Oaxaca, Mexico.

### Wind power plants and environmental impacts Acero Rueda, Roberto

Three environmental IAs were performed in Tamaulipas State. The results show that the use of wind energy is one the main solutions to support the reduction of climate change effects.

### 4.1 Trust me: I'm an expert?!

Tuesday, 29 May | 11:00 – 12:30 | Arquivo

Chair(s): Lea den Broeder, Bert Enserink, Jos Arts Workshop

The workshop focuses on what the changing position of "the expert" means to IA, and how to deal with the consequences.

### Trust the health expert—or not?

den Broeder, Lea; Gielis, Roderick

Introduction to the theme of the workshop focusing on cases from the public health field: envrironmental health and infectious diseases control.

### A new standard for EIAs in the UK—Part 1

Venn, Orlando; Treweek, Jo; Simmons, Stef; Fothergill, Josh; Fischer, Thomas A review of IEMA's EIA Quality Mark one year in and what this can tell us about UK EIA Quality, focusing on the influence and content of EIAs.

### A new standard for EIAs in the UK—Part 2

Fischer, Thomas; Venn, Orlando; Treweek, Jo; Simmons, Stef; Fothergill, Josh

A review of IEMA's EIA Quality Mark one year in and what this can tell us about UK EIA Quality, focusing on compliance with legal requirements and presentation of information.

### The expert in the Internet era

Enserink, Bert

The Internet is a source of information and counterinformation for experts, individuals and publics. This leads to knowledge growth, but can also lead to contested expertise or even shared nonsense.

### EIA coordination: A tool for decision making

Coelho, Rui

Environmental impact assessment coordination and its role as a very significant tool to support decision making in renewable energy projects.

### 4.2 Cumulative effects and energy development: Making it work I

### Tuesday, 29 May | 11:00 - 12:30 | D. Maria

Chair(s): Miles Scott-Brown, Greg Radford Paper session

Cumulative effects assessment remains a challenge in energy projects not only to accurately predict cumulative effects but how to mitigate and manage them effectively. Energy proponents struggle with defining their contribution and equitably sharing the "cumulative effects" burden. The session will present concepts, best practice and case studies.

### IFC Good Practice Note in emerging markets

Cardinale, Pablo; Athie, Mauricio; Greig, Lorne; Boardley, Samantha; Pooley, Justin IFC will present its Good Practice Note that provides practical guidance on how to understand, assess, and manage cumulative environmental and social impacts associated with projects in emerging markets.

### **TOOLS and METHODS**

### Hydro, cumulative effects and compensation offsets

Scott-Brown, Miles; Quintero, Juan; Roca, Roberto; Boulet, Emmanuel

The cumulative effects of multiple hydroelectric projects in the Reventazon Watershed in Costa Rica and how a compensation offset could serve to mitigate ecological loss.

# Cumulative impacts assessment in energy sector projects

Tatsabong, Basile; Ngouana Kengne, Cyrille Valence To promote and enhance sustainable production, transportation and distribution of energy, cumulative impact assessment needs to be better addressed in Cameroon.

### Managing cumulative effects of cascade hydropower Boulet, Emmanuel

Challenges arising from assessing and managing effectively cumulative effects of cascade hydropower development will be presented. Case study will include recent developments in Chiriquí Province, Panama.

### 4.3 Cumulative effects and energy development: Making it work II

### Tuesday, 29 May | 14:30 – 16:15 | D. Maria

Chair(s): Miles Scott-Brown, Greg Radford Paper session

Cumulative effects assessment remains a challenge in energy projects not only to accurately predict cumulative effects but how to mitigate and manage them effectively. Energy proponents struggle with defining their contribution and equitably sharing the "cumulative effects" burden. The session will present concepts, best practice and case studies.

### Cumulative effects management: Concepts and challenges

Canter, Larry; Chawla, Manroop; Swor, Tom Concepts, capabilities, and challenges related to integrating CEAM in planning and operation of energy development projects. Examples of innovative approaches will be included.

### The challenge of composite

projects in British Columbia Seagel, Tobin

The question of project splitting and project scoping is increasingly crucial to environmental assessment. Several projects are used to illustrate the complexity of EA for mines in Canada.

### CEA, hydropower and local environmental governance

Clausen, Javier; Contreras, Sergio; Figueroa, Fabiola; Casas, Luis

Hydropower development, assessment of cumulative effects, climate change and environmental governance in a Mexican context of limited information and conflicting interests.

### A Study on facilitating factors and barriers to address

Kim, Jin-Oh

Based on extensive literature review and three case studies, this study illuminates key facilitating factors and barriers to addressing cumulative effects using a theoretical framework: salience, credibility, and legitimacy.

# 4.4 International finance and impact assessment I

### Tuesday 14:30 - 16:15 | D. Luis

Chair(s): Greg Radford, Mauricio Athie Paper session

International Finance Institutions (IFIs) environmental and social impact assessment (ESIA) requirements are continually evolving and this session will use case studies to highlight recent ESIA emerging issues, standards and best practices. Presentations will include IFC on its new Performance Standards, Equator Principles banks, and consultants hired by IFIs.

### IFC's role in sustainable private sector finance

Athie, Mauricio; Rahill, Bilal; Villegas, Jorge IFC's Sustainability Framework has become global standard for sustainable private sector finance and is currently in use by major institutions worldwide including Equator Principles finance institutions.

### IFC EIA policies on a NEPA EIS: What's the difference? Gunther. Pamela

This presentation will compare and contrast the similarities and differences in NEPA EIS and IFC EIA document preparation.

### HPP ecological flow management:

### IFC recent experiences

Cardinale, Pablo; Diez, Juan Manuel

IFC presents some recent experiences on adaptive management approaches used to determine the ecological adequacy of HPP's downstream releases.

### Valuing returns on sustainability investments

Lukic, Jelena; Nyhan Jones, Veronica; Bhalla, Arjun The FV Tool estimates the financial return (NPV) on site-specific sustainability investments and financial value of risks mitigated. The outputs will enable quantification of the business case for sustainbility investments.

# 4.5 International finance and impact assessment II

### Tuesday 16:45 - 18:30 | D. Luis

Chair(s): Greg Radford, Mauricio Athie Paper session

International Finance Institutions (IFIs) environmental and social impact assessment (ESIA) requirements are continually evolving and this session will use case studies to highlight recent ESIA emerging issues, standards and best practices. Presentations will include IFC on its new Performance Standards, Equator Principles banks, and consultants hired by IFIs.

### Equator Principles update: A commercial FI's view Deibert, Foster

The Equator Principles Association undertook a strategic review process in 2010/2011 and is currently finalizing an update of the Equator Principles (EP III). This presentation will discuss emerging environmental and social issues for commercial banks, feedback from the recent public consultation process for EP III, and next steps. The EP have promoted convergence around common environmental and social standards and globally there now are over 70 adopting financial institutions in 27 countries.

### **TOOLS and METHODS**

### EDC's experience with large-scale project ESIAs Poole, Darren

Export Development Canada has financed several large projects in the energy sector in developing markets. EDC will discuss ESIA trends for projects which are becoming increasingly more complex.

### The management of EHS risks in EPC contracts Garcia, Norma; Mistler, Dan

Contractor Management-EPC firm compliance with international standards in a power project in Latin America. How can developers manage EPC contractor EHS performance when international bank financing depends on it?

### Reputation-based cooperation in the ESIA process

Bergmüller, Ralph; Narval, Christina

We highlight how the ESIA process is triggered by reputational effects in various respects and discuss the resulting practical implications.

### 4.6 EIA co-ordination: Orchestrating the EIA process

Wednesday, 30 May | 09:00 - 10:30 | D. Luis

Chair(s): Derek Melton, Martin Jalkotzy

### Workshop

We hope to attract a good mix of players from industry, NGOs, governments, banks and consultants, to share perspectives on EIA coordination, especially from lessons learned, and to discuss key aspects of coordination required to facilitate a successful EIA process. Short papers will be used to help promote lively discussion.

### Practical implementation of large-scale EIA/SIA/RAP Burack, David

The nuts and bolts of how to build international teams, motivate and manage them to successfully coordinate highly complex, multi-disciplinary environmental and social assessments. By a grizzled veteran. Amply illustrated.

### Quality management in impact assessment

Raissiyan, Behzad

Quality management in impact assessment: What IA practitioners can learn from industries and other service sectors that have been using and promoting guality management systems for many years.

### **Development of expert system**

for non-technical users

Usui, Kanji

The paper shows ongoing development of expert system for EIA beginners.

### Studying knowledge management (KM) in EIA consulting firms

Costanzo, Bruno; Sánchez, Luis

Eight Brazilian environmental consultancy firms were surveyed for their KM practices related to EIA. As the firms specialized in market niches, their KM needs are very different from each other.

### Disaster impact assessment: What is good enough? Kelly, Charles

The paper reviews the range of disaster impact assessments tools currently in use, considers what is good enough for post disaster relief and recovery, and suggests directions for further development

### 4.7 How are the orphans of impact assessment doing?

Wednesday, 30 May | 09:00 - 10:30 | Auditorium Chair(s): Francois Retief, Jos Arts

### Panel

This panel session introduces a follow-up on last year's session about re-emphasising key issues in impact assessment which seem to have been neglected over time. Particular issues to be discussed are screening, significance and tiering. Opportunity will also be given to identify new orphans of impact assessment.

### Panelists

- Paul Eiissen
- Amanda Chisholm: Has EIA gone off the boil?
- Johan Nel
- John Boyle

### 4.8 Environmental assessment of energy projects

### Wednesday, 30 May | 11:00 - 12:30 | S. João

Chair(s): João Sarmento

### Paper session

There are various moments and means to apply specific tools for impact assessment. In this session we will be able to learn from diverse experience in the implementation of different and complementary tools, ranging from SEA implementation, EIA quality and EIS review, LCA assessment and specific projects.

### An EIA Review Methodology

Moreno, Roberto; Catchpole, Simon

An interesting EIA review methodology has been developed by BGC over the three years, during which time it has been applied to mining and hydroelectric projects in South America.

### CCGT for energy supply of a

petrochemical plant in Peru Nunez, Monica

CCGT (combined-cycle generation turbine) as an alternative electric power supply of the first petrochemical plant in Peru.

### **Energy future and environmental** assessment in Nigeria

Bristol-Alagbariya, Edward

Energy resources play a key role in life. Fossil fuels, the globe's dominant energy resources, threaten the environment and SD. Nigeria has a role to institutionalise SEA to enhance SD.

### Transmission line's life cycle and environmental tools

Arango, Gonzalo

An integrated vision of a transmission line's life cycle to optimize the development of all environmental tools is proposed. The most critical elements are the timing access to land and participatory policies.

### Quality assessment of EISs of dam projects in Iran

Moradi, Hossein; Rohani, Pegah; Fakheran, Sima; Rahmati, Alireza; Morrison-Saunders, Angus In this study, we assess the quality of more than 200 EISs related to dam construction and water transferring projects which are verified by EIA bureau of DoE in Iran.

### 4.9 Orphans of impact assessment: **Dealing with significance**

### Wednesday, 30 May | 11:00 - 12:30 | Auditorium

Chair(s): John Boyle, Francois Retief, Jos Arts Pane

This panel session focusses on the issue of significance as a particular orphan in impact assessment. It aims to invite discussion around the evolution and development of significance as understood and applied in practice.

### How are the orphans of impact assessment doing?

Retief, Francois; Arts, Jos This introduces a follow-up on last year's session about re-emphasising key issues in impact assessment which seem to have been neglected over time.

### **Panelists**

- Alan Ehrlich
- Jeff Barnes
- Imogen Crawford
- Johan Nel

### 4.10 Tiering: A missing link

### Wednesday, 30 May | 14:30 - 16:15 | Auditorium

Chair(s): Heikki Kalle, Jos Arts

### Paper session

Tiering is a key element of EA because it enables EA to fit better with complex planning and decisionmaking processes. However, it is rather neglected by the IA community. This session discusses best practices and conceptual innovations related to tiering so the concept can reach its full potential to IA.

### **Tiering: Challenges and recent developments**

Kalle, Heikki; Arts, Jos

Tiering is a central concept of impact assessment. This paper provides an overview of the concepts of tiering and challenges faced in current practice.

### Tiering in EIA: Legislative procedures in Portugal

Jesus, Júlio; Partidário, Maria

The Portuguese EIA legislation identifies two main project design phases (preliminary studies and detailed project). Data of this tiering approach in the period 2000-2010 will be presented and discussed.

### External and internal tiering in Estonia and Sweden

Faith-Ell, Charlotta; Kalle, Heikki This paper aims at elaborating on the tiering concept

based on case studies of infrastructure SEAs in Estonia and Sweden.

### **Does SEA and planning integration** mean sustainable?

Carvalho, Alexandre; Montaño, Marcelo; Souza, Marcelo This research analyses contributions of the integration between planning and SEA processes with particular focus on mechanisms and features that could deliver more sustainable decisions.

### Challenges and practice of tiering in the Netherlands Arts, Jos

Recently in Dutch infrastructure, planning experiences have been gained with a new streamlined, tiered approach to environmental assessment. This paper discusses recent experiences and challenges.

### **TOOLS and METHODS**

### 4.11 Foundations of impact assessment

### Wednesday, 30 May | 16:45 – 18:30 | Auditorium

Chair(s): Francois Retief

### Panel

Seasoned experts reflect on the basics of impact assessment with a view to refresh our understanding of these fundamental pillars of good practice. The session is aimed at entry-level practitioners and new members.

### Panelists

- Bill Ross
- Johan Nel
- Richard Morgan
- Nick Taylor
- Angus Morrison-Saunders
- Bryony Walmsley

### 4.12 Partnerships in IA (I): Towards sustainable development

### Thursday, 31 May | 09:00 - 10:30 | Auditorium

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

### Theme forum

Partnerships between companies, governments and communities are progressively used to ensure responsible project-delivery. Here, IA plays an important role in managing sustainable outcomes, involving cradle-to-grave approach and more than just environmental role-players. Internationally, many instruments are developed. This theme forum and subsequent sessions want to build on the strong interest in the topic over the past IAIA-conferences and discuss good practice cases from sectors such as energy, mining and infrastructure that provide practical guidance to IA-practitioners.

Short introductory presentations by panel members will precede a panel debate and discussion with interaction with attendants of theme forum. Issues raised will be input for subsequent paper and roundtable sessions in the "Partnerships in IA" stream.

# Partnerships in IA: Towards sustainable development

Arts, Jos; Faith-Ell, Charlotta; Esteves, Ana Maria; Aucamp, Ilse This paper introduces the theme forum on impact assessment and partnerships.

### Improved IA practice via

partnership: EIA Quality Mark Fothergill, Josh; Barlow, Ed; Kirk, Claire; Harada, Richard; Thorne, James The EIA Quality Mark is a successful partnership driving improved EIA practice across the UK. Find out how it operates, what it achieves and its potential for delivering sustainable development.

### Integrated impact assessments: Statoil Canada

Hirsch-Sigfusson, Tammy; Loosley, Andrew;

Johnson, Julie; Tibble, Sophie

Statoil applies an integrated impact assessment approach through collaboration and partnerships. This results in operating in an environmentally and socially responsible manner in the Canadian oil sands.

# The role of IA in partnerships for regional development

Esteves, Ana Maria; Ivanova, Galina Collaborative approaches in using IA to guide sourcing strategy and regional economic development policy can optimise the benefits associated with mining, oil and gas projects to local communities.

### 4.13 Partnerships in IA (II): Good practices

Thursday, 31 May | 11:00 - 12:30 | Auditorium

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

### Paper session

Partnerships between companies, governments and communities are progressively used to ensure responsible project-delivery. Here, IA plays an important role in managing sustainable outcomes, involving cradle-to-grave approach and more than just environmental role-players. This paper session discuss good practice cases from sectors such as energy, mining and infrastructure. The session builds upon a series of sessions which have been organised in recent years to raise attention to the relevance of partnerships between business, governments, and communities in IA.

### Social specialists a necessity, not a luxury

van der Merwe, Liza; Aucamp, Ilse Social matters are sensitive and time consuming. To reduce the risks associated with managing social matters during project implementation, dedicated social specialists are a necessity, not a luxury.

### Good practices and politics:

Partnerships in Ogoniland LaPin, Deirdre

In August 2011 UNEP published an assessment of oil damage in Nigeria's Ogoni area. This case study examines practice lessons from multi stakeholder partnerships before, during, and after that review.

### Partnerships towards project sustainability Meyer, Theunis

Partnerships can facilitate the delivery of projects that benefit the environment, local community and economy. This case study illustrates how this was achieved in a project in a sensitive environment.

### Partnering for innovative environmental outcomes Duncan, Joy

Involving the private sector early through partnering and alliances can lead to innovation in design, delivery and environmental outcomes. Alliances promote high-performing teams. Case studies from Australian infrastructure projects.

### Where does a good parternship start?

Djumalieva, Eldana This session will discuss due diligence practices with an aim to partner, with particular relevance to addressing social impacts of the energy sector operators in emerging markets.

### 4.14 Partnerships in IA (III): Mining and communities

Thursday, 31 May | 14:30 - 16:15 | Auditorium

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

This session explores the relationship between mining companies and the communities affected by mining. These relationships can be a source of conflict and negative relationships can pose a significant risk to all the parties involved. Partnerships are seen as an important tool to balance the power relationships between mines and communities. The session builds upon a series of sessions which have been organised in recent years to raise attention to the relevance of partnerships between business, governments, and communities in IA.

### **Ambatovy Project environmental**

### management approach

Andrianaivomahefa, Paul

Ambatovy Project is a nickel enterprise in Madagascar, using the strategy of four circles for its environmental management, based on a landscape approach and in accordance with the mitigation hierarchy.

### In search of sustainable mining

Boyle, John

What constitutes "sustainable mining" is not yet clear. Current thinking and practice in this area is reviewed, and further development to clarify the concept is suggested.

### Corporate foundations: Managing

development transitions

McElroy, Caitlin Partnerships between corporations, communities, and government for sustainable development often require facilitation. This paper investigates how corporate foundations can assist this process and manage transitions in regional development.

### Stewardship and the Ranger Uranium Mine

Smith, Howard

The development of a partnership between the Ranger Uranium Mine and Aboriginal land owners that focuses on integrating traditional and scientific values for long-term environmental stewardship following mine closure.

### Global mining and local community relations

Rickson, Roy; Hoppe, Peter; Burch, David The paper is based on research in Queensland and Switzerland. It focuses on comparative community relations between cement companies and local community groups.

### **TOOLS and METHODS**

### 4.15 Partnerships in IA (IV): Future directions

Thursday, 31 May | 16:45 – 18:30 | Auditorium

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

Open discussion with workshop attendees on partnerships between companies, governments and communities are progressively used to ensure responsible project-delivery. Here, IA plays an important role in managing sustainable outcomes, involving cradle-to-grave approach and more than just environmental role-players. This round table session discusses lessons from practice and previous sessions, looking for practical guidance for IA practitioners.

This roundtable is part of a stream of sessions on "Partnerships in IA" and builds upon a series of sessions which have been organised in recent years to raise attention to the relevance of partnerships between business, governments, and communities in IA.

### AGRICULTURE, FORESTRY and FISHERIES

# 5.1 Maximizing ecological benefits from agriculture, fisheries and forestry

Thursday, 31 May | 11:00 – 12:30 | Miragaia

Chair(s): Cary Anne Cadman

Paper session

What ecological benefits are derived from AFF? Are there AFF practices that, when applied, are beneficial to the accompanying ecological community? Alternatively, if AFF practices are impacting the local ecological community, what practices are recommended to minimize these impacts?

# New Douro and Port wine production project case study

Vilela, Nuno; Carapeto, André

Impact assessment highlighting biodiversity issues helped reach a higher level of sustainability on a Douro and Port wine production project, rather uncommon in the Douro region wine sector.

### The efficacy of EA for sustainable forest management

Rushton, Risha Jaide; Noble, Bram

A more integrative regional or strategic approach to environmental assessment in the forest sector is required if it is to play a more effective role in ensuring sustainable forest management.

### Environmental benefits of agro-ecosystem

Leão, Fernando; Pinho, Rosa; Coutinho, Miguel This paper focuses on the importance of good management practices carried out at an agro ecosystem that occurs at Ria de Aveiro, Portugal, whose existence depends entirely on human activity.

### Greening agricultural support indicators (PSE) Vilela, Nuno; Pinto, Rute

Greening agricultural support indicators by taking into account external costs rising from agricultural activities support that agricultural policy reform should concentrate on reducing the environmental burden of the sector.

### Life cycle assessment of the natural cork stopper

Neto, Belmira A. F.; Machado, Marina; Silva, Rui Pedro The assessment makes use of an LCA-based tool (SimaPro 7.2.3.). The methodology used is the CML 2001. Results are presented for each of the five life cycle stages.

See page 53 for a listing of the winners of the Impact Assessment and Project Appraisal 2011 Best Paper award!

# www.tandfonline.com/r/iapa

# IMPACT ASSESSMENT AND PROJECT APPRAISAL



International Association for Impact Assessment

Official publication of the International Association for Impact Assessment Now published by Taylor & Francis from 2012

> ecosystem services cumulative effects public participation resultion health & wellbeing social impacts sustainability integrated approach governance strategic

> > Provides a one-source link to the latest ideas in the wide-ranging field of impact assessment

Taylor & Francis are sponsoring the coffee break on Tuesday 29 May, 10:30-11:00, on behalf of:

Impact Assessment and Project Appraisal

### Visit the journal homepages to:

- Submit your research
- Recommend to your library
- Register for table of contents alerts
- Find out about special issuesRead an online sample copy

### BIODIVERSITY

### 6.1 The ecosystem services review for impact assessment: Assessing project impact on ecosystems services and well-being

### Tuesday, 29 May | 14:30 - 16:15 | Auditorium

Chair(s): Orlando Venn, Florence Landsberg, Jo Treweek Workshop

To help meet the 2012 IFC Performance Standards and maintain the benefits from ecosystem services, this workshop presents a methodology to identify ecosystem services the project could significantly impact, assess project impact on these services and well-being, and identify measures to maintain the well-being people derive from these ecosystem services.

### 6.2 The ecosystem services review for impact assessment: Assessing project risks related to ecosystems services

Tuesday, 29 May | 16:45 - 18:30 | Auditorium

Chair(s): Orlando Venn, Florence Landsberg, Jo Treweek Workshop

IAIA Sections: Biodiversity and Social Impact Assessment To help meet the 2012 IFC Performance Standards and assess ecosystem services on which projects depend for their operations, this workshop presents a methodology to identify ecosystem services on which the project depends, predict risks related to these services, and identify measures to maintain project performance over the project lifetime.

### 6.3 Biodiversity data needed for new approaches to impact assessment

### Wednesday, 30 May | 11:00-12:30 | Miniatur

### Chair(s): Ana Margarida Costa

Paper session

Impact assessment requires access to reliable and comprehensive biodiversity data. With adequate information it is possible to assess potential conflicts between energy infrastructures and biodiversity as well as to incorporate the importance of services provided by ecosystems in the decision making process.

### Biodiversity in deep-sea habitats

for oil and gas exploration

Doner, Stacy; Blake, James; Speirs, Kirsty; Giannotti, Vivian; Maciolek, Nancy

This paper describes environmental baseline studies in deep-sea habitats offshore intended for oil and gas exploration and development. Studies include water quality, sediment chemistry, benthic biology, and seafloor imaging.

### Ecosystem services in regional spatial plans and SEA

Mascarenhas, André; Barros Ramos, Tomás;

Haase, Dagmar; Santos, Rui

A profile of the Portuguese regional spatial planning context is conducted, concerning the degree of ecosystem services integration in regional spatial plans and respective SEA reports.

### Biodiversity offset appraisal and ESIA scope MItchell, Robin; Melton, Derek

Forecast expansion of the energy sector's footprint into sensitive biodiversity areas will test the extent to which impact assessments must pre-design offsets to establish conformance with 2012 IFC Performance Standards.

# Mammals database for a Brazilian planning approach

Angelieri, Cintia Camila; Souza, Marcelo Pereira de Few databases on Brazilian biodiversity are available to generate distribution models, but they already provide sufficient data to show areas to be considered in the EIA process.

### The contribution of ecosystem data to EIA

Kim, Myungjin; Lee, Jangho; Lee, Jongchun; Ahn, Kyunghwan Ecosystem assessment is a key factor in EIA. Reliable and easy access to ecosystem data can contribute both to environmental quality and to increasing EIA reliability for public.

### Making power lines safer for migratory birds

*Repas, Miguel; Prinsen, Hein; Boere, Gerard; Smallie, Jon* This paper presents the results adopted by AEWA and CMS of a review covering all aspects of the conflict between migratory birds and electricity power grids within the African-Eurasian region.

### 6.4 Planning for energy and biodiversity conservation I

### Wednesday, 30 May | 14:30 - 16:15 | Miragaia

Chair(s): Davide Geneletti, Orlando Venn

### Paper session

This session will explore the integration of energy and biodiversity in projects, plans and policies. The papers and examples will provoke debate to set the scene for the following session on "planning for energy and biodiversity conservation" where solutions to address the lack of integration of biodiversity in energy will be explored through a roundtable approach.

### CEA, biodiversity and hydropower planning in India

Arora, Roshni\*; Rajvanshi, Asha; Mathur, Vinod B.

\*Winner of the President's Bursary Experience of this study amply demonstrates that biodiversity-inclusive cumulative assessments have huge potential to steer sustainable hydropower planning which aims to secure social, economic and biodiversity benefits.

# When to cease studying the baseline and make decisions?

Bingham, Charlotte

Using examples of two hydropower projects in a developing country, we probe these and other questions: how many baseline studies before declaring no-go? Are donor biodiversity standards set too high?

# Biodiversity conservation and renewables infrastructure

*Ceausu, Silvia; Pereira, Henrique Miguel* This research analyzes the degree of overlap between biodiversity and wilderness important areas and high-potential areas for renewable infrastructure development in Europe.

### Conservation of biodiversity in a biofuel field design

Quijano, Martin; Villicaña, Grethel Ecosystem functioning was used as a methodology for the design of a biofuel field of 3000 hectares, while respecting regional biodiversity, biological corridors and important habitat areas.

### Integrating biodiversity and energy in spatial planning

Bettencourt, Pedro; Fernandes, João; Grade, Maria; Charneca, Nuno In the context of water basin management plans,

a new methodology for integrated planning was developed in order to articulate energy production potential, biodiversity and landscape.

### 6.5 Planning for energy and biodiversity conservation II

### Wednesday, 30 May | 16:45 - 18:30 | Miragaia

### Chair(s): Orlando Venn, Davide Geneletti Workshop

This session will first recap from the previous session on existing biodiversity risks and opportunities of different energy supply options and then provide a roundtable platform for which to discuss solutions to proactively overcome the disconnect that exists between energy decision-makers and environmental practitioners and conservationists.

### **Biodiversity and biofuels in**

Brazilian agricultural areas

Angelieri, Cintia Camila; Souza, Marcelo Pereira de The Sugar and Alcohol Agro-Environmental Zoning shows that the most part of São Paulo State, Brazil, may become a sugarcane monoculture and result in adverse impacts in biodiversity conservation.

### Direct and indirect biodiversity

### impacts in energy EIAs

Krohn, Jack

A comparative look at how energy projects can affect biodiversity values in direct and indirect ways, and ways of evaluating the relative impacts.

### Ecosystem management in Alberta's oil sands

Morrison, Ronald; Shopik, Tim

This paper will examine the environmental response of industry with the role of biodiversity and ecosystem services, and management approaches in restoring and sustaining environmental quality in the oil sands.

### Marine mammal management: Responsible oil exploration

Munday, David; Rouget, Phil; Zottenberg, Katelyn This presentation discusses management strategies developed for addressing in-water noise effects on threatened marine mammal species during concurrent seismic programs in Eastern Baffin Bay, Greenland.

### Irish guidance for biodiversity impact assessment

Gonzalez, Ainhoa; Fry, John; Hochstrasser, Tamara; Scott, Paul; Carvill, Peter; Jones, Mike; Grist, Berna Ireland's Offshore Renewable Energy Development Plan is used as an example to demonstrate applicability of the advisory guidance for integrated biodiversity impact assessment, which amalgamates key AA and SEA/EIA stages.

### BIODIVERSITY

### 6.6 Publishing, sharing and accessing EIA biodiversity data

Wednesday, 30 May | 16:45 – 18:30 | Ribeira 2

Chair(s): Vishwas Chavan, Nick King, Selwyn Willoughby, Asha Rajvanshi, Vinod Mathur Workshop

This training workshop on benefits and multiple options for publishing EIA-related biodiversity data using the free and open-access GBIF informatics infrastructure, tools and services is a hands-on session using globally brokered and accepted standards and protocols for capturing, sharing, publishing and access and discovery of biodiversity data for IA work at local, national and especially transboundary scales.

Vishwas Chavan: EIA Biodiversity Data Publishing Framework

Selwyn Willoughby: South African Pilot Project on EIA Biodiversity Data Publishing Vinod Mathur, Asha Rajvanshi: Indian Pilot Project on EIA Biodiversity Data Publishing Vishwas Chavan: Publishing EIA Biodiversity Data: Infrastructure and tools

Open debate

# 6.7 Biodiversity tools for businesses and impact assessors

### Thursday, 31 May | 11:00 – 12:30 | Ribeira 1

Chair(s): Liz Clarke

Paper session

Hearing from different perspectives, this session will present a range of tools available to assist impact assessors in ascertaining the biodiversity and ecosystem services impact of projects and business operations. Discussion will explore their uses and limitations and where gaps may exist for new tools and/or clearer guidance.

### Tools from the frontline of conservation

Clarke, Elizabeth

This presentation explains the science behind defining and monitoring the status and trends of the natural world and presents a suite of conservation tools available for use by impact assessors.

### Tools for high level and site scale assessment

Strevens, Chloë

A review of some of the key tools related to biodiversity, their relevance to international standards, and their potential use as part of impact assessments.

### Guidance on biodiversity tools and approaches

Berger, Violaine Providing guidance to improve business

understanding of biodiversity tools and approaches.

### **Tools for mitigating impacts in the wind sector** *Skambracks, Daniel*

This presentation will discuss some approaches to screening, monitoring and mitigation of impacts, including some ideas on offsets. Questions to be

discussed include: What constitutes an adequate baseline in the wind sector? Can inadequate baseline data be supplemented during post construction monitoring? What design elements can be included to minimize negative impacts on wildlife? Can offsets be designed to compensate for residual impacts?

### 6.8 Interpreting standards for biodiversity

### Thursday, 31 May | 16:45 – 18:30 | Ribeira 1

Chair(s): Liz Clarke

### Panel/Paper session

Hearing from different perspectives, this session will present a range of tools available to assist impact assessors in ascertaining the biodiversity and ecosystem services impact of projects and business operations. Discussion will explore their uses and limitations and where gaps may exist for new tools and/or clearer quidance.

# Biodiversity in environmental performance standards

Strevens, Chloë; Hutton, Jon; Brooks, Sharon How biodiversity and ecosystem services could be better incorporated within standards and how adopting more consistent language and well defined terms can support the impact assessment process.

### Helping increase business

understanding of biodiversity Berger, Violaine

Helping increase business understanding of biodiversity standards. Norway from the point of view of the licensing authority.

### Notes

### Applying IFC Performance Standard 6 Skambracks, Daniel

Over 70 private sector financial institutions benchmark their environmental and social due diligence against the IFC Performance Standards via the Equator Principles: The Equator Principles Financing Institutions, EPFI. Recently, the IFC Performance Standards were revised with the objective of providing more clarity around requirements for biodiversity protection under PS 6. The presentation highlights the key changes to the IFC Performance Standards with regards to biodiversity and ecosystem services in the view of the Equator Principles Association.

### Environmental indicators system: A case study Escobar Serrano, Jose

Implementation of a system of environmental indicators to the mining activity as a case study to know the relationships between the major driving forces of environmental damage.

### Expected and actual impacts of infrastructure

Kregar, Ales; Hrabar, Mojca

Past experiences confirm some positive impacts of infrastructure on nature, which are seldom predicted by the EIA. Criteria for determining impacts of similar infrastructure on same species should be standardised.

### **CLIMATE CHANGE**

# 7.1 Changing climate and its influence in energy EIAs

### Wednesday, 30 May | 09:00 - 10:30 | Arrábida

### Chair(s): Cary Anne Cadman

### Paper session

How does the changing climate in a given region change requirements for energy use and how do these changes affect impact assessments? How are impact assessments assessing and responding to a changing climate, specifically related to energy supplies? This session focuses on how energy-related EIAs accommodate climate changes.

### Climate impact assessment: How

to address GHG emissions

Odparlik, Lisa Friederike

This paper examines the issue of climate impact assessment by comparing ten selected guidelines for addressing climate change within the project-based EIA framework.

### The strategy on GHG for the steel industry in China

Meng, Wang; Fan, Chen; Jie, Liu

This report will analyze the existing problems in greenhouse gas control of the steel industry and will put forward suggestions in the aspect of management, technique and research.

### Climate change in impact assessment

### of renewable energy

Vammen Larsen, Sanne

This presentation discusses the question of why and how we assess the climate change-related impacts of a project that inherently has a positive effect on climate?

### Climate change and EIA: The California Experience Grassetti, Richard

This paper discusses the legislative history, technical and methodological challenges, and progress to date in integrating greenhouse gas and climate change assessment into California EIAs.

# What did you think of the last session? Tweet us at #IAIA12.

# 7.2 Urban development and climate change: Future directions for EIA

Wednesday, 30 May | 11:00-12:30 | Arrábida

Chair(s): Maria-Christina Georgiadou, Jeonghwa Yi, Theo Hacking Workshop

Renewable energy generation in urban areas is a key step to reduce GHG emissions. This workshop provides an overview of three international "best practice" urban development projects. Objectives include:

- Understanding of climate change issues related to the energy design of urban developments.
- Identification of challenges assessment practitioners have to address when prioritising renewable energy strategies as alternatives to fossil fuels.
- Future directions of methods and tools used within an EIA.

### Mitigating energy impacts from

a desalination project Schiffrin, Andrew

The paper analyzes the feasibility of renewable energy projects to reduce greenhouse gas emissions resulting from a proposed local desalination project in Santa Cruz, California.

### Gaps in EIA incorporating climate change Yi, Jeonghwa; Hacking, Theo

This paper explores a gap between the policy provision and the way in which current EIAs are undertaken in the UK with a focus on climate change considerations.

### Future-proofing the energy design of UK dwellings

Georgiadou, Maria-Christina; Hacking, Theo This paper investigates a novel methodology to introduce sustainability criteria, full life cycle thinking and management of risk and uncertainty in the design and assessment of low-energy dwellings.

# Mitigating carbon emissions in urban developments: Mexico

Corona Núñez, Rogelio; Mendoza Ponce, Alma The Mexican government has promoted the mitigation of carbon emissions in an urban megaproject. Carbon emissions baseline and different mitigation scenarios were performed based on different economic investments.

### Built vs. global environment

Stamenkovic, Marija; Köppel, Johann The ultimate goal of energy efficiency development is creation of modern and economically strong cities oriented to its own use of energy resources.

### Urban development and climate

### change in Maputo, MZ

Bettencourt, Pedro; Silva, Nuno; Fulgêncio, Cláudia; Jesus, Carlos César Discussion of an integrated approach to Maputo's

urban development, its environmental vulnerabilities (especially those related to climate change) and the need for one integrated approach in the subsequent EIA processes.

### **CORPORATE STEWARDSHIP**

### 8.1 Delivering environmental outcomes in infrastructure and energy projects I

### Wednesday, 30 May | 14:30 - 16:15 | Arrábida

Chair(s): Luis E. Sánchez

Paper session

What happens after project approval is a concern for all major stakeholders in the EIA process. The session features both case reports/studies and conceptual/ analytical frameworks about environmental compliance, performance evaluation, environmental audits, supervision and monitoring, institutional arrangements for follow-up and related topics.

# Compliance monitoring: A key to enhancing EIA outcomes

Amirkhanyan, Sos; Burack, David

An illustrated example of a major development project in Armenia whose outcomes were enhanced by an exceptionally strong compliance monitoring program by the Armenian Deputy Team Leader of the EIA.

### Lisbon Metro expansion and environmental follow-up

Cerdeira, Ana This paper will describe the environmental followup developed during the Lisbon Metro network expansion, in the last decade, considering three case studies, related to important projects of this enterprise.

# ANDANTE: Legal compliance and improving management efficiency

Leung, Henry; Chung, Andy; Stephen, Chan; Frommer, Glenn; Choi, James; Wong, Felice This paper will present the ANDANTE platform, demonstrate its capabilities and show how resources are being best allocated for optimal noise management during construction of the XRL.

### Environmental supervision of large infrastructure: The Yiba Highway Project in China

Quintero, Juan; Deng, Fei

The lessons from the environmental supervision of the Yiba Highway can be applied in other countries when designing compliance frameworks for the construction of large infrastructure.

### Data needs for enhancement within EIA

João, Elsa; Fonseca, Alexandra; Chinita, Ana Teresa How data collection in ElA can support enhancement proposals and monitoring. Data needs to be collected on what "is there" but also on what "can be there."

### 8.2 Human rights impact

### assessment: One year on

### Wednesday, 30 May | 14:30 - 16:15 | S. João

Chair(s): Rita Sully

Paper session

The challenge of Human Rights Impact Assessment (HRIA) is ensuring that impact assessments are meaningful rather than a superficial response to an emerging agenda. Papers are set to explore the extent to which HRIA responds to the requirement of "due diligence" as articulated within the Ruggie framework and how HRIA relates to other approaches to impact assessment in terms of timing, methodology and knowledge integration.

### Human rights impact assessment

### and extractive companies

Gotto Walton, Katharine; Atler, Sandra; Kapelus, Paul This presentation argues that an HRIA undertaken at an early stage in a project can assist a company reduce exposure to risk by better understanding context, foreseeing and managing challenges.

### Should we take the "impact" out

### of human rights impact?

Boele, Richard; Kemp, Deanna

The paper provocatively suggests that to maximise the positive social outcomes from emerging HRIA practice, HRIA may be better approached as a hybrid of "impact assessment,""systems audit," and "capacity."

### Human rights impact assessment: One size fits all?

Brown, Michelle

This paper will highlight working practices and regional issues for HRIA and examine a case study of best practice in assessing and managing actual and potential human rights impacts.

### HRA: Lessons learned from the extractives industry Colwell, Alison; Natour, Faris

BSR will share current practice for mining companies' human rights approaches, including human rights assessments (HRAs), current trends, and good practices.

### How doing HRIAs has changed how I look at IA

Joyce, Susan

Lessons and observations on how doing HRIAs has changed how I see impact assessment, especially management of mitigation and participation. This presentation draws on the HRIA of the Marlin Mine.

### Corporate HRIA: Lessons from the field

Wielga, Mark; Salcito, Kendyl; Kanis, Blair NewFields/NomoGaia built a methodology for HRIA and field-tested it on five corporate capital-intensive projects. Presenters will describe the methodology and key lessons learned in implementing the HRIA methodology.

### **CORPORATE STEWARDSHIP**

### 8.3 Delivering environmental outcomes in infrastructure and energy projects II

Wednesday, 30 May | 16:45 - 18:30 | Arrábida

Chair(s): Juan D. Quintero

### Paper session

What happens after project approval is a concern for all major stakeholders in the EIA process. The session features both case reports/studies and conceptual/ analytical frameworks about environmental compliance, performance evaluation, environmental audits, supervision and monitoring, institutional arrangements for follow-up and related topics.

# Can EIA improve energy performance of transportation?

Madaleno, Marta; Joanaz de Melo, João Dominant transportation mode in Portugal is overwhelmingly road: freight 96%, passengers 95%. Motorway density is twice the EU-27 average. How could EIA help create lower-impact, energy-efficient, cost-effective mobility solutions?

### Independent checks and verification in EIA Follow-up

Wessels, Jan-Albert; Retief, Francois; Morrison-Saunders, Angus

Environmental Impact Assessment and Management (EIAM), EIA follow-up, independence, checks, verification, monitoring and auditing, objectivity, impartiality, Environmental Control Officer (ECO).

### Oil and gas activities and the Nigerian environment

Chinweze, Chizoba; Abiola-Oloke, Gwen; Onyeri, Ijeoma; Kennedy-Echetebu, Chinny; Jideani, Chike The exploration of oil and gas deposits in Nigeria has enormously impacted the biodiversity and ecosystem services of the oil bearing zone with its socio-economic and environmental consequences.

### Beyond project execution phase: The relevance of IA Adekoya, Adebanji

As the era of easy oil is fast fading, more attention needs be given to the impact of routine oil and gas production operations than exploration projects in these delicate areas.

### Assessment of metal contamination in oil discharge Gyampo, Kwadwo

This research work sought to assess the effects of trace metal contamination from oil production operations within the immediate sedimentary environment of the Saltpond production platform in Ghana.

### 8.4 Human rights impact assessment roundtable

Wednesday, 30 May | 16:45 – 18:30 | S. João

Chair(s): Rita Sully

### Roundtable

This roundtable follows the HRIA paper presentation session and is aimed at providing a forum to discuss and debate the challenges as well as the successes in Human Rights Impact Assessment. This roundtable has been included due to the overwhelming interest in this emerging field of practice. Presenters from the paper session will be in attendance and available to answer questions based on their experience.

### Panelists

- Katherine Gotto Walton | Synergy Global
- Richard Boele | Banarra
- Michelle Brown | CSR Asia
- Alison Colwell | BSR
- Susan Joyce | On Common Ground Consultants
- Mark Wielga | New Fields

# 8.5 ISO26000: Explaining the new standard on social responsibility

### Friday, 1 June | 09:00 – 10:30 | S. João

Chair(s): Rita Sully Roundtable

IAIA Section: Corporate Stewardship and Risk Management

Launched in November 2010 following extensive global stakeholder consultation, ISO26000 is the global guidance document on social responsibility. The roundtable will explain the standard and how it can be applied to different organization. The roundtable will also explore the role of impact assessment and how it can be used in combination with the standard.

### ISO 26000: A tool for continuous improvement Brown, Michelle

Examples of how to use the ISO 26000 to review their approach to managing social responsibility for continuous improvement.

Remember to vote for your favorite poster by 11:00 on Thursday! Your ballot is in your name tag envelope; the ballot box is at the registration desk.

### **CULTURAL HERITAGE**

# 9.1 The contribution of linear energy projects to world heritage

### Tuesday, 29 May | 14:30 – 16:15 | Ribeira 1

### Chair(s): Emlen Myers

Paper session

The session reports on cultural heritage finds for three oil and gas pipelines constructed over the past decade in South America and the Caucasus. Presenters discuss both methods and results, highlighting the major finds that result when pipeline projects follow international best practice for heritage protection.

# The PERU LNG Project's Contribution to World Heritage

### Lockard, Gregory

This paper presents the results of the PERU LNG Archaeological Project, which was a compliance-based archaeological investigation of a natural gas pipeline, liquefaction plant, and quarry in Peru.

### Understanding cultural heritage landscapes

Polglase, Christopher

Recent oil and gas projects in Azerbaijan provide insights into understanding cultural landscapes. The recognition of these cultural landscapes can aid in the project impact assessment, construction, and operation phases.

### Pipeline to the past: Documenting Bolivian heritage Siegel, Peter

Archaeological investigations within the Bolivian portion of the San Miguel-Cuiabá Natural Gas Pipeline right-of-way have greatly increased our understanding of South American archaeology.

# 9.2 Cultural heritage, landscape, visual impact and development

### Wednesday, 30 May | 14:30 - 16:15 | Ribeira 1

Chair(s): Inge Lindblom

Paper session

This session focuses on visual impact, both generally and specifically related to energy development. The topic includes policy and practice, best case, conflict, assessment models, tools and methods related to Cultural Heritage and landscape impact assessment. The European Landscape Convention is challenged by the connection between local values and national (or regional) values and how it is possible to deal with this in an impact assessment framework.

### Is landscape signficant?

Bolger, Michelle

Significance describes the range of values associated with a heritage asset, but how do we recognise the significance of the landscape to the asset and the asset to the landscape?

### Landscape around motorways:

### Evaluation and perception

Arce Ruiz, Rosa María; Martín Ramos, Belén; Loro Aguayo, Manuel; Otero Pastor, Isabel

Landscape quality around motorways was valued by an expert method and a survey using the same set of photographs. Conclusions about the public's landscape perception and expert evaluation were obtained.

### Visual impact on cultural heritage within EIA Larsen. Kari

The paper presents how visual impact on cultural heritage sites and monuments can be understood and handled within EIAs, based on a study of a planned wind farm in Norway.

### Landscape impact assessment:

Indicator of effective EA

Shi, Xiaoxin; Lam, Josh K.W. The paper examines how an effective EA process could contribute to landscape impact assessment by a case study on the EA for the Integrated Waste Management Facilities (IWMF) in Hong Kong.

### Patina: The fading of visual impact

Berg, Einar

Conflicts related to visual impact and NIMBY opinions from large-scale projects tend to fade after completion. The concept of perceptional patina can contribute to explaining and understanding this phenomenon.

### 9.3 Cultural heritage, landscape, environmental assessment: Development impacts

Wednesday, 30 May | 16:45 - 18:30 | Ribeira 1

Chair(s): Inge Lindblom Paper session

This session focus on landscape impact assessment, visual impact, methodologies for strategic and communicative planning and heritage assessment of wind power. Local opposition and participation procedures will be discussed. In addition the session includes a paper on air quality impacts.

### Diagnosis of landscape assessment in the Chilean EIA Bergamini, Kay

This work does a diagnosis of landscape assessment in Chilean EIA through a review of different environmental impact studies analyzing their methodologies and procedures.

Notes

### Strategic heritage assessment for wind power

Lund-Iversen, Martin; Lindblom, Inge The paper presents a case-based investigation of the methodologies for strategic heritage assessment of

# Strategic and communicative planning in Swedish windpower

Nord, Jenny; Hammarlund, Karin

This presentation exemplifies how strategic planning tools in wind energy contexts may be improved by public participation. It also examines the study of how "functions" may complement "visual" aspects of landscape.

### Wind farm development: Opposition

### and participation Lilleland, Heae

wind power.

Lilleland, Hege

Visual impact, local opposition and participation procedures in the licensing process for wind power plants in Norway from the point of view of the licensing authority.

### Air quality impacts on museum buildings

Ginja, João; Costa, Ana Margarida;

Coutinho, Miguel; Borrego, Carlos

The main purpose of this work is to discuss air quality impacts, considering a museum as a case study.

### 9.4 Energy development and the cultural landscape of the Alto Douro wine region

Thursday, 31 May | 09:00 - 10:30 | D. Maria

Chair(s): Júlio Jesus

### Roundtable

The Alto Douro Wine Region is inscribed on UNESCO's World Heritage List as a cultural landscape. Proposals for energy transmission lines across the Region, in association with dam and wind-farm development in northern Portugal, pose a threat to the cultural characteristics on which the inscription is based. Stakeholders will present their positions and discuss costs and benefits of potential solutions to issues associated with energy development and conservation of cultural heritage values.

### 10.1 Health and safety issues in environmental and social impact assessment I

### Tuesday, 29 May | 14:30 – 16:15 | Ribeira 2

Chair(s): Fernando Rodriguez Paper session

Health and Safety (H&S) issues are highly relevant aspects of impact assessment, and often H&S risks are not properly addressed in conducting Environmental and Social Impact Assessments (ESIA) and in Environmental and Social Management Plans (ESMP). This session explores how different organizations are incorporating H&S issues in the planning and execution of projects.

### Modification of EIA regulation in Chile related to HIA

Valenzuela Jara, Claudia

In 2012 new Regulation directives for impact assessment will be enacted, changing the criteria to address health impact assessment in Chile, and improving its effectiveness and efficiency.

### Case study of gold mining in Phichit, Thailand

Supanpaiboon, Wisa

The processes undertaken to establish the community participation framework coordinated with environmental and health agencies and implemented for the identification, collection and analysis of environmental hazards, environmental exposure and health data.

### Health and safety: Contributing to raising the bar

Rawa, Agnieszka; Nash, Jonathan; Saiger, Jonathan; Richart, Jonathan; Mason, Doug Overview of Millennium Challenge Corporation's approach and steps being taken to encourage and facilitate the application of responsible international H&S practices and standards during the implementation of its investments.

# Health and safety system development and implementation

Molapo, Lira

An effective health and safety management system is essential for incident prevention and overall management.

### 10.2 Health and safety issues in environmental and social impact assessment II

### Tuesday, 29 May | 16:45 – 18:30 | Ribeira 2

### Chair(s): Fernando Rodriguez

Paper session

Health and Safety (H&S) issues are highly relevant aspects of impact assessment, and often H&S risks are not properly addressed in conducting Environmental and Social Impact Assessments (ESIA) and in Environmental and Social Management Plans (ESMP). This session explores how different organizations are incorporating H&S issues in the planning and execution of projects.

### The role of EIA in reducing health risk

of industrial projects in China Zhao, Xinfeng

EIA in China needs to adopt more effective and feasible methodology to take the health issue into consideration.

### HEALTH

### EH&S lessons learned from the

Southern African context

van Rooyen, Magnus; Donkin, Deborah An appreciation of the local context and the relationship between the role players is essential during EIAs as it provides the baseline for the development of a practical EMS.

### Health and well being in environmental assessment

Vohra, Salim; Viliani, Francesca; Cave, Ben There is a lack of full coverage of health and well being impacts in EA. This presentation discusses why this is so and what we can do to make it better.

### 10.3 Around the world in 80+ minutes with HIAs in the energy sector

### Wednesday, 30 May | 09:00 - 10:30 | D. Maria

Chair(s): Julia Nowacki, Francesca Viliani, Michaela Pfeiffer Theme forum

The theme forum gives an overview on HIA in the energy sector from around the world. The forum will start with short presentations from 4 continents (Africa, Asia, Australia/New Zealand and Europe) of HIAs in the energy sector, ranging from biomass, oil and gas development, to energy policy strategies. Based on the national experiences, challenges and opportunities for HIA in this important sector will be discussed and recommendations will be formulated to support (an integrated) HIA development in the energy sector. The discussion will continue in a workshop to further explore requirements for HIA implementation and enhanced intersectoral collaboration.

### HIA and biomass energy development in Thailand Juntarawijit, Chudchawal

Juntarawijit, Chuachawai

Thailand is currently underusing biomass resources since the public are against biomass power plants. HIA plays an important role to build trust and to prevent environmental and health impact.

# Health and energy resource development in New Zealand

### Morgan, Richard

Will new environmental legislation and HIA guidelines in New Zealand help or hinder the consideration of health impacts for future energy resource projects?

### HIA in Ghana : Opportunities and challenges

Clarke, Edith; Viliani, Francesca

The presentation describes the historical development of HIA practice from earlier on to the latest example of health inclusion in the SEA of the national oil and gas development.

### **Risk assessment of Danish energy policy 2008-2011** *Gulis, Gabriel*

This study was part of the EC-funded Risk Assessment from Policy to Impact Dimension (RAPID) project.

### 10.4 Around the world in 80+ minutes with HIAs in the energy sector: Discussion

Wednesday, 30 May | 11:00 - 12:30 | D. Maria

Chair(s): Julia Nowacki, Francesca Viliani, Michaela Pfeiffer Paper session/Workshop

This session is the follow up from the theme forum with the same title and will present more specific and

with the same title and will present more specific and detailed examples on HIA and health considerations for the energy sector.

### Sustainable energy and health

Pfeiffer, Michaela

Sustainable energy should produce important cobenefits for health, but only if health is used as a key criteria when selecting policy options. HIA is our best bet to deliver this.

### Health impact assessment, oil sector, Iraq case study

Birley, Martin; Vohra, Salim Issues associated with the HIA of an oilfield redevelopment in Iraq will be described. The community is highly stressed by war and displacement as well as water scarcity and dusty conditions.

# Filling the gap between air pollution and human health

Ferreira, Joana; Borrego, Carlos; Ribeiro, Isabel; Valente, Joana; Amorim, Jorge Humberto; Martins, Vera; Miranda, Ana Isabel

Research studies carried out in Portugal to fill the gap between air pollutant emissions and inhaled dose, as a joint collaboration between environmental and medical experts, will be presented.

# Health in energy related EIA and SEA: A training concept

Nowacki, Julia; Otorepec, Peter; Zurlyte, Ingrida; Martuzzi, Marco

The concept of health in energy related EIA/SEA pilot training will be presented and the evaluation results of the pilot will be presented for future application in European countries.

### Shale gas and health: The basics

Orenstein, Marla

Shale gas development and hydraulic fracturing (fracking) are contentious forms of energy extraction. As an HIA practitioner, what do you need to know about shale gas development and health?

### HEALTH

### 10.5 Health baseline within

### different impact assessments

Thursday, 31 May | 14:30 – 16:15 | Ribeira 1

Chair(s): Lea den Broeder, Francesca Viliani Paper session

The description of baseline information in the project area is one of the key objectives of an impact assessment. However, it is often difficult to include relevant and useful health indicators in the early phase of impact assessment and to gain a good understanding of health baseline. The workshop aims at addressing some of the challenges associated with health baseline through the presentation of examples and practice.

### Before the beginning: "Intelligent" health baselines

Invernizzi, Valentina; Leonardi, Marco

Through the comparison of two sub-Saharan case studies, the paper shows how incorporating health baseline data collection into earliest stages of projects' planning could obviate many future obstacles of IA.

### Baseline health surveys: Challenges

### and opportunities

Nyaundi, Christian; Divall, Mark;

Knoblauch, Astrid; Winkler, Mirko Experiences and challenges faced when carrying out baseline health surveys in Africa.

### Health baseline for IA in resource poor settings

Viliani, Francesca

A baseline health survey provides a snapshot of community health before a project starts and produces appropriate indicators for the development and monitoring of locally relevant community health programs.

### Lead exposure in native children and oil activity, Peru

Anticona Huaynate, Cynthia Fiorella; San Sebastian, Miguel; Bergdahl, Ingvar

Lead exposure in indigenous children living in an area of oil activity in the Peruvian Amazon has been associated with the manipulation of metal lead obtained from the oil industry.

### IA LAW, POLICIES, and PRACTICE

# 11.1 Research for policy impact assessment for energy policies

Tuesday, 29 May | 11:00 – 12:30 | Arrábida

Chair(s): Stefan Sieber, Aranka Podhora Paper session

. IAIA Section: IA Law, Policies and Practice

The session presents research related to policy impact assessment by example of renewable and non-renewable energy policies in the European Commission and the European member states. All Papers are invited that cover scientific tools, methods and challenges related to these policies and discusses the contribution of energy policy IA for sustainable development.

### Territorial impact assessment of European directives Fischer, Thomas

This paper presents results of a project on the assessment of territorial impacts of European (sector) policies (i.e., directives and regulations) at regional and local levels in EU member states.

### The many facets of assessing energy policy

Hurley, Lewis

Discussion of methodologies employed to undertake SEA in the complex and diverse field of national energy policy. How can SEA effectively communicate the potential environmental implications of several policies?

### Environmental Integration in

### policy impact assessments

Ferretti, Johanna

Environmental Integration in policy impact assessments of the UK and Germany: a comparative approach on the transposition of the EU Biofuels Directive.

### Portugal: Renewable energy

projects impact assessment

Gouveia Pereira, Manuel

Under Portuguese law, the licensing of energy production facilities using renewable energy sources is subject to strict environmental rules resulting from the implementation of EU Directives and specific national legislation.

### Does territorial level matter? TIA

for EU energy policy

Golobic, Mojca; Marot, Naja Contribution introduces territorial impact assessment (TIA) for two EU energy policy directives. The question of territorial level and use of assessment results in policy making across different governance levels is addressed.

### Federal EA of major energy projects in Canada Leboeuf, Yves

The presentation will examine the application of the Canadian Environmental Assessment Act to energy sector projects, including future opportunities and challenges for the environmental assessment of major energy projects.

# From the Sun to you

Light, heat and movement. That is what energy is about, from the moment the Sun releases it raw, to the point where we use it in our lives. It is born in a huge ball of fire and it spreads on Earth, all around us. Then we gather it, treat it and take it to you in the most diverse ways. It is because we are in all the stages of the energy process - exploration, production and distribution - that Galp Energia is the only Portuguese integrated energy operator. In the end, all we do is bring the Sun to you.

Your positive energ

🙆 galp energia

### **INDIGENOUS PEOPLES**

# 12.1 Assessing project impacts on the cultural survival of Indigenous Peoples

Tuesday, 29 May | 16:45 – 18:30 | Miniaturas Chair(s): Karin Buss, Arlene Fleming

### Paper session

Indigenous peoples and ethnic minorities are at particular risk from energy projects because their culture, including their way of life and values, are inseparable from their natural environment. This session explores how the intangible features of a community's cultural identity—its values, beliefs, practices and livelihood—can be identified and integrated into the environmental impact assessments.

### Eastmain-1-A, La Sarcelle and

Rupert diversion project

Bérubé, Michel

The Eastmain1-A-La Sarcelle and Rupert diversion project is the result of an unprecedented collaboration between Hydro-Québec and the Cree population, to design and build a project based on sustainability.

# The significance of "significance" in community-led TUS

Garibaldi, Ann; Behr, Towagh

Conventionally, industry has authored the representation of indigenous community perceptions of development effects on culture in Fort McKay, Alberta. In response, Fort McKay has undertaken innovative community-based assessments.

### Facilitating indigenous assessment of development

Behr, Towagh; Behr, Towagh

The indigenous community of Fort McKay can now assess industrial development through a web-based system that provides a window on the interactions between development and mapped indigenous and scientific knowledge.

### Stakeholder engagement of indigenous communities

Stuckless, Daniel; Pinto, Alvaro

Lessons learned for moving beyond informing to meaningfully collaborating with community members to better assess and address cultural impacts.

### Conflicting obligations: Oil ands vs. treaty nations McCormack, Patricia

NICCORMACK, Patricia

Alberta's commitment to oil sands extraction is opposed by First Nations, who maintain that their treaty rights continue to be violated. A treaty implementation strategy should ideally become part of EIAs.

### Challenging wind power development on Saami herding land

### Sasvari, Anett

This paper examines wind power development on Saami indigenous herding lands and analyses participation in EIA consultation practices and challenges in knowledge production and implementation measures.

### **PUBLIC PARTICIPATION**

# 13.1 Stakeholder consultation and public participation

### Tuesday, 29 May | 16:45 – 18:30 | D. Maria

Chair(s): John Devlin

Paper session

IAIA Section: Public Participation

Stakeholder participation and public participation are overlapping concerns in impact assessment. Legislative requirements relating to stakeholder consultation and techniques for effective public participation continue to evolve. This session will consider cross-sector perspectives, strategies, tools and good practice in consultation and engagement during environmental and social impact assessments in Cameroon, Pakistan, China-PRC, Chile, and Portugal.

# Role and level of stakeholders engagement in the EIA

Nguene, Francois Roger; Enjoh Fonocho, Charlotte; Taza-Asaba Lebongwo, Juliet; Nien Ngapout, Suzanne-Aimee Stakeholders engagement in EIAs of the energy sector of Cameroon possesses certain attributes which will be addressed by this paper. This paper emphasises the need for accountability in the process.

### Impact assessment ... the weaker link

Zaheer, Arfa; Saeed, Ahmad

This paper discusses the awareness raising strategy devised under a national level project for Pakistan. The strategy aims to advocate and promote EIA and introduce SEA in the country.

### Challenge of public participation in China's EIA

Zhang, Yuhuan; Liu, Xiaowen; Yu, Yunjun; Bian, Guojian; Li, Yu; Long, Yingxian Public engagement in EIA can play its role to solve the environmental issues. It is a hard job for all stakeholders, including the environmental assessors, the authorities, and the public.

### Citizen participation to local governance Medina Rodriguez, Angelica Andrea

This work analyzes the participation mechanisms that Chilean environmental institutions offer to the community. Special emphasis is focused on the Andean territory of Arica and Parinacota Región in Chile.

### Quality review of EIS non-technical summaries Jesus, Júlio

Quality review of a sample of NTS, applying the Good Practice Criteria adopted in 2008; discussion of major problems—including ethical issues—in the preparation of NTS.

### 13.2 Mainstreaming stakeholder consultation and engagement in context of impact

### Sponsored by JICA

Wednesday, 30 May | 09:00 - 10:30 | Porto

### Chair(s): Agnieszka Rawa

### Theme forum

Early, strategic, systematic, and sustained engagement with different stakeholders—and the integration of feedback obtained—is a cornerstone of successful environmental and social assessments (ESIAs) and project sustainability. While legislative requirements relating to consultation continue to evolve in developing countries, there are still many challenges, often less familiarity and less experience. This session will consider cross-sector perspectives, strategies, tools and good practice in consultation and engagement during ESIAs in developing countries.

### Increasing influence of stakeholders

in business decisions

Adekoya, Adebanji Stakeholder scrutiny has become a major consideration in business decision making. Effective management of stakeholder concerns has therefore become a key differentiating factor for oil and gas companies

### Public consultation in Morocco: Setting new precedents

Gabi, Houcine; Richart, Jonathan

Public participation is a new approach in Morocco. During the last three years we faced many challenges but succeeded in setting new precedents and paving the way to ensure stakeholder engagement.

### Community involvement in new energy ventures

Moreira, Sérgio; Lima, Luisa; Marques, Sibila We address a real world project aimed at designing and implementing a public participatory process for the planning and construction phases of two dams in Portugal.

# Closing the gap: Country requirements and best practice

Rodriguez, Fernando

This presentation will highlight gaps in consultation requirements and share benefits of adequate stakeholder engagement which could contribute to mainstreaming best practice ESIA consultation and improve chances of sustainability.

### Moving from engagement to inclusion in ESIAs

Sarkar, Sunrita

The presentation will showcase best practices and changing ethos and needs of stakeholders that drive the ESIA processes beyond legislation or compliance in a development context.

### PUBLIC PARTICIPATION

### 13.3 Public responses to energy initiatives

### Wednesday, 30 May | 14:30 - 16:15 | Ribeira 2

Chair: Sikhad Keshkamat

Paper session

IAIA Section: Public Participation

The transition towards new energy sources (sun, wind, tidal, shale gas) influences the scale and character of the impacts of energy generation and transportation. This session will discuss public involvement in IA and decision making on energy projects. Papers will discuss shale gas, wind power, and general infrastructure development in Canada, Iran, Cameroon, and Portugal.

### Public concern as a trigger for shale gas SEA in Québec

### Crowley, Michel; Risse, Nathalie

This paper illustrates how the voicing of public concerns on environmental issues surrounding shale gas activities was a key factor in triggering an SEA on the industry in Québec.

### Indigenous People involvement

in wind power plants

Alikhah, Fardin

Manjil City is called "The Energy Center of Guilan Province" in Iran. What are Indigenous Peoples' perceptions and feelings from these words?

### Public hearings in EIA for energy sector projects

Ngouana Kengne, Cyrille Valence Public hearing seems to be more than a technique or a step. It is a philosophy about processes of development and democracy.

### Portugal: PP and decision-making of energy projects

Lourenço, Inês; Nuno, Carlos; Jesus, Julio; Duarte, Claudio; Pereira, Francisco

The public participation that occurred in the decisionmaking process for energy projects in Portugal (2000-2010) is presented and discussed, including the proponents' and consultants' perspectives of public participation and its consequences.

### Access to judicial review of EIA procedure Ushiiima, Hitoshi

This paper sheds a light on locus standi (standing) and its future in EIA litigations/appeal-procedures. It examines how EIA litigations will contribute to improved energy future as well.

### 13.4 Public participation and IA follow-up

- Chair(s): Bert Enserink
- Paper session
- IAIA Section: Public Participation

This session will discuss how public participation can be effectively maintained after project approvals have been given. Papers will discuss how traditional environmental knowledge, impacts of offshore oil and gas on artisanal fishing, and community-based environmental monitoring can contribute to followup activities. Cases will be presented from Canada, Peru, and Australia.

### Development of a consensus model to address TEK Process LaPierre, Louis

context of mutual respect.

The consensus decision model provides a process to address divergent views and tradition within the

### Participation of fishermen in offshore activities

Nunez, Monica Consideration of fishermens' social specific characteristics and concerns in public participation mechanisms of offshore seismic and drilling exploration in Peru.

### Participatory follow-up IA: An Australian case study Schirmer, Jacki

This paper will explore the opportunities and challenges presented in using participatory approaches to follow up IA. It focuses on the issues of attributing causes of impacts amongst multiple factors.

### Community-based monitoring and IA follow-up Devlin, John

This paper explores community-based environmental monitoring experience in Canada and argues that community based environmental monitoring can provide usable knowledge supporting adaptive management of projects during implementation and decommissioning stages.

### Acceptance of RE in alpine areas

Jiricka, Alexandra; Stöglehner, Gernot; Pröbstl, Ulrike An evaluation of several approaches of public participation regarding the introduction of RE in alpine settlements including risk assessment at different planning levels and phases in the process.

### 13.5 Public participation, value conflict and the politics of impact assessment I

### Sponsored by JICA

### Thursday, 31 May | 14:30 - 16:15 | D. Maria

Chair(s): Bert Enserink

### Paper session

Projects continue to be designed and implemented with economic valuations foremost. But publics seek to insert a more diverse range of concerns into project approval discussions. This is the first of two sessions considering how public values are mobilized and the politics of IA managed during project level IAs. Papers discussing cognitive bias, cross-country variations in the legal opportunity for public participation, decision analysis techniques, and the benefits and challenges of JICA's use of an external advisory committee are presented.

### Why do citizens get angry? Analysis of cognitive bias

Ogura, Kenji; Okumura, Tetsushi Public officials should have better understanding of cognitive biases to solve value conflicts created during the process of public projects, especially involuntary resettlement procedures on public projects.

### Legislation participation in EA:

### Yes, but how and when?

Yap, Nonita; Devlin, John

We examine how EA legislation establishes transparency. Specifically, are the interested and affected parties notified of the project? If yes, how and when? Is their input solicited?

### Using decision analysis in companycommunity agreement

Ribeiro de Spinola, Ricardo; Antunes Ferreira, José: Guilherme, Antunes Ferreira

The aim of the study was to compare two highway solutions in terms of their environmental impacts using Multi Criteria Decision Analysis to obtain a company-community shared evaluation.

### JICA's Advisory Committee: Benefits and challenges

Murayama, Takehiko; Kawazoe, Yasuhiro; Masumoto, Kiyoshi; Sakurai, Noriko Japan International Cooperation Agency (JICA) has set up an advisory committee chosen from the public. This paper intends to analyze benefits delivered from the committee.



http://hia.kihasa.re.kr/ Our English HIA website will be ready soon.

# HIA for Enhanced Healthy Life Expectancy and Well-Being

### 4th Asia-Pacific HIA Conference | 9-11 October 2012 | Korea Institute for Health and Social Affairs, Seoul, Korea

### Maior themes

- · Evidence-based actions for natural disasters
- · Developing HIA methods for healthy public policy
- Raising health equity issues in all sectors
- · Planning healthy environment
- · Training and capacity building through concerted approach
- · Linking HIA with other forms of impact assessment
- International networking : Thematic Working Groups of the Regional Forum on Environment and Health in Southeast and East Asian countries

### **Call for Abstracts**

Participants are invited to present papers (oral or poster presentation) on the HIA-related topics. Please send your abstract by e-mail to the Secretariat (eunjin@kihasa.re.kr) by 31 July 2012.

### Speakers and partners

- Dr. Robert Bos (WHO)
- Dr. Robert Bos (WHO) Dr. John Kemm (Public Health Consulting Ltd.) Dr. Gabriel Gulis (Univ. of Southern Denmark) Dr. Katrin Engelhardt (Health Promotion Company) Dr. Andy Dannenberg (CDC) Dr. Ben Harris-Roxas (Harris-Roxas Health) Dr. Richard Morgan (Univ. of Otago)

# IAIA Section: Public Participation

### 13.6 Public participation, value conflict and the politics of impact assessment II

### Thursday, 31 May | 16:45 – 18:30 | D. Maria

Chair(s): John Devlin

Paper session

### IAIA Section: Public Participation

Projects continue to be designed and implemented with economic valuations foremost. But publics seek to insert a more diverse range of concerns into project approval discussions. This is the second of two sessions considering how public values are mobilized and the politics of IA managed during project-level IAs. Papers discussing conflicting perceptions of the appropriate scope of public participation in IA will be presented. Cases are discussed from Canada, Japan, the United Kingdom, Brazil, and the World Bank/IFC.

### Strategic intervention of interveners in project EIA Barnes, Jeffrey; Hickey, Earle

Suries, Jenrey, Fickey, Eurie

The paper explores strategic interventions by specialist interest groups in EIA of energy and mining projects in Canada in order to pursue broader policy questions not necessarily mandated by legislation.

### JICA' s challenge of creating a peer review system Harashina, Sachihiko

There are always value conflicts in impact assessment processes. To make wise and fair judgments, peer review has a critical role. JICA has made a model of this in its guideline.

# Exit and voice: IA for accountability and sustainability

Sheate, William

The paper draws on empirical case studies of how NGOs have used EIA/SEA in the EU/UK over the last 25 years as a lever for enhancing accountability and sustainability.

### Brazil: A new scenario for IA and public participation

Ribeiro, Daniel

In the midst of unprecedented economic growth and a deficient tradition of EIA, there is a new horizon for changes in the institutional and political framework of IA in Brazil.

### Social and regulatory influence

on impact assessments

Solaun, Leticia

Revisions to impact assessment standards combined with social movements, shifts in trust, and economic instability affect organizational-public relationships. This presentation will analyze international standards and movements related to impact analysis.

### **PUBLIC PARTICIPATION**

# 13.7 Social media and public participation in IA

Friday, 1 June | 09:00 – 10:30 | D. Maria

Chair(s): Sukhad Keshkamat

Paper session

IAIA Section: Public Participation

This session will consider how social media are being used to facilitate participation in IA. The potential of social media to collect and disseminate information as well as the use of social media by all sides in a dispute will be considered. Examples will be presented from the Netherlands, Canada, Hong Kong, and Italy.

### Social media to facilitate public participation in IA Enserink, Bert; Naber, Arienne

New media enable the creation and exchange of user-generated content. Stakeholders in controversial projects do use these new forms of communication. What are the new dilemmas and challenges?

# Social media: Friend or foe in a public consultation program?

Brice, Gwen

The benefits and pitfalls of using social media tools in a public consultation program.

# Embracing social media to enhance public participation

Peirson-Smith, Timothy J.

This paper aims to share Hong Kong's social media engagement experience and deployment of social media strategy and tactics to enhance public participation and community understanding of development projects.

### WIKI WEB GIS for SEA on Google Maps in action

Magro, Giuseppe; Patassini, Domenico

WIKI WEB GIS is an innovative tool based on Google Maps for 2.0 participation into SEA processes and is an impact assessment based social forum "connected" to reality.

# my father makes millions of fans go round and round and round

Our children always exaggerate a little. But the truth is that at EDP, we're more than 12 thousand people, throughout the world, committed to doing our best for tomorrow's energy.

www.edp.pt



madeleine peck daughter of employee at EDP North America



### SOCIAL IMPACT ASSESSMENT

### 14.1 Gender integration in impact assessment

### Tuesday, 29 May | 14:30 – 16:15 | Miniaturas

Chair(s): Virginia Seitz

### Panel

Gender inequality can be a significant constraint to economic growth and poverty reduction. Explore gender integration in the context of environmental and social assessment-and more generally the sustainability of development investments. What does gender integration look like? Who is competent to devise workable plans? What are the appropriate timelines? What strategy, approach, processes and tools are useful and how does one ensure that plans are actually implemented on the ground?

### Integrated gender and value chain

### assessment in Kenya Collins, Victoria

Including gender analysis into a value chain assessment in Kenya's Lake Region uncovered critical facts. This led to the re-design of an alternative livelihoods program with greater chance for success.

### Gender impact assessment in infrastructure planning

Levin, Lena; Faith-Ell, Charlotta

This paper aims at exploring the practice of GIA in infrastructure planning in Sweden.

### Gender integration in impact assessment

Seitz, Virginia; Dia Sow, Fatima; Bingham, Charlotte Discussion of achievements and challenges in gender integration from the agency and country partner perspectives and the broader implications of MCC's experience for the field of social impact assessment.

### 14.2 When and where is Social Impact Assessment required?

### Wednesday, 30 May | 11:00 – 12:30 | Ribeira 2

Chair(s): Rabel Burdge Paper session

In what countries and which agencies in those countries is social impact required or used as part of the environmental assessment process?

### SIA and the coal seam gas controversy in Australia

Rickson, Kara

This paper considers whether the scale, pace, and nature of coal seam gas mining is booming ahead of social impact assessment requirements in the Australian state of Queensland.

### Was SIA adopted in Brazil?

Montano, Marcelo

The current practice of impact assessment in Brazil is discussed to comprehend the relevance of social dimensions of environmental impact in decision making, reflecting about SIA practice in the country.

### Where social impact assessment is not required

Faith-Ell, Charlotta; Engelbrektsson, Elina;

Halling, Jon; Svensson, Jonas

This paper discusses how SIA has been implemented in Sweden, drawing on examples in the mining, wind farm, and municipal planning sectors.

### SIA requirements and use in South Africa Aucamp, Ilse

This paper will give an overview of the requirements and use of SIA in the environmental and mining fields

# in South Africa.

### SIA requirements and use in Ontario, Canada

Brice, Gwen

Determining when a social impact assessment is required under the Ontario Environmental Assessment Act.

### When is social impact assessment required?

Burdge, Rabel; Taylor, C. Nicholas This paper details the countries, on a worldwide basis, where legislation and government agencies actually require social impact assessment.

### 14.3 Livelihood integration in impact assessment

Wednesday, 30 May | 14:30 - 16:15 | Miniaturas

Chair(s): Nick Taylor

Paper session

The sustainable livelihoods approach has enabled the integration of social development and environmental concerns but how has the concept been integrated within impact assessment? In answering this question this paper session draws on case studies to explore issues including energy supply, climate change and agriculture.

### IA of energy supply in informal settlements

Amado, Miguel; Montalvão, David; Santana, Paula; Lopes, Tânia

The paper establishes a methodology to select an indicator's group suited to evaluate the life cycle of a project: an applied sustainability assessment of energy supply options/effects using informal settlements.

### Sustainable wood production models in rural Africa

Walmsley, Bryony; Versfeld, Dirk; Martellini, Barbara The paper argues the need to develop more

sustainable models for fuel wood production in rural Africa through policy reform, enforcement, research and education.

### Climate change truck farming and green economy in Benin

Foe Eloundou, Bertrand Joel

In Benin urban truck farming remains a pillar of cities' food balance, where new action can be improved to ensure green economy and sustainable development.

### 14.4 Resettlement planning in a development context I

Thursday, 31 May | 09:00 – 10:30 | Arrábida

### Chair(s): Charlotte Bingham

Paper session

IAIA Section: Social Impact Assessment

Care, consultation and caution are the watch words of resettlement planning. A good resettlement plan will not guarantee easy resettlement of people, but a badly conceived plan will cause troubles that will delay a program or project. This session includes papers discussing capacity building, a team approach and needs to consider social vulnerability and flood hazards.

### Environmental effects of post-disaster rehabilitation

Tariq, Muhammad Irfan; Mehmood, Chaudhry Tahir Implementation of total sanitation into resettlement/ rehabilitation ensures minimum burden on ecosystem over extended time period. However, the program needs stem from the government planning process for sustainability.

### Teamwork essential to resettlement action planning

Dava, Eden Gabriel Vieira; Langa, Eduardo This presentation discusses the Keep It Simple and Standard (KISS) method for accelerated Resettlement Action Planning and implementation to allow rehabilitation of 150km of a national road in Mozambique.

### Measuring social vulnerability to resettlement

Moreira, Sérgio; Lima, Luisa; Marques, Sibila; Ferreira, Isabel; Batel, Susana In this paper we address the creation of a social vulnerability indicator to resettlement (IVuS) in the

context of Fridão Hydroelectric Dam in Portugal.

### Impacts of Resettlement on Urban Livelihoods Choi, Narae

Through a case study of the railway project in Metro Manila, this study aims to understand the complex ways in which urban livelihoods are affected by displacement and resettlement.

### 14.5 Resettlement implementation in a development context II

### Thursday, 31 May | 11:00 – 12:30 | Arrábida

Chair(s): Charlotte Bingham

### Paper session

Implementation of resettlement plans in developing countries is sometimes successful and sometimes not. Papers highlight implementation for dams, irrigation and water supply schemes, covering topics such as consultation challenges of energy supply, monitoring, impacts of different types of compensation and how resettlers viewed choices of destinations.

### Wood energy for resettlement:

Alatona Irrigation Project

Maïga, Mahamadou Ahmadou; Bingham, Charlotte Wood supplies vital energy necessary for cooking to inhabitants of the Mali Alatona Irrigation Project, but the project cleared the vegetation and reforestation is not ready. What can be done?

### Cash vs. land vs. no compensation: Experiences in Tahtali

Satiroglu, Irge

Tahtali Dam in Turkey displaced around 7500 people in 1996. This research explores how different types of compensation, or absence of it, transformed the lives and livelihoods of the displacees.

### Practical lessons learned from Lesotho

Diaho, Mahlao; Molapo, Lira

Good resettlement implementation requires management of expectations and looking after the needs of PAPs, especially vulnerable women and children.

### Building sustainable capacity in the East Asia Pacific

Leonard, Peter; Gautam, Surhid

This session will share with participants past and recent initiatives in the East Asia Pacific region to help build regional and country capacity in involuntary resettlement and social impact assessment.

### Ten resettlement cases from Asian dam construction

Nakayama, Mikiyasu; Fujikura, Ryo Implications of resettlement in Indonesia, Japan, Laos, Sri Lanka, and Turkey were examined by an international research project, resulting in useful lessons for future projects.

### 14.6 Social impact management plans I

### Thursday, 31 May | 14:30 - 16:15 | Arrábida

Chair(s): Daniel Franks, Frank Vanclay Paper session

IAIA Section: SIA

In recent years the drivers and domain of focus for SIA have shifted. This session reflects on how social impact management plans are reshaping SIA. How are companies and governments approaching impact management? What are the challenges of aligning corporate management systems? How do communities engage in the process?

### Social impact management plans: Innovations in policy

Franks, Daniel; Vanclay, Frank

This paper reports on innovations in corporate and public policy to encourage ongoing social impact assessment, management and monitoring processes during project implementation and distills key principles.

### Anglo American's Socio-Economic Assessment Toolbox

Samuel, Jonathan

An overview of Anglo American's Socio-Economic Assessment Toolbox (SEAT), recipient of IAIA's 2012 Corporate Initiative Award. SEAT integrates ongoing impact assessment into the management of social performance at mining operations.

### Social management plans and IFC

Performance Standards Baird, Diana; Kvam, Reidar

SMPs are an integral part of IFC's PS1. We consider the evolution of such plans at IFC, how they have improved projects, and the implications of the updated performance standards.

### Town mouse, country mouse

redefined: Negotiated SIMPS

Pollard, Lisa; Walton, Freya

This paper highlights collaborative relationships in defining social effects and describes SIMPs, focussing on affordable housing as a negotiated process, collaborative data collection and monitoring, and the future of compliance.

### SOCIAL IMPACT ASSESSMENT

### 14.7 Social impact management plans II

Thursday, 31 May | 16:45 – 18:30 | Arrábida

- Chair(s): Rauno Sarinen
- Paper session
- IAIA Section: SIA
- In recent years the drivers and domain of focus for

SIA have shifted. This session reflects on how social impact management plans are reshaping SIA. How are companies and governments approaching impact management? What are the challenges of aligning corporate management systems? How do communities engage in the process?

# Social management plans: What has implementation shown?

s implementati Sarkar, Sunrita

The path of SIAs leading to social management plans and the outcomes of implementation will be discussed in this presentation.

### Social and labor plans in community development Chisha, Shiphra

This presentation considers the interaction between social and labour plans and the community development activities of the Sishen Iron Ore Company-Community.

### Solar and social development: Ouarzazate solar project

Broche, Karima

This paper focuses on the major social and economic challenges faced by the first solar energy plan in Morocco and how the SIA and the SMP tried to address them.

### Poverty and social assessment of transport policy

Khan, Aurangzeb; Sanchez-Triana, Ernesto; Afzal, Javaid; Enriquez, Santiago Social assessment helped identify the social effects that could be caused by proposed policies to strenghten the freight and transportation sectors in Pakistan as well as to inform mitigation measures.

# 14.8 Social aspects of energy consumption and production

Friday, 1 June | 09:00 – 10:30 | Infante

### Chair(s): Luísa Schmidt

### Paper session

The core issue of this session is social life and the debate around changing consumption habits and the promotion of new ways of generating energy, both of which are very demanding matters in terms of targets and procedures. Especially in the current economic situation, energy consumption and production practices are crucial for considering energy futures.

### Social impacts of photovoltaic technology

Caceres, Santiago; Gomez, Javier; Durlan, Cristina; Aleixandre, Guillermo

Photovoltaic technology presents social impacts throughout its supply chain from raw material extraction to disposal that should be taken into account in a sustainable assessment of the technology

### Managing social impact in E&P projects

Ekong, Eno-Obong; Adekoya, Adebanji; Ekpenyong, Emmanuel

As mitigation of social risk increasingly become critical success factor in oil and gas investment projects, lessons from successful projects would become important input in proposed development.

### EPBD assessment as a tool for fuel poverty estimation Magalhães, Sara; Leal, Vítor

This paper explores the potential of the use of Energy Performance Assessment schemes developed after EPBD to perform estimates of fuel poverty in countries, taking Portugal as example of application.

### Social and environmental benefits from the Lisbon Metro

Laborinho, Marta; Cerdeira, Ana; Lobato, Ana How would life be in Lisbon if there was no Metro? This scenario will be compared, in terms of social and environmental benefits, with the existing situation.

### A normative framework for assessing energy systems

Gaudreau, Kyrke; Gibson, Robert B.; Fraser, Roydon A. This paper presents a normative approach to assessing how energy systems may help society progress towards sustainability with an emphasis on the co-evolution of energy and society.

### China and a global green system of innovation

Marinova, Dora; Guo, Xiumei China's contribution to the planet's environmental state is enormous, but so is its decarbonising potential. We analyse recent trends and China's role in the emerging global green system of innovation.

### 14.9 Social impact management plans III

### Friday, 1 June | 09:00 – 10:30 | Arrábida

Chair(s): Jonathan Samuel Paper session

### IAIA Section: SIA

In recent years the drivers and domain of focus for SIA have shifted. This session reflects on how social impact management plans are reshaping SIA. How are companies and governments approaching impact management? What are the challenges of aligning corporate management systems? How do communities engage in the process?

### The quality of SIA reports in South Africa

Sandham, Luke; Hildebrandt, Leandri; Retief, Francois The quality of SIA reports in South Africa has shown a modest but significant improvement in the first era of mandatory EIA since 1998.

# The influence of management processes on social impacts

Loxton, Edwina; Schirmer, Jacki; Kanowski, Peter This paper explores the influence of management processes on the positive and negative impacts people experience cumulatively as a result of policy changes, and encourages monitoring to detect unintended consequences.

### Social impacts of mining and CSR

Petrova, Svetla; Marinova, Dora The paper reflects on community's understandings about the social impacts of mining and the role of Corporate Social Responsibility (CSR) practices carried out by companies for long-term sustainable development.
#### 15.1 Asian SEA, EIA and sustainability assessment I

#### Tuesday, 29 May | 14:30 – 16:15 | Porto

Chair(s): Kii Hayashi, Jong-Gwan Jung Paper session

Participating in this Asian EIA/SEA session will give you good knowledge on EIA/SEA good practices in this region and also provide you with a good human network in Asia.

#### SEA: Adaptation to context in

international development

Annandale, David

This presentation builds upon the "adaptation context" literature by presenting a detailed account and analysis of the institutionalizing of SEA in a number of developing Asian countries.

## Towards policy environmental assessments in Bhutan

Brown, Lex; Lhamu, Kunzang; Wangyel, Phuntsho; Tshering, Karma

The paper describes an approach to adapting and utilising the existing formal policy approval processes in Bhutan to mainstream some elements of SEA thinking in future policy development there.

#### SEIA on linear-project-plan in Korea

Han, Kyu-Young; Lee, Mu-Choon This study discusses SEIA method of a linear-projectplan. Because each road has a different plan in decision-making steps, this study proposes a new SEIA method that can reflect the differences.

#### SEA for sustainable development of Sindh, Pakistan

Hussain Ali, Mir; Afzal, Javaid; Sanchez-Triana, Ernesto; Enriquez, Santiago The presentation will discuss an SEA conducted to identify Sindh's environmental priorities and incorporate sustainability criteria across a number of sectors to promote the province's sustainable economic growth.

#### Evaluation of the ecosystem services of Isshiki tidal flat

Ito, Hideyuki; Hayashi, Kiichiro; Ota, Takahiro This paper aims to estimate the total economic value and the importance level of individual ecosystem services and biodiversity for the Isshiki tidal flat of Mikawa Bay in Aichi, Japan.

#### Through monitoring the reliability of load rating Jae-Woon, Lee

#### 15.2 Lessons learned in energy-related SEAs I

#### Tuesday, 29 May | 14:30 - 16:15 | Miragaia

Chair(s): Johann Köppel Paper session

This session focuses on SEAs that have been recently prepared describing long-term strategic energy planning. Lessons learned focus on issues that needed to be addressed in these SEAs, public concerns, approaches to developing alternatives or outcomes not necessarily expected during the initial SEA process.

# STRATEGIC ENVIRONMENTAL ASSESSMENT

#### SEA of energy plans in Sweden

Balfors, Berit; Mörtberg, Ulla; Wang, Lan The application of SEA on municipal energy plans in Sweden as a means to coordinate and harmonize these plans with climate strategies and municipal land use plans.

#### Regional plans for localization of wind farms

Brun, Jørgen

Regional plans with SEA can give a broader basis for decision making in wind farm development. This presentation summarizes Norwegian experiences and points at challenges in following up.

#### Scotland's renewables jigsaw

Chisholm, Amanda

This paper describes the "jigsaw" of plans and appraisals (SEA, HRA, EIA) to deliver renewable energy in Scotland and explores the issues and opportunities encountered in their development and implementation.

#### Offshore SEA: Lessons from

Norway, Canada, and the UK Fidler, Courtney; Noble, Bram Based on international oil and gas SEA case studies, this presentation describes how sector-based SEA offshore is often too restrictive to generate expected benefits.

#### 15.3 Asian SEA, EIA and sustainability assessment II

Tuesday, 29 May | 16:45 - 18:30 | Porto

Chair(s): Kii Hayashi

Paper session

Participating in this Asian EIA/SEA session will give you good knowledge on EIA/SEA good practices in this region and will also provide you with a good human network in Asia.

#### Strategy for securing water resources with the tunnel

Jung, Yong-Moon; Park, Jae-Chung; Kang, Bo-Seung; Song, Young-II; Song, Sang-Jin This study was carried out comparing new dam construction and connection with the tunnel of an

existing dam for ecological, social, and economic impacts.

#### SEA and planning process and practices of Pakistan

Khan, Raja Aurangzeb; Ahmed, Nazia Zakir; Khan, Dr Raja Aurangzeb This paper provides an evaluation of existing policy/ planning system of Pakistan and room for SEA incorporation.

#### Application of SEA in energy planning in China Liu, Jia; Xu, He; Wang, Huizhi

Ten case studies were examined to understand currently how EIAs are applied to energy planning. Problems of EIA application were identified. The reasons and suggestions of those problems are analyzed.

#### Ad hoc energy policies and strategic decisions

Shah, Nasim-ur-Rehman; Ayub, Abida This paper describes current practices and role of EIA in the energy sector, gaps analysis and methods through which various aspects of energy sector could be dealt with strategically and sustainably.

#### Cost and benefit of biodiversity banking

Hayashi, Kiichiro; Hu, Shenghua The purpose of this study is to research the costs and benefits of biodiversity banking, focusing on vernal pool wetland in the USA and a hypothetical Japanese forest.

#### 15.4 Lessons learned in energy-related SEAs II

#### Tuesday, 29 May | 16:45 – 18:30 | Miragaia

Chair(s): Johann Köppel

Paper session

This session focuses on SEAs that have been recently prepared describing long-term strategic energy planning. Lessons learned focus on issues that needed to be addressed in these SEAs, public concerns, approaches to developing alternatives or outcomes not necessarily expected during the initial SEA process.

#### Effectiveness of SEA applied to energy sector in Brazil

Malvestio, Anne Caroline; Montano, Marcelo

This paper analyses the procedural effectiveness of SEA applied to energy plans and programs in Brazil, bringing an overview of how SEA is being carried through this sector.

#### Lessons learned from US renewable energy SEAs Geissler, Gesa

With the USA having more than 40 years of experience in SEA under NEPA, we hypothesize that the US's SEA practice for renewable energy can be a guide for Germany.

### The contribution of SEA to energy sector planning

White, Lisa; Noble, Bram

The role and contributions of SEA in energy sector planning are examined, both in terms of SEA process elements and PPP outcomes in six international electricity sector case studies.

#### The SEA in the transmission network development

Silva, Maria; Fernandes, Pedro; Pitarma, António; Medeiros Pinto, José

REN (Rede Eléctrica Nacional), the Portuguese Transmission System Operator, accomplished for the second time an SEA for Network Development and Investment Plan (NDP) of the National Electric Transmission Grid.

#### Master plan for energy resources in Iceland Jóhannesson, Helgi

The work for preparing a master plan for hydro and geothermal energy resources in Iceland was initiated in 1999. The main results of the master plan are presented and discussed.

## STRATEGIC ENVIRONMENTAL ASSESSMENT

# 15.5 Stakeholder engagement and related specific SEA issues

#### Tuesday, 29 May | 16:45 – 18:30 | Riberia 1

# Chair(s): Ralf Aschemann, Giorgio Baldizzone Paper session

Stakeholder involvement is increasingly viewed as one of the crucial dimensions of SEA and has to be integrated to any SEA procedures in order to include information that is relevant to the decision-making Process; to increase the credibility of the plans, programs or policies considered; and to support a democratic approach to the plan-making process. Papers discuss new developments with stakeholder involvement, to present interesting case studies and to deal with other related specific public involvement issues in the SEA context.

# Engaging with stakeholders: Adding value to the energy

Fernandes, Pedro; Peralta, José; Silva, Maria The paper describes the engagement process established on the strategic environmental assessment for the electricity transmission grid development and investment plan made by Rede Eléctrica Nacional.

#### Participation and learning in SEA in Kenya

Spaling, Harry; Walker, Heidi; Sinclair, A. John Learning for sustainability is evident at the community level, but a number of factors hinder meaningful engagement and facilitation of learning outcomes.

#### Network SEA for capacity development and dialogue Azcarate, Juan; Balfors, Berit

A network strategic environmental assessment approach is proposed to facilitate cross-border dialogue, the development of capacities and the operationalisation of higher level concepts in network-based NGOs.

#### Indicators and communication: Its influence on SEA

Gao, Jingjing

From implementation and decision-making perspectives, the study tries to explore indicators' role in communication and engagement of stakeholders and practitioners in SEA, based on a Chinese case in urban planning SEA.

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

### INDABA!

See page 2 for information.



# 15.6 Asian SEA, EIA and sustainability assessment III

sustainability assessment in

Wednesday, 30 May | 11:00 – 12:30 | Porto

- Chair(s): Jong-Gwan Jung
- Paper session

Participating in this Asian EIA/SEA session will give you good knowledge on EIA/SEA good practices in this region and also provide you with a good human network in Asia.

# GMS: Balancing economic growth and environmental sustainability

Ranawana, Sanath; Pokhrel, Sumit; Linde, Lothar Striking a balance between economic growth and environmental sustainability: achievements from the Greater Mekong Subregion.

#### Collaborative sustainability assessment for significant land use planning and development Raphael, Caroline

The key contribution of this framework is that it intimately links theory and practice on deliberation and sustainability assessment, providing a sense of reality to collaborative sustainability assessment.

#### Strategic environmental assessment: Thar Coal Project

Sabir, Muhammad; Saeed, Ahmad; Phulpoto, Waqar; Ejaz, Saqib

Strategic environment assessment was used as tool for sustainable development of the Thar Coal Project, identified the potential environmental effects, and suggested the mitigation measures.

#### EIA for a new Korean research station in Antarctica

Moon, Nankyoung; Lee, Young-Joon;

*Ro, Tae Ho; Chun, Dong Jun* Comprehensive EA for a new Korean research station in Antarctica has been conducted on the proposed activities so that its construction and operations are environmentally sound and sustainable.

#### Mainstreaming sustainability in Pakistan's industries

Sohail, Shaista; Sanchez-Triana, Ernesto; Afzal, Javaid An SEA identified opportunities to integrate environmental management into Pakistan's industrial growth policies in order to reduce the social costs of environmental degradation and foster industrial competitiveness.

# 15.7 Modeling tools for energy policy design and SEA I

#### Wednesday, 30 May | 11:00 - 12:30 | D. Luis

#### Chair(s): Jean-Philippe Waaub Paper session

The SEA of energy strategies involves a lot of crosscutting issues. Large-scale energy producers are designing strategic developments encompassing supply and demand infrastructure investments. Modeling tools provide helpful information about sustainability issues in the long term. Case studies and presentation of modeling tools will be discussed.

### SEA role in energy planning,

matching of energy systems Carlos, Filipa; Oliveira Fernandes, Eduardo; Partidário, Maria

Decisions on energy options have long-term consequences. Given current transitions on energy systems, it is urgent to act now, and strategically, in order to assure a sustainable future.

#### LUC-ILUC GHG model applied to Brazilian bioethanol

Carvalho, Ariovaldo; Freire, Fausto; Henggeler Antunes, Carlos LUC-ILUC of sugarcane for bioethanol production caused a conversion of 101,632 ha of native vegetation, net emissions of 1,279,649 ton CO2e, resulting in an emission factor of 11.89 g CO2e/MJ.

#### Model environmental solutions for sustainable cities

Bargiel, Dorota; Sliczna, Malgorzata By choosing a CSR tool like "MyFootPrint," companies from the energy sector will be able to maintain better communication with their most important stakeholders: customers and ecological surroundings.

#### Energy planning indicators in developing countries

*Lee, Nathan; Leal, Vítor* A survey of energy planning documents of West

African countries to provide an assessment of the objectives, attributes considered, indicators used to quantify such attributes, and applicability of SEA.

#### 15.8 Lessons learned in energy-related SEAs III

#### Wednesday, 30 May | 11:00 - 12:30 | Miragaia

Chair(s): Gesa Geissler

#### Paper session

This session focuses on SEAs that have been recently prepared describing long-term strategic energy planning. Lessons learned focus on issues that needed to be addressed in these SEAs, public concerns, approaches to developing alternatives or outcomes not necessarily expected during the initial SEA process.

#### SEA for sustainable bioenergy

production in Tanzania Diaz-Chavez, Rocio A.

This paper presents the preliminary results of the issues considered in an SEA in the United Republic of Tanzania for the biofuels policy and the renewable energy sector.

### SEA in the GMS: Power develpoment

### plans in Vietnam

Pokhrel, Sumit; Soussan, John; Huyen, Nguyen Thi Thu Internalizing the externalities: Strategic environmental assessment of power development plans in Viet Nam—implications for the GMS.

#### Pilot SEA of the Mexican electricity works program

Montañez-Cartaxo, Luis E.; Díaz-Perea, Francisco J. Through an SEA, the risks and opportunities for the sustainability of the Northeast region of Mexico are evaluated regarding the electricity facilities to be established there in the next years.

#### Sustainability risk assessment for E&P concession Jiliberto, Rodrigo

The National Hydrocarbon Agency of Colombia has incorporated in its E&P concessions procedure an early assessment of sustainability risk.

## STRATEGIC ENVIRONMENTAL ASSESSMENT

#### **15.9 Specific SEA issues**

#### Nednesday, 30 May | 11:00 – 12:30 | Ribeira 1

Chair(s): Ralf Aschemann, Giorgio Baldizzone Paper session

Stakeholder involvement is increasingly viewed as one of the crucial dimensions of SEA and has to be integrated to any SEA procedures in order to include information that is relevant to the decision-making process, to increase the credibility of the plans, programs or policies considered, and to support a democratic approach to the plan-making process.

#### Perceptions on SEA: Not all that glitters is gold

Monteiro, Margarida; Partidário, Maria Multiple decision-makers and uncertainties are involved in SEA, so it is crucial to understand the influence of actors' perceptions on the final outcomes

#### Analysis of the draft of SEA regulations in Brazil

Raimundo e Almeida, Maria Rita; Parreiras Martins, Tatiana; Rondinelli Roquetti, Daniel; Castillo Soto, Nini Luferly

This paper analyzes the draft that guides SEA regulation in Brazil, revealing its strengths and weaknesses in an attempt to contribute to the improvement of Brazilian SEA effectiveness.

#### Evidence of a learning process to SEA in Brazil

Montaño, Marcelo

of planning processes.

The paper discusses the situation of SEA in Brazilian states, in order to verify the evidences of an existing learning process that is focusing SEA on strategic levels of decision.

#### Policy impacts of aging and

manipulated river systems Wells, Thomas; Bryan, Hobson

A strategic environmental assessment of lateral connectivity issues on aging and manipulated river systems is illustrated in a case study of Alabama's Black Warrior River.

### 15.10 SEA practice I: Case studies,

effectiveness and innovative approaches

### Wednesday, 30 May | 14:30 – 16:15 | Porto

Chair: Ralf Aschemann

#### Paper session

In 2004, all 27 EU Member States had to transpose the requirements of the SEA EU Directive into their respective legislative systems. This session aims at doing a review on innovative SEA case studies and their contribution to creative and new approaches within the SEA process. Papers are invited that present promising SEA practice, effectiveness issues, monitoring approaches, embedding SEA into SA, and other relevant topics.

#### Improved guidance for SEA practice in Portugal

Partidário, Maria; Valadas, Bertilia; Peralta, José An updated version of the Portuguese guidance for SEA is launched at IAIA12.

#### SEA, basin management and the Water Framework Directive

Bettencourt, Pedro; Fulgêncio, Cláudia; Grade, Maria; Alcobia, Sónia

Three Water Management Plans concerning Portuguese and Spanish watershed areas are presented, focusing on the critical problems, the related measures proposed, and their links to SEA processes.

# SEA of a road network plan: Effects on wolf populations

Mesquita, Silvia; Paula, João;

Mascarenhas, Miguel; Costa, Hugo

Practical example of how GIS-based analysis on wolf populations and ecology (or other target species) can benefit the decision process in SEA and subsequent phases.

#### SEA in Latvian rural spatial planning

Pavasars, Ivars

An innovative in-depth interview approach has been successfully used to assess SEA performance. SEA within the overexploitation paradigm misses locally relevant analyses and therefore requires adaptation to local conditions.

#### Applying SEA to megaprojects? Cartagena megaport Alvarez-Arenas Bayo, Manuel

Megaprojects are not easy to deal with under SEA/EIA Directives. The case of the Infrastructure Managing Plan of the New Dock of Cartagena (Spain) explores it.

# 15.11 Strategic environmental assessment and climate change I

#### Wednesday, 30 May | 14:30 - 16:15 | D. Maria

Chair(s): He Xu, Lam Kin-che

#### Paper session

What implications will climate change have on the feasibility and sustainability of policies, plans and programmers? How should we embrace considerations of climate change risks in the SEA process? With practical examples, this special 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 development, industry, agriculture, forestry, energy, transportation and tourism.

#### SEA and climate change in the coastal zone

Bettencourt, Pedro; Jesus, Carlos César; Alcobia, Sónia; Agra, Raquel Vulnerabilities of sandy coastal areas to global climate change and present-day occupation patterns in these areas are here discussed: some guidelines for future SEA.

# Are Swedish municipalities prepared for climate change?

Folkeson, Lennart; Jagerbrand, Annika; Genell, Anders Swedish municipalities are little prepared for climate change affecting transport infrastructure. Responsible officials base their actions on recent extreme weather incidents rather than strategic assessment of long-term future climate change.

#### Territorial vulnerabilities to climate change

Frade, Sofia; Partidário, Maria

The study of territorial adaptation and therefore the analyses of vulnerabilities is an important way to respond to the impacts of climate change.

#### Role of urban SEA in tackling

climate change in China

Lam, Kin-che This paper discusses how SEA of urban master plans in China have dealt with challenges of climate change and how effective they are.

#### Australian EIA practitioners' views

on addressing climate change Middle, Garry

Addressing climate change through ElA has become an important topic and discussion point in the ElA community. This paper is a followup to a paper presented at the Washington climate change symposium.

#### New guidance on SEA and EIA on

climate change and biodiversity Meuleman, Louis

Progress toward combating and adapting to climate change and halting the loss of biodiversity and damage to ecosystems requires robust consideration in plans, programmes and projects implemented across the EU. To meet these challenges, the Commission adopted the White Paper – Adapting to climate change: Towards a European framework for action (2009) and Guidance documents for integrating climate change and biodiversity into environmental impact assessment and strategic environmental impact assessment (official publication expected Summer 2012).This Presentation presents the key issues addressed in the new guidance documents.

# 15.12 Modeling tools for energy policy design and SEA II

#### Wednesday, 30 May | 14:30 - 16:15 | D. Luis

Chair(s): Jean-Philippe Waaub

#### Paper session

The SEA of energy strategies involves a lot of crosscutting issues. Large-scale energy producers are designing strategic developments encompassing supply and demand infrastructure investments. Modeling tools provide helpful information about sustainability issues in the long term. Case studies and presentation of modeling tools will be discussed.

#### An SEA process incorporating sustainability criteria White, Lisa; Noble, Bram

A Strategic Environmental Assessment (SEA) framework incorporating sustainability principles is presented and demonstrated using an expert-based assessment of alternative future scenarios for future electricity development in Saskatchewan, Canada.

# Improved models of strategic behaviour in power markets

Anjos, Miguel F.; Bautista, Guillermo; Vannelli, Anthony The study of strategic behaviour and market power assessment must account for the impact of the transmission system. We illustrate the potential difference in outcomes between AC and DC formulations.

# STRATEGIC ENVIRONMENTAL ASSESSMENT

# Contribution of TIMES-Canada model to energy policy SEA

Waaub, Jean-Philippe; Bahn, Olivier; Fertel, Camille; Vaillancourt, Kathleen

Socioeconomical justification of strategic energy proposal is a crucial step of SEA. Assessment of energy sub-systems is thus needed. Thus, TIMES-Canada 2050 energy paths and market shares are discussed.

#### Implementing energy security concerns in SEA

Fertel, Camille; Waaub, Jean-Philippe We propose to explore how to implement energy security concerns in SEA for energy policy. We present a multicriteria analysis of security of energy corridor combined with TIMES modelling approach.

#### 15.13 SEA practice II: SEA issues and SA

#### Wednesday, 30 May | 16:45 - 18:30 | Porto

Chair(s): Ralf Aschemann

#### Paper session

In 2004, all 27 EU Member States had to transpose the requirements of the SEA EU Directive into their respective legislative systems. This session aims at doing a review on innovative SEA case studies and their contribution to creative and new approaches within the SEA process. Papers are invited that present promising SEA practice, effectiveness issues, monitoring approaches, embedding SEA into SA and other relevant topics.

#### SEA and resilience: Social and environmental values Kalle, Heikki; Faith-Ell Charlotta

This paper is based on a case study of the SEA of the connectivity strategy in Estonia. The paper aims at discussing the application of resilience-based criteria.

#### SA: Exploring equity in strategic land use decisions

Lamorgese, Lydia; Geneletti, Davide The paper explores how different approaches to equity may be relevant in implementing sustainability-led assessment in land use decisions, proposing a framework and examples of applications.

#### SA in England, SEA in Scotland: Sustainability?

Hayes, Samuel; Jones, Carys; Barker, Adam Case studies are presented of English SA and Scottish SEA. Implications of varying impact assessment types on the shared goal commonly noted for IA movement towards sustainable development—are discussed.

# 15.14 Strategic environmental assessment and climate change II

#### Wednesday, 30 May | 16:45 - 18:30 | D. Maria

#### Chair(s): Lam Kin-che, Zhan Feng Dong, He Xu Paper session

What implications will climate change have on the feasibility and sustainability of policies, plans and programmers? How should we embrace considerations of climate change risks in the SEA process? With practical examples this special 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 development, industry, agriculture, forestry, energy, transportation and tourism.

#### SEA for sustainable coastal

development in Mozambique Partidário, Maria; Coetzee, Muller; Santos, Luciana; Couto, Mia; Heather-Clark, Stuart SEA plays a vital role in the conceptualization of Mozambique's coastal development strategy for managing conflicts from huge demand on natural resources, looking beyond into sustainable outcomes in the long-term.

#### An SEA to build resilience in the Indian Sundarbans

Sanchez-Triana, Ernesto; Singh, Raghvendra; Enriquez, Santiago The SEA constituted a multi-disciplinary platform that incorporated resilience thinking to assess the sustainability of ecological and socio-economic systems in the Indian Sundarbans.

#### SEA, climate change and water: Risks and synergies Wilson, Elizabeth

Climate change will affect the supply and demand for water resources, and their energy sources. Do Water Resource Plans' SEAs assess the risks and synergies in adaptation and mitigation?

#### Integrated climate change into plan SEA in China

Xu, He; Kong, Yan Hong; Mo, Li; Ding, Jie; Liu, Jia How to integrate climate change into China's plan SEA process, and a case study has been introduced to test the feasibility in practice.

#### Introduction of an energy efficiency legal framework du Plessis, Willemien

This paper discusses the potential interaction between the SANS 50001 voluntary standard for energy efficiency, energy efficiency policies and legislation in South Africa as drivers for an improved energy future.

# 15.15 Modeling tools for energy policy design and SEA III

#### Wednesday, 30 May | 16:45 – 18:30 | D. Luis

Chair(s): Jean-Philippe Waaub Paper session

The SEA of energy strategies involves a lot of crosscutting issues. Large-scale energy producers are designing strategic developments encompassing supply and demand infrastructure investments. Modeling tools provide helpful information about sustainability issues in the long term. Case studies and presentation of modeling tools will be discussed.

# Multimodeling approach for integrated EIA (EIA & SEA)

Scarpanti, Stefano; Magro, Giuseppe; Pellegrini, Stefania; Passeri, Marco Adoption of integrated EIA procedure for complex projects evaluation. DCGIS methodology provides new impact algebra based on advanced use of ordinary computational models. A cumulative effect analysis framework can be built.

### Modeling implications of land use

plans for hydropower catchments Linde, Lothar; van Rooij, Wilbert

An *ex-ante* strategic environmental assessment of Viet Nam's Quang Nam Province Land Use Plan 2011-2020 demonstrated the application of spatial models to assess conflicts and harmonize land demand projections with energy sector requirements.

#### Environmental management zoning for coal mining Geng, Haiging

An exploration for environmental management zoning of the coal mining industry in mainland China, which is intended to improve environmental management efficiency.

#### Testing LEAP model in long-term energy plan for Estonia

Peterson, Kaja; Kuhi-Thalfeldt, Reeli

LEAP is a scenario-based energy-environment modelling tool which is suitable for analysing energy consumption, production and emissions in all sectors of economy and visualizing complex information in SEA communication.

# 15.16 SEA practice III: SEA effectiveness and monitoring

#### Thursday, 31 May | 11:00 – 12:30 | D. Luis

Chair(s): Ralf Aschemann Paper session

In 2004, all 27 EU Member States had to transpose the requirements of the SEA EU Directive into their respective legislative systems. This session aims at doing a review on innovative SEA case studies and their contribution to creative and new approaches within the SEA process.

#### Effectiveness of EU SEA Directive

Aschemann, Ralf

Summary and discussion of key results of the study concerning the "Report on the application and effectiveness of the SEA Directive" commissioned by the European Commission.

#### Effective SEA on the basis of the EU Directive

Theodórsdóttir, Ásdís Hlökk

This paper presents how SEA can effectively be incorportated into the process and documentation of the new national planning instrument in Iceland, which is subject to the EU SEA Directive.

# Effective assessments: Can timing and integration improve HRA's performance?

Hurley, Lewis

How HRA is applied in the Scottish planning system and the issues that have been arisen from its application. The presentation goes on to consider how timing of work and links with the SEA process might help to improve HRA's performance as an effective planning tool.

#### Social and environmental monitoring for SEA

Pellegrini, Stefania; Magro, Giuseppe; Scarpanti, Stefano DCGIS-MBCA methodology is a decision support system to design and manage device networks and data systems to monitor effectiveness of plan actions in compliance with European Directive 2001/42/CE.

# STRATEGIC ENVIRONMENTAL ASSESSMENT

### 15.17 Strategic aspects of energy projects

#### Friday, 1 June | 09:00 - 10:30 | D. Luis

Chair(s): Iñigo Sobrini, Miguel Casermeiro Paper session

Energy is one of the most important issues in every strategic plan developed for any territory. And besides, energy projects are one of those most concerning strategic aspects. But, unaccountably, strategic aspects of energy projects are not sufficiently considered in EIA, nor energy aspects in SEAs of non-energy plans or programs.

#### Is energy an issue in spatial planning SEA?

Partidário, Maria Rosario; Vale, André Is energy a determinant issue in local and regional spatial plans that influences, and affects, future spatial development, and consequently, future energy efficiency?

#### SEA and CBA: Still two worlds apart

Dopheide, Emile

This paper analyzes the still-persisting gap between strategic environmental assessment and cost benefit analysis and discusses possible solutions to overcome this dichotomy.

#### BI Studies, putting tiering into best practice

Leonardi, Marco; Invernizzi, Valentina Through the illustration of a sub-Saharan case study, the paper shows how tiering in the form of a BIS allows for a better harmonisation of planning, project and ESHIA.

# Strategic environmental assessment and Brazilian energy

de Souza, Marcelo Pereira; dos Santos, Simone Mendonça

SEA as an alternative to the inclusion of the environmental variable in planning Brazilian energy, suggesting the application of SEA to National Energy.

# Strategic environmental assessment and biodiversity

Esteves, Aline de Oliveira; de Souza, Marcelo Pereira; Santos, Simone Mendonça dos; Lam, Gigi The research main result was a synthesis of key

issues that should be considerated in the Strategic Environmental Assessment process to be included in decision-making Policy, Plan, and Program.

# **STUDENTS and EARLY PROFESSIONALS**

### 16.1 Career Development for (Future) Impact Assessment Professionals

Thursday, 31 May | 16:45 – 18:30 | Porto

Chair: Sandra Mols

#### World Café

Students and early professionals often find the initial job search challenging. Lack of professional experience is usually the most important barrier to finding and securing a first job or for making the career transition. This session is open to students and early-career professionals who would like to get a glimpse into the careers of select impact assessment professionals in order to find out more about companies and organisations in their field of interest and to ask about the hiring process. The relaxed World Café format allows job seekers to listen to professionals speak about industry trends and company culture and get professional development advice from the experts. It may also help you network and possibly get your feet in the door at specific organizations.

The session is open for all conference delegates but will focus on allowing students, young job seekers, and early career professionals to make contact with organizations and companies for potential employment. Organizations and companies will give short presentations about their work in the field of impact assessment. After the short introductions, the audience will be divided into smaller groups in order to speak more in-depth with the professional representatives, rotating in a World Café format.



IAIA members: Post ads FREE through 30 June 2012! A promotional code is posted as a private resource in the IAIA Members Group of IAIAConnect.

## **OTHER TOPICS**

# 17.1 Practitioner views on the future of the EU's EIA Directive I

#### Tuesday, 29 May | 14:30 – 16:15 | Arrábida

#### Chair(s): Josh Fothergill

#### Paper session

The EIA Directive is meant to provide a consistent approach across Europe, but after more than 25 years different Member States face different challenges in EIA practice. This paper session will explore approaches to enhancing the future effectiveness of EIA in a number of different Member States.

#### Are we assessing too many projects?

#### Sobrini, Iñigo

Spain's regional laws oblige lots of different type of projects to be EIA submitted before being permitted. A simplification of the process is required by reducing the number of EIAs.

#### Influence of EIA on planning decisions

Jones, Carys; Hughes, Alison; Barker, Adam EIA now plays a greater role in decision making on planning projects than it did over a decade ago, but potential remains for greater effectiveness.

#### Implementing better regulation

Chisholm, Amanda

The Scottish Government is implementing the principles of better regulation. This paper explores the opportunities and challenges identified in the application of these principles to the National Renewables Infrastructure Plan.

# Strengthen EIA expertise by a database of best-practice

*Gröndal, Tabita; Driberg, Veronica* Best-practice bank: a national co-operation between authorities and actors working with EIA in Sweden to strengthen expertise in the field.

#### The future foundation of UK EIA practice

Fothergill, Josh; Barlow, Ed; Kirk, Claire Overview of IEMA's actions to improve the foundations of UK EIA practice exploring the findings of its State of EIA practice report and its new EIA Quality Mark scheme.

# 17.2 Practitioner views on the future of the EU's EIA Directive II

#### Tuesday, 29 May | 16:45 – 18:30 | Arrábida

#### Chair(s): Josh Fotheraill

#### Panel discussion

With a new Directive being developed by the European Commission, EIA in Europe is at a cross roads. Following the papers presented in Part I, an expert panel will discuss their views on changes needed to improve EIA's effectiveness in the EU. Delegate questions will be put to the panel.

**Josh Fothergill** will chair the panel and provide an overview of the four principles the EC is using to develop its proposals for a new EIA Directive.

**Amanda Chisholm** from the Scottish Government will explore the application of the principles of better regulation within EIA (proportionate, consistent, transparent, accountable and targeted). **Iñigo Sobrini**, president of Spain's IAIA Affiliate, is interested in a simplification of EIA screening as Spanish regional laws oblige EIA of many small activities with little impact.

Jeff Barnes is an expert in regulatory matters related to Canada's Environmental Assessment Act. Can the EU learn from EIA legislative changes Canada has experienced?

### 17.3 Sustainable Portugal

#### Wednesday, 30 May | 09:00 - 10:30 | Infante

Chair(s): Miguel Coutinho

#### Theme forum

The format of this session will be based on a panel discussion where we pretend to discuss what a sustainable country could be, how to recognize a sustainable society and how to design a roadmap to achieve sustainability. This panel will start with a presentation from Charlie Wolf, founder and past president of IAIA.

#### **The Portuguese Connection**

#### Wolf, Charlie

The Portuguese experience with impact history, opportunities for impact tourism, and contributions to impact assessment.

#### Panelists:

Charlie Wolf Júlio Jesus Maria Rosário Partidário Miguel Coutinho Robert Gibson

#### 17.4 EIA and SEA national experiences I

#### Thursday, 31 May | 14:30 – 16:15 | Miragaia

#### Chair(s): Carlos Borrego

Paper session

This session focuses on experiences from several countries in relation to policies and regulations for EIA and SEA projects and will explore the evolution and development of legal framework. Concrete outcomes of regulatory application to diverse national projects will be exposed.

#### EA Crisis in Canada: More changes coming? Barnes, Jeffrey

Federal EA in Canada is has experienced ongoing issues of uncertainty, effectiveness and efficiency. This paper reviews the implications and outcomes of a recent Parliamentary review of the legislation.

#### Enforcement in Chile: A new player in the field Gajardo, Paula

Modifications have been made to the Chilean legal framework regarding follow-up and enforcement. What challenges does the new Superintendent of the Environment pose to the environmental impact assessment system?

#### **Enhancing Russian EIA practice**

Wende, Wolfgang; May, Anja; Kravchenko, Valery; Hoppenstedt, Adrian

The goal of the project was to draft stipulations at the sub-legislative level on the methodological design of environmental impact assessment (EIA) in the Russian Federation.

#### Criminal liability in the Brazilian IA context

Herschmann, Stela Luz Andreatta

The challenges and potential of enforcing Article 69-A of The Brazilian Environmental Crimes Act that establishes the criminal liability for presenting a misleading EIS.

#### Offsetting predictions

Puschel, Lorna

Legal changes enacted in Chile in 2010 established two legal instruments with the aim of tackling prediction errors or changes in reality: automatic expiration and revision of environmental permits.

#### 17.5 EIA and SEA national experiences II

#### Thursday, 31 May | 16:45 – 18:30 | Miragaia

Chair(s): Carlos Borrego

#### Paper session

This session focuses on experiences from several countries in relation to policies and regulations for EIA and SEA projects and will explore the evolution and development of legal framework. Concrete outcomes of regulatory application to diverse national projects will be exposed.

#### Significance determination for energy project in Canada

#### Barnes, Jeffrey; Marquis, Denis

The determination of significance for energy projects in Canada is reviewed outlining the regulatory context, agency guidance, and established practice, making recommendations for improvement in the future.

### The contents and scope of EIA: Do

#### they evolve over time? Sanchez, Luis; Landim, Stephanie

A sample of EISs prepared by one consultancy over 25 years was reviewed. Baseline studies are more detailed and cover more topics, but remain largely descriptive; more modeling is used.

#### Thermal power projects: Decision-making criteria

Mathur, Vinod B.; Rajvanshi, Asha

Thermal power generation is beset with a range of environmental and biodiversity conservation issues. Objective criterion are needed to assess these issues to aid decision-making for ensuring sustainable power development.

#### New EIA regulation of offshore oil and gas in Brazil

Vilardo, Cristiano; Carvalho, Guilherme; Evora, José Eduardo; Maturana, Edmilson In October 2011, Brazil set a new regulatory landmark for EIA of offshore oil and gas activities. This paper asks: are we going towards international best practices?

#### Environment devolution: Boon

#### or bane for EIA and SEA? Saeed. Ahmad

The Eighteenth Amendment of the Constitution of Pakistan has resulted in decentralization of environmental management mandate from national to provincial level.

## **SPECIAL TO IAIA**

# Writing and submitting papers to IAPA journal: An interactive workshop

#### Thursday | 09:00-10:30 | Ribiera 1

Convener: William Ross Panel/Workshop

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.

#### **IAIA-APAI students' welcome**

ww.ren.p

#### Thursday, 31 May | 09:00 - 10:30 | Porto

APAI will make an institutional presentation in Portuguese to welcome the local student community and introduce them to the opportunity of sharing the debate on IA in a way that is only possible in an international and hence very plural environment. This presentation will be followed by Luis Sánchez, IAIA President-Elect, who will make a brief introduction to IAIA. Questions and answers will follow. The session is expected to take 30-40 minutes, so following discussion, students may attend sessions of their choice.

#### **Affiliates Forum**

Wednesday, 30 May | 16:45 – 18:30 | Miniaturas

### Chair(s): Iñigo Sobrini

#### Workshop

Representatives from the Affiliates listed below will each give a short presentation on the theme "How can Affiliates take advantage of IAIA in their local activities?" followed by questions and discussion. The presentations will specifically address the benefits Affiliates obtain from their IAIA affiliation. Each Affiliate will present its own experience of those benefits in order to help those who are not yet taking advantage of them (at least not with all of their potential), and open new ways to get synergies from each other. This will also help IAIA members develop more Affiliates in their regions, and possibly help existing local associations/organizations to join IAIA as Affiliates. Presentations are confirmed from:

- Associação Portuguesa de Avaliação de Impactes (APAI) Portugal
- Asociación Española de Evaluación de Impacto Ambiental (AEEIA) Spain
- Association québécoise pour l'évaluation d'impacts (AQEI)
- New Zealand Association for Impact Assessment (NZAIA)
- Western and Northern Canada
  - Germany IAIA-Italia
- Korea South Africa (IAIAsa) Zambia

Ireland & UK Branch

Other Affiliates will assist and participate with their ideas during additional discussion. Everybody is invited; we encourage you to join us if you intend to create an Affiliate in your country/region, in order to know more about IAIA Affiliates and Branches.

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

# MANAGING ENERGY FOR TODAY AND TOMORROW

RENN Redes Energéticas Nacionais

REN is committed to the defence and promotion of sustainable development principles and the creation of value for all stakeholders.

and the second states

# Section activities Meet the IAIA Sections!

IAIA Sections are a formal point of connection for IAIA members who have an interest in a special area of concentration; these groups ensure that the academic, professional, and practical interests of members in all areas of impact assessment are catered to within IAIA. IAIA members can join Sections through IAIA*Connect*. Specific qualifications are not a prerequisite.

Sections not only promote the development of best practice within the Section interest area, but also strengthen links between their own interest area and the broader remit of IAIA. Sections develop a rolling program of activites. Sections may pursue opportunities for relevant conferences, workshops, training, projects, publications and research at IAIA conferences and elsewhere.

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?

Why join an IAIA Section?

- When you pay the non-member conference rate, you automatically become an IAIA member and are eligible to join a Section.
- Sections are a networking forum for IAIA members, where you can meet your colleagues.
- Sections promote your personal professional development.
- Sections develop interesting activities that you may want to join.

# Where can I find the Sections at IAIA12?

- The Sections will be highlighted at the opening reception, where you can informally meet with the Section chairs and find out more about what they do.
- Sessions that have been specially organized by the Sections and /or coordinating Sections are identified in the program.
- Each Section holds one or more Section meetings during the conference, which everyone is welcome to attend. (See pages 8-9 for times and locations.)
- Tables are identified at lunch times on Tuesday, Wednesday and Thursday, where Section members and interested persons can meet informally to continue discussions.
- Section chairs are identified by ribbons on their name tags so that you can find them during the conference.

# **Questions?**

Please contact the coordinator of a specific Section as listed at right, or visit www.iaia.org > Section Discussion Forums for more information.



# **Current Sections**

## Agriculture, Forestry and Fisheries

John Fry john.fry@ucd.ie

Patrick Duffy pjduffy@shaw.ca

Ijeoma F. Vincent-Akpu ijeoma.vincent-akpu@uniport.edu.ng

# **Biodiversity & Ecology**

Liz Clarke liz.clarke@scottwilson.com

Orlando Venn orlando@treweek.co.uk

# **Climate change**

Arend Kolhoff akolhoff@eia.nl

Paula Posas pposas@worldbank.org

Nick King nking2020@gmail.com

# Corporate Stewardship & Risk Management

Rita Sully ritasully@yahoo.com

# **Cultural Heritage**

Arlene Fleming halandarlene@msn.com

# **Disasters & Conflicts**

Charles Kelly 72734.2412@compuserve.com

Michel Bouchard michel.a.bouchard@cogeos.com

Energy Steef van Baalen steef.vanbaalen@arcadis.nl

## Health

Ben Harris-Roxas b.harris-roxas@unsw.edu.au

Francesca Viliani francescav@internationalsos.com

# IA Law, Policies & Practice

Christine Asari christina.asari@yahoo.com

Indigenous Peoples Martin Haefele mhaefele@reviewboard.ca

Murray Jones murray\_8@sympatico.com

Angeles Mendoza, Vice-chair angeles@angelesmendoza.com

## Integrated Assessment of Trade-Related Policies

Simone Heri simone.heri@sunrise.ch

Public Participation Bert Enserink

b.enserink@tbm.tudelft.nl

John Devlin jdevlin@uoguelph.ca

Sukhad Keshkamat sukhad\_keshkamat@yahoo.com

Social Impact Assessment Daniel Franks

d.franks@smi.uq.edu.au

Rauno Sairinen Rauno.sairinen@uef.fi

## Strategic Environmental Assessment

Monica Fundingsland Tetlow Monica.tetlow@asplanviak.no

Marie Hanusch m.hanusch@boschpartner.de

## **Students and Early Professionals**

Sophia Carodenuto Sophiacarodenuto@gmail.com

Sandra Mols Smc.mols@gmail.com

# Networking activities and events

### WELCOME RECEPTION: PORTO DE HONRA

IAIA12 will open with a reception; this event is traditionally a highlight of the conference, and the IAIA12 welcome reception promises to be something very special! Come along to meet up with old friends, make some new ones, and get your conference off to a great start.

Tuesday, 29 May | 19:00-20:00 Location: Salão Nobre Pre-registration is required.

### SOCIAL NETWORKING NIGHT

This social event is a great opportunity to meet new people and see some different parts of the city of Porto. This event will be held at the Boulevard Club, located at Porto's most famous avenue: Aliados. The decor of the café-concert complements the majestic views of the city's architecture offered by the large club in the 2nd floor.

The night will start around 22:00 with one hour of live music from traditional Fado music. After the Fado, prepare yourself for a night of dance mania and fun.

Do not forget to take your IAIA12 badge, and remember that drinks are on your own.

#### Tuesday, 29 May | 22:00 Location: Boulevard Café See the announcement board at the IAIA registration desk for meeting time and location.

### BANQUET

You won't want to miss this unique experience. Enjoy dinner with your colleagues and a tour of one of the oldest founding Port wine companies in existence. Taylor's, established over three centuries ago in 1692, is based in the Douro Valley and is closely involved in all stages of the production of its Ports, from the planting of the vineyard and the cultivation of the grapes to the making, ageing, blending and bottling of the wines. The family company's commitment to the future of Port is demonstrated in its dedication to the highest standards in Port production, its continued investment in all aspects of the firm's operations and its determination to preserve the unique environment of the Douro Valley through the promotion of sustainable and responsible viticulture.

#### Wednesday, 30 May

**Location:** Taylor's Port Wine Cellars **Price:** \$60 | Price includes transportation by boat, tour on the river Douro, tour of the port wine lodges, and dinner.

Pre-registration is required.

Meet at Salão Nobre (*Noble Hall*) at 19:00 for boat transfer and tour. Dinner begins at 20:00 and concludes at approximately 22:30.

Shuttle bus transportation from Taylor's back to the convention center and main hotel areas (not individual hotels) will be provided following dinner.

### **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.

### TABLE FOOTBALL WORLD CUP

Four years after Perth08, the table football World Cup is back for Porto12! There is no bigger prize in world sport than the IAIA12 Table Football World Cup: *Goaaaaaal...* 

Lace up the boots, gear up with your national colors, sing your anthems, compete with your colleagues from around the world and enjoy a few drinks and snacks at the Congress Centre bar while you're at it (on your own).

What you have to do/know:

- Nominate a team of two to represent your country, and pre-register your team 48 hours prior to the IAIA12 championship.
- The qualification to the final will be done through the KO method.
- Place team nominations on the special notice board in the registration area.
- Kick-off is at 19:00.

Organized with the help of the Portuguese Table Football Federation.

Thursday, 31 May | 19:00-21:30 Centro de Congressos da Alfandega Bar Lobby







### FUN RUN

This popular 5km Fun Run/Walk is back due to popular demand! IAIA11 conference delegates braved the early morning hour for a record turnout—let's beat that record! This is a great way to start the day and network with fellow runners. The route along the Douro River will refresh 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 Sérgio Bento (sergio@ua.pt).

Thursday, 31 May | 07:00-08:00 Pre-registration and nominal fee (US\$5) are required.

See the announcement board at the IAIA registration desk for meeting time and location.

### PARTY AT SERRALVES

The ninth **Serralves em Festa** will take place on June 2 and 3 for 40 consecutive hours.

This is the largest contemporary arts festival in Portugal and one of the biggest in Europe, including hundreds of events unfolding at the various spaces in Serralves as well as venues in downtown Porto and the Francisco Sá Carneiro Airport.

Serralves em Festa has already become a must for thousands upon thousands of people. From 08:00 Saturday, 2 June, to midnight on Sunday, 3 June, Serralves will host more than 250 events, with activities for all ages.

These events cover the areas of performance, music (improvised, pop, rock, electronic, experimental, jazz, DJs), contemporary dance, acrobatics, contemporary circus, sound objects circus, theatre (street theatre, theatre for children, puppet theatre) cinema, video, installation, photography, guided visits, exhibitions, workshops and a range of activities for children and families.

**IAIA is not organizing a group visit**; see the message board in the registration area to connect with others who are interested in attending.

This event is free to the public on 2 and 3 June no registration is required—and all delegates are encouraged to attend this festival for a once-in-alifetime experience in Portugal. See the flyer in your delegate bag for more information.

If you wish to visit the Museum or simply enjoy the Foundation's gardens from 29 May through 1 June (check the summer schedules at www.serralves.pt), please show your IAIA12 name badge at the ticket office and you will be given up to two tickets free of charge.

# Poster session

# Tuesday, 29 May | 12:40 - 13:30

# 625. Environmental impact assessment of CCS: General overview

Barros, N.; Oliveira, G.M.; e Lemos de Sousa, M.J. EIA of CCS technologies, with focus on the possible environmental impacts on CO2 injection and storage sites, considering two reservoir types: abandoned or unmineable coal seams and deep saline aquifers.

#### 501. Bird and bat mortality at Portuguese wind farms

Bernardino, Joana; Zina, Hugo; Passos, Isabel; Costa, Hugo; Pereira, Maria João; Fonseca, Carlos; Mascarenhas, Miguel An extensive review of bird and bat spatial-temporal dynamics and mortality records at Portuguese onshore wind farms is presented.

#### 509. The Wind & Biodiversity Project

Bernardino, Joana; Mascarenhas, Miguel; Vieira, José; Bastos, Carlos; Pereira, Maria João; Fonseca, Carlos Wind & Biodiversity is an R&D project with the main goal to develop the technologies and know-how necessary to reconcile wind farms and biodiversity, especially with birds and bats.

#### 408. Underwater noise: Thermoelectric Plant Construction

Chipollini, Vanessa; Osorio, Darwin An underwater noise monitoring program will be performed with results compared to marine biota thresholds, to identify impacts from the thermoelectric plant construction in Perú.

#### 351. Overview of SEA in Scotland

Chisholm, Amanda

This poster provides a summary of Scottish SEA experience, highlighting differences and similarities between Scottish and European approaches. Issues encountered and lessons learned will be provided, using recent SEA examples.

#### 347. Establishment plan of region for performing EIA

Choi, Jungyu; Sun, Hyosung

The establishment plan of the reasonable region for performing EIA based on internal and external case analysis.

#### 248. SEA and Strategic Green Ethanol Plan: In & out analysis

Clemente, Gabriel; Souza, Marcelo

Analysis of incomes, outcomes, process and concepts of Green Strategic Ethanol in light of SEA methodology.Possible gains of plan making with SEA methodology for sustainable agriculture.

#### 510. STEEPLE analysis and SEA

(Study case: oil industry)

Domingos, Orlanda; Marques, Manuel The study case revels how STEEPLE analysis can focus SEA on a short number of strategic themes, establishing the thematic structure of the strategic assessment.

# 568. Environment and socio-economic impact of oil/gas extractives

Edem, Edem

This is a pictoral expression of impact of extractive Industries activities in the life, environment and social-economic sector of Niger-Delta region of Nigeria.

# 506. Impact assessment of ethanol production in Brazil

Ferreira, Hugo; Ferreira, Lidia; Barata,

Martha; Soares, Wagner

Analysis of the environmental impact assessment in Brazil, discussing the environmental impact studies realized for the sugarcane sector in São Paulo.

#### 439. Public participation in the SEA process of Brazil

Ferreira Berti, Maria José; Alves Dibo, Ana Paula; Sanches, Roberta

Analysis of whether Brazilian case studies effectively meet the principles of public participation that were set up by international organizations.

#### 461. Life-cycle impact assessment of electric vehicles

Freire, Fausto; Marques, Pedro; Castanheira, Érica A Life-Cycle Assessment of electric and conventional vehicles has been implemented for Portugal. Life Cycle Impact Assessment results are presented for two alternatives LCIA methods: CML 2000 and Recipe.

#### 232. Politics and environment

Gomez, Oscar

Strategic evironmental assessment tools for planning the development of the Orinoco belt region (Venezuela). In this case, politics commitments and schedules hardly synchronize with social and environmental planning and analysis.

#### 637. A Least-Cost-Path (LCP)

toolbox for optimal routing

Hanssen, Frank; Thomassen, Jørn; May, Roel Optimal routing of power lines are important to avoid environmental and societal impacts and must be considered in relation to the modern societal needs for a stable, secure power supply,

#### 634. Integrated impact assessments: Statoil Canada

Hirsch-Sigfusson, Tammy; Loosley, Andrew; Johnson, Julie; Tibble, Sophie

Statoil applies an integrated impact assessment approach through collaboration and partnerships. This results in operating in an environmentally and socially responsible manner in the Canadian oil sands.

# 479. BI Studies: A sustainable approach for oil and gas projects

Invernizzi, Valentina; Leonardi, Marco The poster is an illustration of how the application of

Business Intelligence methodology to a variety of oil and gas development projects allows for sustainable planning and CSR practice.

#### 189. The Impact Assessment of Energy Use in Campus

Jung, Juchul; Ha, Gyoung Jun;

Seo, Hye-jeong; Bae, Kyung Wan

This research examined the energy use pattern and impact on campus by factors based on carbon emissions and uptake and recommended carbon reduction alternatives as mitigation strategy for green campus.

# 359. Weather characteristics analysis system surrounding dam

Kang, Bo-Seung; Jung, Yong-Moon; Park, Jae-Chung; Jung, Yong-Moon; Kwon, Boo-Hyun This study determined that weather impacts caused by dam construction over surrounding areas were scientifically proven through the development of a weather characteristics analysis system.

# **619. Angola environmental regulatory framework** *King, Katie; Ramo, Ana*

Outlines the key pieces of Angolan legislation which have influenced the environmental performance of companies in the oil and gas industry, highlighting the environmental impact assessment process in Angola.

#### 313. EIA cases of island tourism

development in Korea Lee, Sangbum

This study analyzed EIA cases of the island tourism development in Korea to identify the expected environmental effects and to suggest the comprehensive planning process of the island tourism development.

#### 436. Using spatial models for land use planning

Linde, Lothar; van Rooij, Wilbert

The poster presents the use of spatial models to preview potential conflicts of different land development scenarios with the integrity of hydropower and tourism investments in Quang Nam Province, Vietnam.

#### 438. Mapping land suitability for

sustainable investments.

Linde, Lothar

The poster presents the application of Spatial Multi-Criteria Analysis in the Greater Mekong Subregion to support SEA and EIA processes in internalizing economic feasibility parameters with environmental and social safeguards.

#### 606. EIA public participation in Spain

Casermeiro, M.A.;Desdentado, L.A.; Diaz, M.; Espluga, A.P.; Gonzalez, S.; Sobrini, I.M. We present an overview of public participation in environmental assessment in Spain, from the analysis of personnel interviews and statistical questionnaires passed to all Spanish regions EIA Administration bodies.

#### 116. SEA: The energy and climate

change plan of Catalonia

Martín, Irene

This presentation synthesizes the strategic environmental assessment process, the role of the actors involved in the Plan, their visions of future energetic models, their implementation proposals and difficulties found.

# 586. Emission impacts from microgrids deployment in Portugal

Mendes, Gonçalo; Ferrão, Paulo; Ioakimidis, Christos; Marnay, Chris; Lobato, Ana Lúcia; Stadler, Michael This study presents a method for analysing emission impacts from multi-building microgrids deployment and depicts some results from a case-study application in the Portuguese urban context.

**410. Electric power lines in historical landscapes** Nesbakken, Anneli; Lindblom, Inge

Electric power lines crossing cultural heritage objects, environments, or landscape: how to balance and present the different kinds of impacts.

Note: Only official exhibitor posters and/or technical posters approved by the Program Committee during the review process may be displayed.

# Posters

#### 34. Urban Expressway Authority's

challenge for electric vehicles

*Ogura, Kenji* Hanshin Expressway Co. Ltd. has launched a car sharing project with electric vehicles (EVs). Dissemination of EVs would certainly contribute to environmentally friendly highway business for HEC.

#### 35. Why do citizens get angry?

### Analysis of cognitive bias

Ogura, Kenji

Public officials should have better understandings for the cognitive biases to solve value conflicts created during the process of public projects, especially involuntary resettlement procedures on the public projects.

#### 472. Port of Açu, Brazil: Light pollution mitigation

Patiri, Victor Jose de Andrade; Palmeira, Augusto Martini Dultra; da Fonseca, Sérgio Ferreira; de Sousa, Wanderson Primo; Bernardo, Alberto Luiz An exploration through a case study the light pollution mitigation strategy developed between the years 2008-2011 in a port and industrial area in Brazil.

#### 473. Light pollution mitigation: A

#### proposed methodology

Patiri, Victor Jose de Andrade; Palmeira, Augusto Martini Dultra

Establishing a methodology for the control of light pollution during the implementation of industrial projects in areas adjacent to sea turtle nesting beaches.

#### 38. The need for SEA of metal mining in Argentina

Pirillo, Ernesto; Murguía, Diego; Cura, Omar; Ramati, Pablo

This work evalues the necessity for a SEA of metal mining and outline the benefits such an assessment tool would provide in improving the sustainable management of the mineral resources.

#### 430. The power sector in the Greater Mekong Subregion

Pokhrel, Sumit; Soussan, John; Nguyen, Huyen Thi Thu The poster presents the development of the power sector in the Greater Mekong Subregion, its challenges, and steps taken to improve planning processes and decision making through strategic environmental assessments.

#### 136. SEA profile of small islands states and territories Polido. Alexandra

An SEA profile for practices used in Small Islands is provided using the European ultra-peripheral regions as a case study.

#### 173. Assessing methods of analysis

#### of environmental studies

Raimundo e Almeida, Maria Rita; Malfara, Daniela; Clemente, Gabriel; Peixoto, Dante; Crepo, Natália; Moraes, Mayra; Souza, Marcelo Research pointed to a low quality of the EIS evaluated and suggested the possibility of the environment agency to use such methods in a systematic way.

### 345. Narmada Canal: Securing

economic and biodiversity gains

Rajvanshi, Asha; Arora, Roshni; Mathur, Vinod The mitigation strategy proposed for Narmada Canal project is a significant departure from traditional prescriptions of measures and has been unique in delivering a win-win outcome for all key stakeholders.

#### 240. Bats adapting to manmade structures Reis, Susana; Rufino, Rui

Bats roosting at Concessão Transmontana Highway bridges were detected during the monitoring programme. Roosts were occupied during the construction of new bridges nearby. New structures were immediately occupied after construction.

#### 285. Making power lines safer for migratory birds

Repas, Miguel; Prinsen, Hein; Boere, Gerard; Smallie, Jon Results adopted by AEWA and CMS of a review covering all aspects of the conflict between migratory birds and electricity power grids within the African-Eurasian region.

#### 180. Beyond biofuels commonplaces: Social aspects of ethanol

Ribeiro, Barbara

This work addresses social aspects of ethanol, aiming to contribute to the development of social frameworks to be used in impact assessments of biofuels.

#### 244. Satellite tracking of Little Bustard

Rufino, Rui; Caldeira, Tiago; Silva, Ricardo Satellite tracking at the Alqueva/Brovales power line suggests that the presence of the line does not affect the birds that stayed in the area after the construction.

#### 451. Key issues and EIAs effectiveness: A 40-year review

Said, Andres; Zuleta, G.A. We compared 36 selected review papers to update EIA's effectiveness criteria associated with decision making. From 270 criteria detected worldwide (1988-2011), we re-designated 18 key issues that simplify most EIA needs.

#### 135. Finding a new world: Endoscopy of cryptic habitats

Silva-Santos, Pedro; Raposeira, Helena; Horta, Pedro Endoscopy: a technique used in medicine was applied to find and record on video animals inside small cavities. A new world is waiting to be found.

#### 514. The EIA expert meeting mechanism

Sun, Wei-Chien; Hung, Shu-Hsing; Cheng, Hui-Wen The expert meeting mechanism can effectively settle environment disputes to ensure that the consensus would not be influenced and changed by people involved in related equity while maintaining sufficient public participation.

# 228. Petra Exit Road: Cultural conservation v. local economy

Taha, Samar

Striking a balance between cultural conservation in Petra and sustained livelihood of the local community.

#### **65. Solar power to supply rural homes with electricity** *Thang, Dieudonné; Fongnzossie, Evariste*

Solar energy is an environmentally safe technology and the best option to meet energy needs of rural households. Technology transfer, financial support and local participation are essential for its implementation.

#### 360. Analysis of biodegradable waste treatment

Tot, Bojana; Batinic, Bojan; Stanisavljevic, Nemanja; Beronja, Bojana; Ubavin, Dejan; Mirosavljevic, Zorica; Jokanovic, Svjetlana Flows of garden and other biodegradable waste in municipal solid waste are analyzed by MFA (Material Flow Analysis) and two scenarios are presented.

# 27. GIS tools for assessing impacts on natural habitats

Villalba, Alberto: Grossman, Denis

How can GIS tools be used to improve project design, approval and monitoring at the IADB?

#### 443. EA in evaluating human health

#### effects of wind energy

Wright, Zena The Canadian Environmental Assessment process

is legislated to address human health effects, and yet this is a relatively weak component of EA. Wind energy is presented as a case study.

# 380. Radar-based mitigation of avian mortality at windfarms

Vian mortaity at Windrarms Zakrajsek, Edward; Kelly, T. Adam; Smith, Andreas; Voltura, Karen MERLIN SCADA is a radar-based mitigation system for collision risk at operational windfarms, programmable with mitigation rule sets adapted to the site-specific risk for raptors, migratory songbirds, and bats.

# Posters are listed 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 Thursday, 31 May! Drop off your ballot at the registration desk.



# Technical visits

## About technical visits

Participants must be pre-registered and pre-paid to participate. Written cancellations prior to 30 April qualified for a refund, less a 25% administration fee. No refunds are issued for cancellations or noshows after 30 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 convention centre. Plan to check in for the visit a minimum of 15 minutes prior to the noted departure time.

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 | DOURO: HUMANITY HERITAGE

This visit to Douro Valley involves two aspects:

1. A visit to Foz Tua Dam, as an example of a hydroelectric production project. It is located in a very vulnerable landscape, and was submitted to an EIA process; its construction is being followed up by the environmental authorities in very strict terms due to the special area where it is located.

2. The cultural landscape is an outstanding example of a traditional European wine-producing region and reflects the evolution of this activity over time.

#### Sunday, 27 May

Depart 08:30 | Return 18:00

Minimum-Maximum 20-55

Price \$110

Price includes lunch, transportation, and entrance fees.

**Special note** Participants should wear confortable clothing, including a hat and jacket, and walking shoes.

### B | GUIMARÃES 2012: EUROPEAN CAPITAL OF CULTURE

Guimarães is distinguished by its heritage, its inspiring landscape, its entrepreneurial capacity, its sense of belonging and the dynamism of its inhabitants. The origin of the city of Guimarães goes back to the tenth century since it was here, in 1128, that the Portuguese nation was founded and D. Afonso Henriques was recognized as the first king of Portugal.

The importance of its cultural worth and investment in its heritage resulted in a network of high quality infrastructures and renovation of the historical centre, which was recognized by UNESCO as a World Heritage in 2001.

In 2012, Guimarães will be hosting a major gathering of creators and creations: music, cinema, photography, fine arts, architecture, literature, thought, theatre, dance, street art. In Guimarães, the artistic products imagined and created by its residents will merge with those coming to the city from all over Europe. Over the course of one year, the city will be the promoter of Europe's cultural diversity, revealing its creations and welcoming those from other countries.

#### Sunday, 27 May

Depart 09:30 | Return 17:30

Minimum-Maximum 20-50

**Price** \$80

Price includes lunch and transportation.

**Special note** Participants should wear comfortable clothing and walking shoes.

# Interesting fact:

Guimarães is rated #6 by Lonely Planet's Top 10 Cities to Visit in 2012.



DOURO VALLEY

GUIMARÃES

# Technical visits

### C | G | H | I WORLD HERITAGE HISTORICAL CENTRE TECHNICAL VISIT

 $\sim \sim \sim$ 

Porto's Historical Centre is the oldest part of the city and was classified as World Cultural Heritage by UNESCO in 1996. Here you will find traces of the medieval origins of the city, in a city landscape that serves up an image of rare beauty. Amble along the typical alleys and passageways of this city's heart and take in, at every step, a monument of incontestable worth, the renowned hospitality of the city folk and a breathtaking panorama over the rooftops and the river Douro.

In this technical visit you will experience the different layers of Porto history. We will start at the cathedral and then, surrounding the medieval walls, we'll visit Santa Catarina Street, the inside of the S. Bento Train Station, the Baroque Churches, the old Jewish Quarter, the English influence on the neoclassic buildings and the old medieval quarter of Ribeira, the most important square until the XV century.

The impacts of World Heritage certification and tourism will be discussed, as well as social conflicts arising between tourism and the lower-income inhabitants of the historical centre.

In addition, we will always be facing the Douro River, telling stories about Port Wine, the Rabelo Boats and the famous iron bridges. The tour will finish at the house where Prince Henry the Navigator was born.

#### Sunday, 27 May

C Depart 10:00 | Return 12:30

#### Monday, 28 May

G Depart 10:00 | Return 12:30

H Depart 14:30 | Return 17:00

#### Friday, 1 June

I Depart 14:30 | Return 17:00

#### Minimum-Maximum 5-25

Price \$20

**Special note** Participants should take a hat/cap and sunblock. The historical centre of Porto is built on a steep hill. Wear comfortable walking shoes.

### E | WIND POWER AND ENERGY EFFICIENCY

**Morning:** The visit starts with a trip to Viana de Castelo, located north of Porto.

Viana do Castelo is the site of Portugal's first wind energy cluster. Developed in stages after a public tender in 2005, the main complex comprises three new factories built between the port city and Lanheses, further upriver. In this cluster, a consortium of wind turbine manufacturers make the rotor blades, cement towers, generators and electrical components that form wind-driven electricity generators of the type found all over the country.

Participants in this technical visit will visit the main facilities of two factories of this complex: Rotor Blade Factory and Concrete Towers Factory.

**Afternoon:** After lunch, participants will return to Porto to visit the Dragon Stadium. The Dragon Stadium had its inauguration 1 November 2003 and was the first European stadium to win the "Greenlight" 2003 certification, which awards the effort carried out not only in the rational energy use, but also in the lighting quality, result of the environmental and ecological concerns of the 21st century. The management of the stadium is certified under the ISO-14001 standard.

#### Monday, 28 May

Depart 08:30 | Return 17:00

Minimum-Maximum 20-50

#### **Price** \$80

Price includes lunch and transportation.

Special note Participants should wear comfortable clothing and closed-toe walking shoes.

#### F | LIPOR AND PETROGAL

Morning: Visit to LIPOR II. LIPOR (Intermunicipal Waste Management of Greater Porto) is the entity in charge for the management, recovery and treatment of the Municipal Solid Waste (MSW) produced by the eight partner municipalities. The treatment system includes an Energy Recovery Plant, located in Maia, that is focused toward recovering, as electricity, the part of waste that can't be re-used through composting and recycling. With two lines of treatment in continuous operation and almost automatic, the plant has a treatment capacity of 400 000 tonnes of waste per year and produces about 200 GWh of electricity per year, of which about 90% is sent to the public, allowing supply for an agglomeration of around 150,000 inhabitants. Participants will visit the plant and see a detailed description of the comprehensive environmental monitoring program that has been in regular operation since 2000 to present.

**Afternoon:** Visit to the refinery of Matosinhos that covers approximately 400 hectares. It is connected to the terminal of oil tankers in the Leixões port by several pipelines 2km long. It has 1,910,000m<sup>3</sup> of storage capacity, of which almost 657,000m<sup>3</sup> is for oil types and 1,253,000m<sup>3</sup> for intermediate and finished products. The refinery also plays host to nearly 1,250km of pipelines. Built in 1969, the industrial complex during the last 3 years has been under intense renovation with the aim of reducing energy consumption as well as SO2 and benzene emissions. Part of these investments were preceded by Environmental Impact Statements and followed by intense monitoring programs. These impact assessment activities will be presented during the visit.

The technical visit will include the visit to the Casa da Música (House of Music). Casa da Música was conceived as the landmark of Porto 2001 Cultural Capital of Europe, and it is the first new building in Portugal to be entirely dedicated to music.

The project took shape in 1999 after the Rem Koolhaas & Ellen van Loon - Office for Metropolitan Architecture won the international architectural competition. The concert hall is a prime example of some groundbreaking engineering techniques that have been used to give birth to an unusual design. In fact, such is the design of the hall that the *New York Times* said that the building is one of the best projects by architect Koolhaas and that the intellectual level of the design is matched only by its sensuality.

#### Monday, 28 May

Depart 09:30 | Return 18:00

#### Minimum-Maximum 20-50

#### **Price** \$80

Price includes lunch and transportation.

**Special note** Participants should wear comfortable clothes and walking shoes.

# Special meetings

### WORLD BANK SAFEGUARD POLICIES TRAINING SESSION

The World Bank will deliver a one day safeguard policy training workshop specifically designed for IAIA members. The workshop will provide this training to EA practitioners in order to: (i) improve their understanding of World Bank safeguard policy work at the project level; (ii) provide the basis to identify good practice in the design and use of specific environmental and social management instruments; and (iii) identify opportunities and constraints to mainstream environmental and social concerns into country safeguards systems. The overarching goal of the workshop is to contribute to minimizing the environmental and social risks inherent in World Bank-financed projects. The target audience for this workshop is IAIA members interested in learning about World Bank project safeguard policies and tools. Some 50 participants representing EA practitioners from across the six regions are expected to attend. The workshop will include an introductory session on World Bank operational safeguard policies and group case study work analyzing the quality of project framework documents and team presentations in plenary format. Additional discussions will be dedicated to the design and function of strategic safeguard tools (i.e., SEAs). The training incorporates lessons learned and best practice with regards to the design and use of safeguard tools at the country and regional level.

#### Monday, 28 May | 09:00 - 17:00 | Infante

**Price** \$30 | Price includes morning and afternoon coffee breaks and lunch. Pre-registration required.

### STUDENT DAY

Student Day serves two main purposes: 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 to provide participating students with important information on the experience of some of the companies represented in the conference through a Mini-Job Fair, in which they can gather information on future professional prospects in close contact with those companies.

Institutional presentations in the morning from APAI and IAIA will be in Portuguese (see page 43), and the rest of the events will be in English.

#### Thursday, 31 May

8:00-09:00	Student Registration
09:00-10:30	IAIA/APAI Session (Sala Porto)
10:30-13:30	Participation in the Conference
13:30-14:20	Lunch (not included)
14:30-16:15	Participation in the Conference
16:45-18:30	Career Development for (Future) Impact Assessment Professionals (Sala Porto) (See page 41)

### ECOSYSTEM SERVICES WORKING GROUP

A forum for environmental and social practitioners to discuss the challenges of addressing ecosystem services in ESIA and to identify means to develop and disseminate an integrated approach.

#### Thursday, 31 May | 18:30-19:30 | Miragaia

### DIA DA LÍNGUA PORTUGUESA (PORTUGUESE LANGUAGE DAY)

This meeting is organized by the Impact Assessment Portuguese Language Network (REDE – www. redeimpactos.org) to present the legal and institutional framework and the professional practice of Impact Assessment in the different Portuguese speaking countries and discuss the improvement of the Network activities. The session is an opportunity for Portuguese speaking professionals to share information and experiences and to establish links between individuals and organizations. The session will be conducted in Portuguese.

DIA DA LÍNGUA PORTUGUESA : Sessão – em língua portuguesa - organizada pela REDE de Língua Portuguesa de Avaliação de Impactos com o objetivo de fazer um ponto de situação do enquadramento legal e institucional e da prática profissional da Avaliação de Impactos nos vários países e território de língua portuguesa. Esta sessão também constituirá uma oportunidade para os profissionais de língua portuguesa partilharem informação e experiências e estabelecerão relações entre indivíduos ou organizações. Mais informações em www.redeimpactos. org.

#### Friday, 1 June | 14:30 - 18:00 | Arrábida Pre-registration required.





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

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 to both a new generation of practitioners and 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, need to be part of this new future.

The theme focuses on emerging trends in IA while encouraging and motivating the participation of the next generation of practitioners. It has a wide appeal to those in many countries and sectors, such as resource extraction, and is broad enough to encompass many current sub-themes of interest to a range of IA practitioners, new and old.

#### Session proposals: Open July 2012

#### Session proposal deadline: 31 August 2012



Canadian Rocky Mountains. Photo courtesy Calgary Economic Developmen

# Exhibits

## Booths and exhibits



## Affiliate posters

- AQEI
- Germany
- Ireland-UK
- Italy
- Korea
- New Zealand
- Portugal
- South Africa
- Spain
- Western and Northern Canada
- Zambia

## Special poster

From ICEM, one of the 2012 Corporate Initiative Award winners (see page 53):

SEA of hydropower development on the mainstream Mekong River Carew-Reid, Jeremy; Ketelsen, Tarek; Sawdon, John; Ward, Peter The SEA of hydropower on mainstream Mekong River is influencing basin development planning by Cambodia, Lao PDR, Thailand and Vietnam. Negotiations and studies are continuing into downstream and sector impacts.

# Take the challenge: What is IA (in 6 words)?

In the 1920s, Ernest Hemingway's colleagues bet him that he couldn't write a complete story in just six words. His story: "For sale: baby shoes, never worn." His friends paid up, and Hemingway is said to have considered it his best work.

See the posters in the exhibit area and take the challenge: write down your best impact assessment story, or describe impact assessment itself ... in six words or less.

Be sure to include your name: the best short stories will be featured in the IAIA newsletter and on the IAIA web site!

- AGRI-PRO AMBIENTE, CONSULTORES, S.A.
- ARQPAIS, Consultores de Arquitectura Paisagista e Ambiente, Lda.
- DHV
- ECOIn (INSerralves)
- Formato Verde
- GALP Energia (Petrogal)
- Golder
- IAIA13 (Calgary Conventions)
- IDAD Institute of Environment and Development
- Netherlands Commission for Environmental Assessment
- Porto Convention Bureau
- RPS Energy
- Taylor & Francis

# Table exhibitor

Earthscan

# IAIAConnect

See live demonstrations during afternoon coffee breaks 30-31 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.

**Note:** A table is 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.

# IAIA business

### 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

Wednesday, 30 May | 12:40-13:30 | Infante

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.

#### 2012 AGM Agenda

- 1. Welcome, introductions, and confirmation of the 2011 AGM minutes.
- 2. IAIA 2011-12: 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.
- 6a. Re-establishment of a Professional Practice Committee (David Burack).
- 7. Informal discussion of matters that members wish to raise.
- 8. Closing remarks.

#### COUNCIL MEETING

Thursday, 31 May | 12:40-13:30 | S. Joáo

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 Countil 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.

Notes

# 2012 Award winners



## **Global Environment Award**

The **International Network for Environmental Compliance and Enforcement (INECE)** was chosen to receive the IAIA Global Environment Award because of its sustained promotion of compliance and enforcement of domestic and international environmental laws through

networking, capacity building, and enforcement



## **Regional Award**

With IAIA's 2012 annual conference being held in Portugal, **Redes Energéticas Nacionais** (**REN**) was selected to receive the Regional Award. REN of Portugal was selected because of its promotion of and support for Environmental Impact Assessment (EIA), even when not required by law, and its pioneer effort in conducting a Strategic Environmental Assessment (SEA) on its Investment Plan.



## **Individual Award**

John Boyle, Hunter Dickinson, Canada, was chosen for the Individual Award because of his sustained and significant contributions to impact assessment, visible through his work in the World Bank Africa Safeguards group and especially within IAIA, including his efforts in the forefront of advancing the definitions and criteria of professionalism within IAIA.



## **Outstanding Service to IAIA**

Júlio de Jesus joined IAIA in 1995. In 1996 he chaired the organizing committee of IAIA96, has participated in most IAIA annual conferences since then, was the founder of IAIA's Portuguese Affiliate, the Portuguese Association for Impact Assessment (APAI), and was elected President of the APAI Board through 2006. He served on the IAIA Board of Directors as a co-opted member beginning in 2007, filling a vacated seat, and then was elected and served a three-year term ending June 2011. He is the founding member of the Impact Assessment Portuguese Language Network, the inspiration for several start-up environmental professional organizations in Portuguese-speaking nations, and responsible for many translations of IAIA information and resources into Portuguese and for the coordination and preparation of the IAIA publication "What is Impact Assessment?".

If you would like to nominate an individual or organization for a 2013 award, please submit name and justification to the IAIA12 registration desk or e-mail info@iaia.org. Online nominations will open soon.



## **Rose-Hulman Award**

cooperation.

Peter Croal, CIDA, Canada, will receive the Rose-Hulman Award for his dedication to improving and promoting impact assessment through his work in environmental assessment, environmental governance and public participation, program management, capacity building, and international official development assistance, as well as his long-time service to IAIA.



AngloAmerican

## **Corporate Initiative Award**

The **International Center for Environmental Management's (ICEM)** SEA work, one of two recipients of the Corporate Initiative Award this year, was selected specifically for its work on the SEA of twelve planned hydropower dams along the mainstream of the Mekong River and the SEA's impact on the decision-making process.

The second award is being given to **Anglo American's Socio-Economic Assessment Toolbox (SEAT)** because it is a unique attempt by a major company to incorporate impact assessment into the ongoing management of major operations.



## Institutional Award

The **Institute of Environmental Management and Assessment (IEMA)** has been awarded the Institutional Award because of its promotion of quality and improving environmental practice and performance in environmental impact assessment practice in the United Kingdom, including the launch of an EIA Quality Mark and the publication of a report on the State of EIA Practice in the UK.

# IAPA Best Paper of 2011 (tie)

**"Resilience thinking improves SEA: A discussion paper." Slootweg, Roel; Jones, Mike.** December 2011. Vol. 29, No. 4, pp. 263-276. This paper does an excellent job at bringing resilience thinking into the realm of SEA: it is innovative and provides some direction on how we might help better address the complexities associated with strategic-level systems, predictions, and decisions. The authors have invited international debate on a 'new concept' in impact assessment, gathering together workshop contributions; a great role model for IAIA collaboration.

"Enhancing the benefits of local content: Integrating social and economic impact assessment into procurement strategies. Esteves, Ana Maria; Barclay, Mary-Anne. September 2011. Vol. 29, No.3, pp. 205-215.

This paper demonstrates what can be done to improve development outcomes for people in a sustainable way. It is very well grounded in real impact assessment practice, engages with a lot of other published work and offers some seriously good outcomes.



# Conference tips and information

### DEFINITION OF CONFERENCE TERMS

**Annual Conference:** An extended collection of IAIArelated events within a week to two-week time frame, including special meetings, technical visits, short courses, and social events.

**Annual Meeting:** The core of the annual conference; typically 3-4 days devoted to plenaries, concurrent sessions, and IAIA business.

**Session:** A block of time during which presentations are made on a single topic.

**Theme forum:** Smaller than plenaries and larger than concurrent sessions, theme forums bring together on a particular topic the various aspects of impact assessment and examine how those aspects apply to different sectors and issues.

**Concurrent session:** Sessions running in parallel, during which approved papers are presented by authors and discussed by participants.

**Paper presentation:** The oral summary of a paper within a session.

**Poster:** Visual presentation of a paper or project by means of graphics, photos, data, and a small amount of text on a display area. Posters are self-explanatory, but poster authors are available to answer questions during the session dedicated to poster viewing.

**Paper session:** A chaired paper session allows up to 4-6 presentations on a related topic. Depending upon the number of presentations, each presenter is typically allocated 15-20 minutes, including time for specific questions. Ideally, time is also be allocated following the presentations for more general questions and open discussion.

**Workshop:** A workshop is similar to a paper session except that more time is allocated for general discussion following the presentations. This means that there may only be 2-3 presentations and/or presentations may be shorter.

**Panel discussion:** Similar to a workshop, except that panel members are invited, and ideally represent different viewpoints on the topic at hand. Following brief presentations, panel members debate issues and respond to questions put forward by members of the audience in a chaired discussion.

**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 begins and/or concludes with a whole-group discussion.

**Indaba:** For issues that arise during the conference and that practitioners want to pursue through informal follow-up discussions. During the morning, participants post potential topics for discussion, and individuals interested in each topic sign up for the related discussion. 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.

## 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?journ alCode=tiap20&page=instructions for submission information and attend the session on "Submitting papers to IAPA" on Thursday at 09:00 in Ribiera1.

### 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 31 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.

### CONVENTION CENTER

Note that the convention center is open to the public; your name badge may be required for some events, activities and meals.

# Conference tips and information

### **BUSINESS SERVICES**

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 on-site. If you need these services, please check with your hotel.

## MEALS

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.

### 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 29-31 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 Euros) or by MasterCard, Visa, or American Express (charged in USD). Checks or money orders made payable to IAIA USD drawn on a US bank are also accepted.

Any registration after 11 May 2012 must be made on-site. Official receipts for registrations made after 11 May 2012 will be issued after the conference.

IAIA will refund registration fees upon written request received before 30 April 2012. A US\$75 processing fee will be retained. After 30 April 2012, no refunds will be issued for cancellations or noshows. Substitutions for paid registrants may be made in writing without financial penalty. Refunds will be issued after the conference.

### QUICKPASS

All conference participants whose registration and fees were received by 15 March were mailed a purple "Quickpass." Look for purple signs designating the Quickpass registration desk and show your Quickpass for express check-in!

### 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.

### INFORMATION DESK

The Porto Tourism Office (ATP - Associação de Tourismo do Porto) will host an information booth. Stop by for information on local activites.

### 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.

The Dia da Língua Portuguesa (Portuguese Language Day) will be held in Portuguese.

# General information

### TRANSPORTATION

**By rail:** Metro do Porto is the city's light rail system and one of the most efficient ways to head from the airport downtown. It operates from 06:00 to 01:30. To and from the airport, you should take the E-line that has the violet color. There will be a train departing every 20 minutes. The Metro station is located on the outside of the airport and has a direct connection through an underway. The trip will take approximately 28 minutes to Trindade Station, and a further 2 minutes to São Bento Station with Av. dos Aliados Station in between (a 15 minute walk from Alfândega). You will have to buy a rechargeable ticket called "andante" which can also be used in buses. This will cost you up to €0,50 plus the fare from the airport which costs €3,80 each trip.

**By bus:** The 601 and 602 buses depart from the airport to downtown Porto with terminus at Cordoaria. Travel time can vary between 32 minutes to 50 minutes during rush hour (between 07:00 and 09:30). Buses are set to depart every half an hour from 05:30 to 23:30. There is a specific night bus, 3M, from 00:30 to 04:30 departing every hour, going from the airport to downtown Porto at Av. dos Aliados. Prices are the same as the Metro. Travel time of the night bus is approximately 28 minutes.

**By taxi:** Taxi service is available and prices vary according to the time of day and day of the week. On week days between 21:00 and 06:00, Saturdays, Sundays and holidays, taxi fares charge an extra 20%. All taxis are equipped with taximeters. Taxis that are called over the phone will have an extra charge of €0,80. For luggage that is bigger than 55x35x20cm, an extra charge of €1,60 will be claimed. Prices will include 4 passengers at the most. Plan to pay approximately €13 to €15 on a regular fare, plus extra charge and highway tolls if necessary for a journey from the airport to downtown Porto.

### **BUSINESS HOURS**

Shops in Porto open in the morning generally between 09:00 and 10:00. Traditional shops close for one hour at lunch time, usually starting at 13:00, and

finish the day at 19:00. Major stores and large malls tend to stay open from 10:00 until evening, with some remaining open till 23:00.

### CURRENCY AND CREDIT CARDS

The currency used in Portugal is the Euro (€) which is made up of 100 Cent. Notes come in denominations of €500, €200 and the most common €100, €50, €20, €10 and €5 and the coins in use are €2, €1, €0.50, €0.20, €0.10, €0.05, €0.02 and €0.01.

Travellers cheques are widely accepted in the city's banks, and currency can be exchanged there, too. Banks tend to offer the best exchange rates, but commission is sometimes charged for cashing travellers' cheques in foreign currencies.

A large number of cash points are located throughout the city, including at the conference center, and all major credit cards are widely accepted. Credit cards can also be used to obtain cash advances from ATMs or banks. Users should make sure the ATM bears the logo of their own card (e.g., Visa or MasterCard). The ATM symbol is MB (Multibanco).

### TIPPING

Most restaurants in Porto do not require a tip. However, unless you were unhappy with the service, it is customary to leave a tip of around from 5 to 10%, depending on how much you enjoyed your meal and the service.

### SMOKING

Smoking in all public buildings including most restaurants is prohibited, unless otherwise stated.

### TAXES

Stores displaying a "Tax Free" sticker will give you a Tax Free Shopping Check when you are paying for your purchases. When leaving the country, you need to get this check stamped by the customs officials as proof of legal export. Once you complete and return this check you will get your cash refund. Some of the major airports, train stations or ferry terminals will process this for you.

# Index of presenting paper and poster authors

#### A

Acero Rueda, Roberto 13, 19 Adekoya, Adebanji 27, 32 Alikhah, Fardin 33 Alvarez-Arenas Bayo, Manuel 39 Amado, Miguel 35 Amekor, Emmanuel M. K. 16 Amirkhanyan, Sos 26 Andrade, Andre 13 Andrianaivomahefa, Paul 22 Angelieri, Cintia Camila 24 Anjos, Miguel F. 39 Annandale, David 37 Anticona Huaynate 30 Anyanwu, Chukwudi 15 Arango, Gonzalo 21 Arce Ruiz, Rosa María 28 Ardiansyah, Fitrian 18 Arodudu, Oludunsin Tunrayo 19 Arora, Roshni 24 Arts, Jos 21, 22 Aschemann, Ralf 40 Athie, Mauricio 20 Aucamp, Ilse 35 Augusto, Bernardo 13 Azechi, Keita; Nishikizawa 17

#### B

Baines, James 17 Baird, Diana 36 Balfors, Berit 37 Barajas, Nelida 16 Bargiel, Dorota 38 Barnes, Jeffrey 13, 34, 42 Barros, N.; Oliveira 46 Beaulac, Genevieve 19 Behr, Towagh 32 Bergamini, Kay 13, 28 Berg, Einar 28 Berger, Violaine 25 Bergmüller, Ralph 21 Bernardino, Joana 17, 46 Bérubé, Michel 32 Bettencourt, Pedro 24, 26, 39 Bingham, Charlotte 24 Birley, Martin 29 Boele, Richard 27 Bolger, Michelle 28 Boulet, Emmanuel 20 Boyle, John 22 Brice, Gwen 34, 35 Bristol-Alagbariya, Edward 21 Brito, Elizabeth 14 Broche, Karima 36 Brown, Lex 37 Brown, Michelle 27 Brun, Jørgen 37 Burack, David 21 Burdge, Rabel 35

#### С

Caceres, Santiago 36 Canter, Larry 20 Cardinale, Pablo 20 Carew-Reid, Jeremy 51 Carlos, Filipa 38 Carvalho, Alexandre 21 Carvalho, Ariovaldo 38 Casermeiro, M.A. 46 Catchpole, Simon 16 Ceausu, Silvia 24 Cerdeira, Ana 26 Chapman, Lucy 14 Chinweze, Chizoba 27 Chipollini, Vanessa 46 Chisha, Shiphra 36 Chisholm, Amanda 37, 42, 46 Choi, Jungyu 46 Choi, Narae 35 Clarke, Edith 29 Clarke, Elizabeth 25 Clausen, Javier 20 Clemente, Gabriel 46 Coelho, Rui 20 Collins, Victoria 35 Colwell, Alison 27 Corona Núñez, Rogelio 26 Costa, Hugo 16, 39 Costa, Luzia B. O. 19 Costanzo, Bruno 21 Croal, Peter 14 Crowley, Michel 33

#### D

da Silva, Felipe 19 Dava, Eden Gabriel Vieira 35 Deibert, Foster 20 den Broeder, Lea 20 de Oliveira, Verawati 15 de Souza, Marcelo Pereira 41 Devlin, John 33 Diaho, Mahlao 35 Diaz-Chavez, Rocio A. 38 Djumalieva, Eldana 22 Domingos, Orlanda 46 Doner, Stacy 24 Dopheide, Emile 41 Duncan, Joy 22 du Plessis, Willemien 40 Durning, Bridget 12

#### Ε

Edem, Edem 46 Ekong, Eno-Obong 27, 36 Elidrisy, Ahmed 15 Enserink, Bert 20, 34 Escobar Serrano, Jose 25 Essandoh-Yeddu, Joseph 16 Esteves, Aline de Oliveira 41 Esteves, Ana Maria 22

#### F

Faith-Ell, Charlotta 21, 35 Ferreira Berti, Maria José 46 Ferreira, Hugo 46 Ferreira, Joana 29 Ferretti, Johanna 30 Fidler, Courtney 37 Fischer, Thomas 20, 30 Foe Eloundou, Bertrand Joel 35 Folkeson, Lennart 39 Fothergill, Josh 42 Frade, Sofia 39 Franks, Daniel 36 Freire, Fausto 19, 46

#### G

Gabi, Houcine 32 Gajardo, Paula 42 Garcia, Norma 21 Garibaldi, Ann 32 Gaudreau, Kvrke 19, 36 Gautam, Surhid 17 Geissler, Gesa 37 Geng, Haiging 40 Georgiadou, Maria-Christina 26 Gibson, Robert 12 Gibson, Robert B. 14 Ginja, João 28 Golobic, Mojca 30 Gomez-Balandra, Maria Antonieta 17 Gomez, Oscar 46 Gonzalez, Ainhoa 24 Gotto Walton, Katharine 27 Gough, Mark 13 Gouveia Pereira, Manuel 30 Graetz, Geordan 13 Grassetti, Richard 26 Grigoletto Duarte, Carla 18 Gröndal, Tabita 42 Gulis, Gabriel 29 Gunnarsson, Jakob 18 Gunther, Pamela 20 Gyampo, Kwadwo 27

### Η

Han, Kyu-Young 37 Hanssen, Frank 13, 46 Harashina, Sachihiko 13, 34 Hartmann, Joerg 16 Harvey, Bruce 14 Hayashi, Kiichiro 37 Herschmann, Stela Luz Andreatta 42 Hirsch-Sigfusson, Tammy 22, 46 Hurley, Lewis 30, 40 Hussain Ali 37

#### I

Ingimarsson, Jón 18 Invernizzi, Valentina 30, 46 Ironside, Cameron 17 Ito, Hideyuki 37 Ito, Masaru 16

#### J

Jantunen, Jorma 13 Jesus, Júlio 13, 21, 32 Jiliberto, Rodrigo 38 Jiricka, Alexandra 33 Joanaz de Melo, João 17 João, Elsa 26 Jóhannesson, Helgi 37 Jones, Carys 42 Joyce, Susan 27 Jung, Jong-Gwan 14 Jung, Yong-Moon 37 Juntarawijit, Chudchawal 29

#### Κ

Kalle, Heikki 21 Kang, Bo-Seung 46 Kelly, Charles 21 Khan, Aurangzeb 36 Khan, Raja Aurangzeb 37 Kim, Jin-Oh 20 Kim, Myungjin 24 King, Katie 46 Köppel, Johann 16 Kregar, Ales 25 Krohn, Jack 24

#### L

Laborinho, Marta 36 Lam, Josh 12 Lam, Kin-che 39 LaPierre, Louis 33 LaPin, Deirdre 22 Larsen, Kari 28 Leão, Fernando 23 Leboeuf, Yves 30 Ledec, George 19 Lee Hon, Shirley 12 Lee, Nathan 38 Lee, Sangbum 19, 46 Leonardi, Marco 19, 41 Leonard, Peter 36 Leung, Henry 26 Levendal, Minnelise 16 Levin, Lena 35 Lilleland, Hege 28 Linde, Lothar 40, 46 Lind, Terie 14 Liu, Jia 37 Lockard, Gregory 28 Lo-Liyong, Census 15 Lourenço, Inês 17 Loxton, Edwina 36 Lukic, Jelena 20 Lund-Iversen, Martin 28

# Index of presenting paper and poster authors

#### Μ

Madaleno, Marta 27 Magalhães, Sara 36 Magro, Giuseppe 34 Maïga, Mahamadou Ahmadou 35 Maille, Marie-Eve 16 Major, Nathalie 19 Malvestio, Anne Caroline 37 Marinova, Dora 36 Martín, Irene 46 Mascarenhas, André 24 Mathur, Vinod B. 42 McCormack, Patricia 32 McElroy, Caitlin 22 Mchallo, Ignace A. J. 15 Medina Rodriguez, Angelica Andrea 32 Mendes, Gonçalo 46 Meng, Wang 26 Meuleman, Louis 39 Meyer, Theunis 22 Middle, Garry 12, 39 MItchell, Robin 24 Molapo, Lira 29 Montañez-Cartaxo, Luis E. 38 Montano, Marcelo 35 Montaño, Marcelo 39 Monteiro, Margarida 39 Montgomery, Matt 17 Moon, Nankyoung 38 Moradi, Hossein 12, 21 Moreira, Sérgio 12, 32, 35 Moreno, Roberto 21 Morgan, Richard 29 Morrison, Ronald 24 Mörtberg, Ulla 18 Munday, David 24 Murayama, Takehiko 13, 33

#### Ν

Nakayama, Mikiyasu 36 Nesbakken, Anneli 46 Neto, Belmira A. F. 23 Ngouana Kengne, Cyrille Valence 33 Nguene, Francois Roger 32 Nord, Jenny 28 Nowacki, Julia 29 Nunez, Monica 21, 33 Nyaundi, Christian 12, 30

#### 0

Odparlik, Lisa Friederike 26 Ogura, Kenji 14, 33, 46, 47 Oliveira Silva, Raphael Antonio 19 Orenstein, Marla 29 Owiunji, Isaiah 15

#### Ρ

Partidário, Maria 39, 40, 41 Patiri, Victor Jose de Andrade 47 Pavasars, Ivars 39 Peirson-Smith, Timothy J. 34 Pellegrini, Stefania 40 Pereira, Margaret 17 Peterson, Kaja 40 Petrova, Svetla 36 Pfeiffer, Michaela 15, 29 Pigeon, Jean-Luc 17 Pirillo, Ernesto 47 Pokhrel, Sumit 38, 47 Polglase, Christopher 28 Polido, Alexandra 47 Pollard, Lisa 36 Poole, Darren 21 Poot, Martin 17 Prinsloo, Marja 12 Pulido-Castañon, Jesus 19 Puschel, Lorna 42

#### Q

Quijano, Martin 24 Quintero, Juan 26

#### R

Rabiei, Maryam Najibi 18 Raimundo e Almeida, Maria Rita 39, 47 Raissiyan, Behzad 21 Rajvanshi, Asha 47 Ranawana, Sanath 38 Raphael, Caroline 38 Rawa, Agnieszka; Nash 29 Reis, Susana 47 Repas, Miguel 24, 47 Rescia, Pietro 13 Retief, Francois 21 Ribeiro, Barbara 47 Ribeiro, Clara 14 Ribeiro, Daniel 34 Ribeiro de Spinola, Ricardo 33 Ribeiro, Isabel 19 Rickson, Kara 35 Rickson, Roy 22 Rodriguez, Fernando 32 Rufino, Rui 19, 47 Rushton, Risha Jaide 23

#### S

Sabir, Muhammad 38 Sadler, Barry 12 Saeed, Ahmad 42 Sage, Paul 19 Said, Andres 47 Saidu, Zainab Bello 13 Samuel, Jonathan 36 Sanchez, Isolina 17 Sanchez, Luis 42 Sanchez-Triana, Ernesto 40 Sandham, Luke 36 Saraiva, Teresa 19 Sarkar, Sunrita 14, 19, 32, 36 Sasvari, Anett 32 Satiroglu, Irge 35 Scarpanti, Stefano 40 Schiffrin, Andrew 26 Schirmer, Jacki 33 Scott-Brown, Miles 20 Seagel, Tobin 20 Seitz, Virginia 35 Shah, Nasim-ur-Rehman 37 Sheate, William 34 Sheng, Xiangyu 15 Shi, Wanli 17 Shi, Xiaoxin 28 Shpyth, Al 13 Siegel, Peter 28 Silva, Maria 37 Silva-Santos, Pedro 47 Skambracks, Daniel 25 Smith, Howard 12, 14, 22 Sobrini, lñigo 42 Sohail, Shaista 38 Solaun, Leticia 34 Stamenkovic, Marija 26 Steinhauer, Ineke 15 Stoeglehner, Gernot 12 Streather, Tom 18 Strevens, Chloë 25 Stuckless, Daniel 32 Sun, Wei-Chien 47 Supanpaiboon, Wisa 29 Sylling, Guro 15

#### Т

Taha, Samar 47 Tariq, Muhammad Irfan 35 Tatsabong, Basile 20 Thang, Dieudonné 47 Theodórsdóttir, Ásdís Hlökk 40 Toledo, Thomaz 16 Tomé, Ricardo 19 Tot, Bojana 47

#### U

Uechi, Jouju 18 Ushijima, Hitoshi 33 Usui, Kanji 21

#### V

Valenzuela Jara, Claudia 29 Vammen Larsen, Sanne 26 Vanclay, Frank 17 van der Merwe 22 van Rooyen, Magnus 29 Venn, Orlando 20 Vilardo, Cristiano 42 Vilela, Nuno 23 Villalba, Alberto 47 Villega, Jorge 14 Villega, Jorge 14 Villicaña, Grethel 12 Vincent-Akpu, Ijeoma 16 Vohra, Salim 29

#### W

Waaub, Jean-Philippe 40 Walker, Beverley 12 Walmsley, Bryony 35 Wells, Thomas 39 Wende, Wolfgang 42 Wessels, Jan-Albert 27 White, Lisa 37, 39 Wielga, Mark 27 Wilkins, Susan 17 Wilson, Elizabeth 40 Witchalls, Ben 15 Wolf, Charlie 42 Wright, Zena 47

#### Х

Xu, He 40 Xu, Yuan 15

#### Y

Yap, Nonita 33 Yi, Jeonghwa 26

#### Ζ

Zaheer, Arfa 32 Zakrajsek, Edward 47 Zhang, Yuhuan 32 Zhao, Xinfeng 29 Zúñiga-Gutiérrez 16 Zwolak, Richard 13

# Committees | About the hosts

### PROGRAM COMMITTEE

**Carlos Borrego**, Co-chair, University of Aveiro, Portugal)

Miguel Coutinho, Co-chair, IDAD, Portugal Ana Maria Esteves, Community Insights, The Netherlands

Arne Dalfelt, Norway

Lea den Broeder, RIVM, The Netherlands Ben Cave, Ben Cave Associates Ltd.,

United Kingdom

Iñigo Sobrini, Ingenieros Consultores Medio Ambiente SL, Spain

**Jenny Pope**, Integral Sustainability, Australia **Luis E. Sánchez**, University of São Paulo, Brazil

Luísa Schmidt, Technical Úniversity of Lisbon, Portugal

Maria Partidário, Instituto Superior Técnico, Portugal

Mauricio Athié, International Finance Corporation, USA

Pamela Gunther, Golder Associates, USA Paulo Pinho, University of Porto, Portugal Rita Sully, Shell, Australia Silvia Pires, CEPEL, Brazil

#### LOCAL ORGANIZING COMMITTEE

Miguel Coutinho, Chair, IDAD, Portugal Bertília Valadas, APAI, Portugal Paula Pinto, CCDR-N, Portugal João Sarmento, APAI, Portugal

#### SPECIAL THANKS

The team of **CCDR-N** (Comissão de Coordenação e Desenvolvimento Regional do Norte) from the Ministry of Agriculture, Sea, Environment and Spatial Planning that supported the Local Organizing Committee, in particular **Alexandra Cabral, Andreia Cabral, Rosário Sottomayor**, and **Jorge Sobrado**.

The team of IDAD (Institute of Environment and Development) that gave a precious contribution on 1000+1 details involved in the preparation of an event like IAIA12: **Alexandra Passos Silva**, **Ana Henriques**, **Clara Ribeiro**, **Fernando Leão**, **Margaret Pereira** and **Sérgio Bento**.

## Мар

# Centro de congressos da alfândega

Rua Nova da Alfândega Edifício da Alfândega 4050-430 Porto, Portugal Tel.: +351 223 403 024 www.meetinportugal.com/1/1372.html

#### **Boulevard Cafe**

Avenida dos Aliados, 58-62 4000-064 Porto

#### **Taylor's Port**

Rua do Choupelo, 250 Vila Nova de Gaia 4400-088 Vila Nova de Gaia

### About the hosts



**IDAD-Instituto de Ambiente e Desenvolvimento** (Institute of Environment and Development) is a non-profit association, with scientific and technological activities in all the fields of the environment, the management of natural resources, social-economical development and land planning. See www.idad.ua.pt for more information.



**APAI** (Associação Portuguesa de Avaliação de Impactes) was founded in 1995 as a scientific, technical and professional nonprofit association. APAI is an affiliate of the IAIA and it is the only Portuguese NGO with expertise in EIA, SEA and other forms of impact assessment. APAI's goal is to promote, at the national level, the capacity to foresee, plan and manage the impacts of development. See **www.apai.org.pt** for more information.

## Greening the conference

Does IAIA practice what it preaches? Yes, and more so every year. IAIA takes the following steps and more (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 (made from 51% recycled materials); IAIA will re-use them

**Special to IAIA12.** Local organization of the conference will follow the principles of BS8901. This British Standard has been developed specifically for the events industry with a purpose of helping the industry to operate in a more sustainable manner. The standard defines the requirements for a sustainability event management system to ensure an enduring and balanced approach to economic activity, environmental responsibility and social progress relating to events. It requires organizations to identify and understand the effects that their activities have on the environment, on society and on the economy both within the organisation and the wider economy and put measures in place to minimize negative effects. A draft version of an ISO standard is under discussion. Compliance to BS8910 will be monitored and audited by IDAD. A report will be published after the conference.

**Cork sustainability.** For nearly 3,000 years, cork harvesting has proven to be one of our planet's most sustainable and environmentally responsible types of farming (www.corksupply.com/sustainability-matters/default.aspx). Also see: http://sustainablematerials.com/cork/ and http://sustainablematerials.com/resources/cork/



# Centro de congressos da alfândega | Maps



In response to trade growth in Porto, the Customs Building was constructed on the Miragaia dunes next to the north bank of the River Douro. Its construction dates back to the second half of the 19th century (1869). Designed by French architect Jean Colson, the Customs Building is very different from the characteristic architecture of other 15th century riverside buildings.

Made up of a central block and two symmetrical lateral wings, Colson primarily used iron in its construction, but also other materials such as stone, small bricks and wood. However, as construction progressed, modifications and various types of structure were introduced, from square pillars and stone arches on the underground floors to iron columns and small arches on the middle floors to metal and wooden structures. In the central body, the top floor is finished with a single oak roof from Riga, the capital of Latvia.

Due to the advent and rapid spread of new communication means, together with the problem of traffic congestion caused by the huge quantity of lorries, there was a trend in the 1980s for companies to move from the urban centre to the outskirts of the city. This also happened with the Customs services. Consequently, the building was abandoned as a Customs house and underwent large-scale restoration work, most of which was supervised by the architect Eduardo Souto Moura. Since 1992 it has been the headquarters of the Association for the Transport and Communication Museum (free admission), and in 2000 it housed the actual Museum. Hence the Customs Building is today the stage for various sociocultural events, providing the city with an important cultural and multifunctional facility. Its capacity as a venue for events



2nd Floor

led to its current function as the Congress Centre.

Its location in the historical centre of the city, the proximity of the river Douro, and the singular architecture of the building are excellent attributes that make the Congress Centre a unique venue in the city of Porto.



## THE ONLY INTERNATIONAL, INTERDISCIPLINARY, EDUCATIONAL CONFERENCE DEDICATED TO ADVANCING THE ART AND SCIENCE OF IMPACT ASSESSMENT!



International Headquarters

national Association for mpact Assessment

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