



**IAIA 21**

VIRTUAL EVENT

**#iaia21**



# Definition of No Net Loss used by EIA and corporations: A comparative study

**Asahi ABE, Akira TANAKA**

*Tokyo City University Graduate School,*

*Research Division in Environmental and Information Studies,*

*TANAKA Landscape Ecosystems Laboratory*

*JAPAN*

asatcuearth@gmail.com

<https://www.facebook.com/asahi.abe.31>

<https://www.comm.tcu.ac.jp/tanaka-semi/index.html>



# 1. INTRODUCTIONS

- Biodiversity, a base of economy and society, brings human being various benefits (Georgina et al., 2012) .
- But **the global biodiversity continues being declined over the past 40 years** (Tittensor et al., 2014) .
- So, biodiversity conservation is a common problem of the world, and we must take measures against it immediately.
- In the United States a **no net loss policy** is performed for the purpose of biodiversity conservation from 1990.
- Afterward a no net loss policy came to be performed in other foreign countries including Germany and Australia and so on (Tanaka et al., 2008) .



- On the other hand, a concept of this “No Net Loss” began to be adopted as one of the indexes such as the environmental goals of the company from the 2000s. In Japan, the goals like that came to be seen as well.
- In addition, IFC requires goals higher than no net loss for operation with the development of the company in Performance Standard 6, and the responsibility of company grows big in the biodiversity conservation.
- Furthermore, according to Gyan et al.(2019), there was 66 companies which had a no net loss goals by 2016 but it was not specific about the company including the concrete contents of a company name and the no net loss goals in this article.
- So, We investigated what company had what kind of goal and we were intended that we clarified a trend of a no net loss in the company.



## 2. METHODS

### 1. No Net Loss policy in USA

We investigated no net loss policy of USA and extracted four characteristics of no net loss and we listed it.

### 2. Corporate No Net Loss goals

We investigated companies that set no net loss goals from Jun 2019 to November 2020, so, we listed information of those and result about four characteristics of those. Then we analyzed it.



# 3. RESULTS

## 1. No Net Loss policy in USA

USA is successful in biodiversity conservation because of various laws and ordinances like NEPA and Clean Water Act.

We think NNL policy function effectively by considering below four characteristics in USA.

**TABLE 1** The important viewpoints when aiming no net loss

|                                     |  |
|-------------------------------------|--|
| Target of No Net Loss               | Are you aiming for NNL for what?   |
| Target action of No Net Loss        | What kind of action among corporate activities do you mitigate the impact caused by? |
| Adoption of Mitigation Hierarchy    | Do you follow avoidance and minimization and offset when you plan for development?   |
| Adoption of Biodiversity Assessment | Do you grasp the quantity and quality of biodiversity that is lost by development?   |

Note. “NNL” mean “no net loss”



## 2. Corporate No Net Loss goals

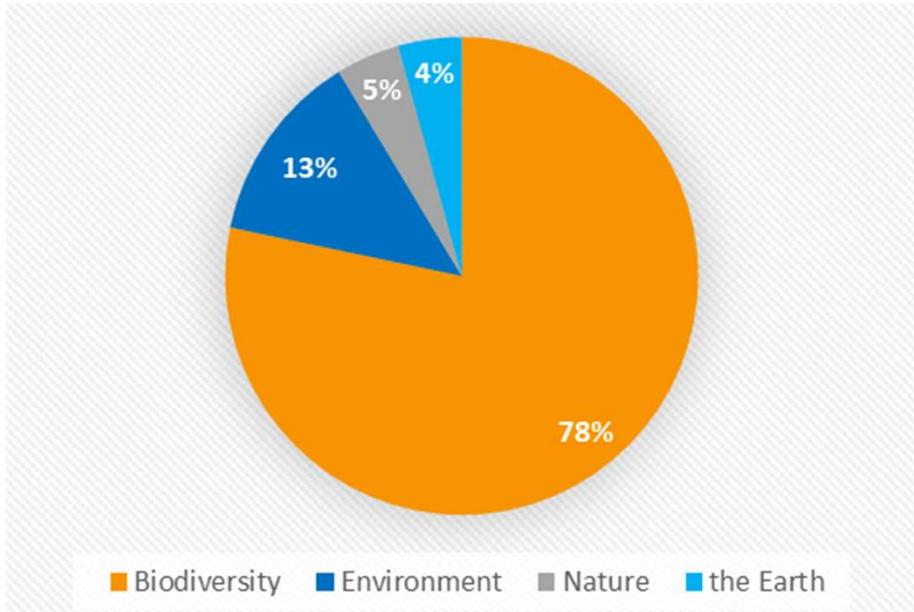
We found **23 companies** which have no net loss goals from 11 countries.

**TABLE 2** The companies which have no net loss goals

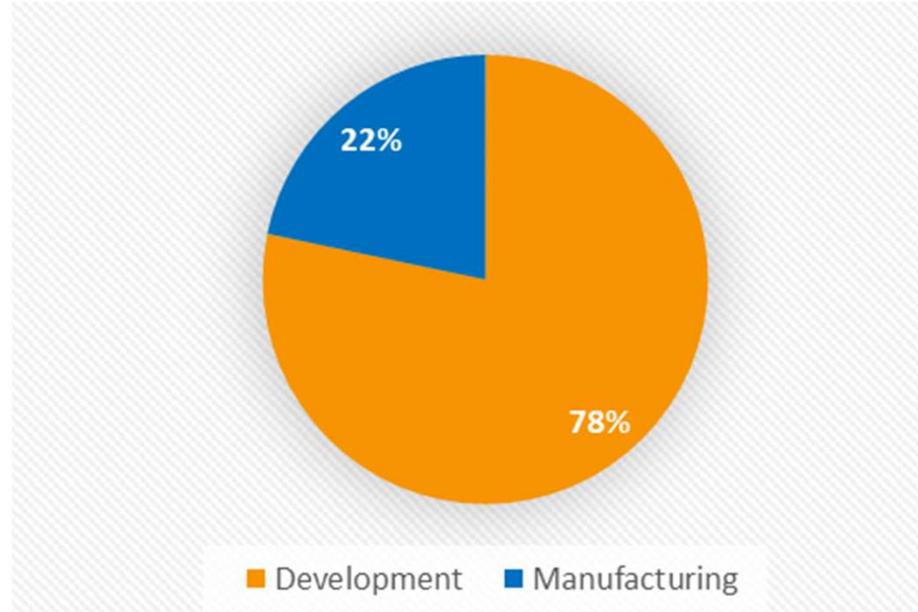
| Company                           | No Net Loss Goals   | year      | Country      | Industry      | Target of NNL | Target Action of NNL | Mitigation Hierarchy | Biodiversity Assessment |
|-----------------------------------|---|-----------|--------------|---------------|---------------|----------------------|----------------------|-------------------------|
| Royal Dutch Shell plc             | net-positive impact                                       | 2003      | Netherlands  | Energy        | Biodiversity  | Development          | ○                    | ○                       |
| Advanced Glazings Ltd             | net positive impact on the environment                    | 2005      | Australia    | Manufacturing | Environment   | Manufacture          | ×                    | ×                       |
| Interface, Inc.                   | zero negative impact on the environment.                  | 2006      | USA          | Manufacturing | Environment   | Manufacture          | ×                    | ×                       |
| Balfour Beatty plc                | Biodiversity Net Gain                                     | 2009      | UK           | Construction  | Biodiversity  | Development          | ○                    | ○                       |
| Barrick Gold Corporation          | zero net negative impact net neutral biodiversity impact  | 2009      | Canada       | Mining        | Biodiversity  | Development          | ○                    | ×                       |
| De Beers Group                    | no net loss of significant biodiversity                   | 2009      | UK           | Mining        | Biodiversity  | Development          | ○                    | ○                       |
| SONY                              | zero environmental footprint                              | 2010      | Japan        | Manufacturing | Environment   | Manufacture          | ×                    | ×                       |
| Teck Resources Limited            | net positive impact on biodiversity                       | 2010      | Canada       | Mining        | Biodiversity  | Development          | ○                    | ○                       |
| Norsk Hydro ASA                   | no net loss of biodiversity                               | 2011      | Norway       | Mining        | Biodiversity  | Development          | ×                    | ×                       |
| BRIDGESTONE                       | in balance with nature(Biodiversity no net loss)          | 2012      | Japan        | Manufacturing | Biodiversity  | Manufacture          | ×                    | ×                       |
| PTTEP                             | no net loss for Biodiversity and Ecosystem Services (BES) | 2013      | Thailand     | Energy        | Biodiversity  | Development          | ○                    | ×                       |
| Anglo Gold Ashanti Limited        | no net loss of biodiversity                               | 2014      | South Africa | Mining        | Biodiversity  | Development          | ○                    | ○                       |
| Barratt Developments plc          | net gains for biodiversity                                | 2014      | UK           | Construction  | Biodiversity  | Development          | ○                    | ×                       |
| Daiwa House Group                 | no net loss of green space                                | 2014      | Japan        | Construction  | Nature        | Development          | ×                    | ×                       |
| Societe Generale                  | no net loss of biodiversity                               | 2014      | France       | Financial     | Biodiversity  | Development          | ○                    | ×                       |
| TOYOTA MOTOR CORPORATION          | Net Positive Impact                                       | 2015      | Japan        | Manufacturing | the Earth     | Manufacture          | ×                    | ×                       |
| Thomson environmental consultants | Biodiversity Net Gain                                     | 2016      | UK           | Service       | Biodiversity  | Development          | ○                    | ○                       |
| WSP   Parsons Brinckerhoff        | biodiversity net gain                                     | 2016      | USA          | Service       | Biodiversity  | Development          | ○                    | ○                       |
| First Quantum Minerals            | net positive impact on biodiversity                       | 2017~2019 | Canada       | Mining        | Biodiversity  | Development          | ×                    | ×                       |
| Berkeley Group                    | net biodiversity gain                                     | 2018      | UK           | Construction  | Biodiversity  | Development          | ○                    | ○                       |
| RPS group                         | Biodiversity Net Gain                                     | 2018      | UK           | Service       | Biodiversity  | Development          | ○                    | ○                       |
| NTPC LTD.                         | no net loss of biodiversity                               | 2018      | India        | Energy        | Biodiversity  | Development          | ×                    | ○                       |
| Crestwood                         | no net loss of biodiversity                               | ~2018     | USA          | Energy        | Biodiversity  | Development          | ○                    | ○                       |

Note. We investigated between Jun 2019 and November 2020.



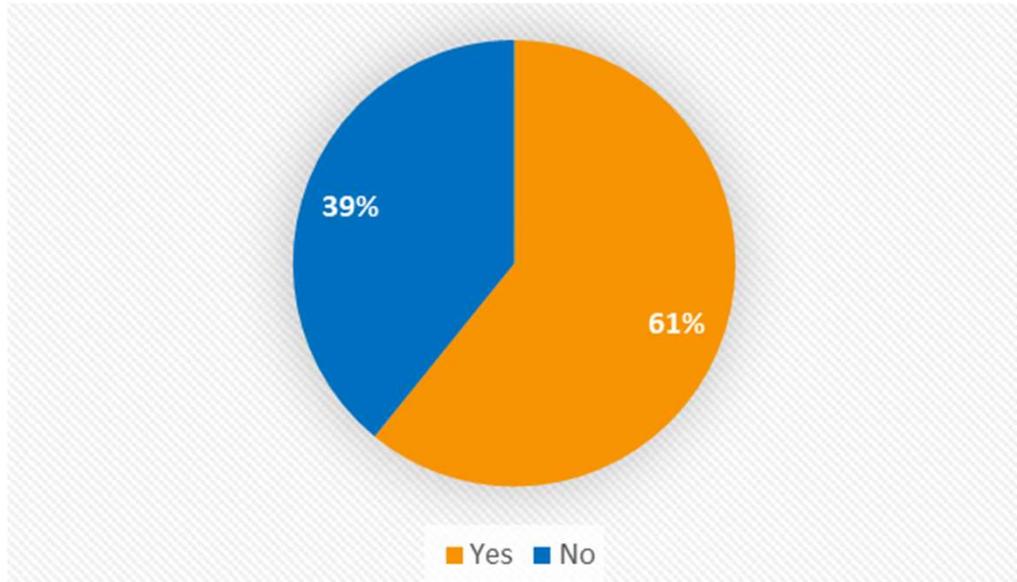


**FIGURE 1**  
Ratio of target of corporate NNL goals

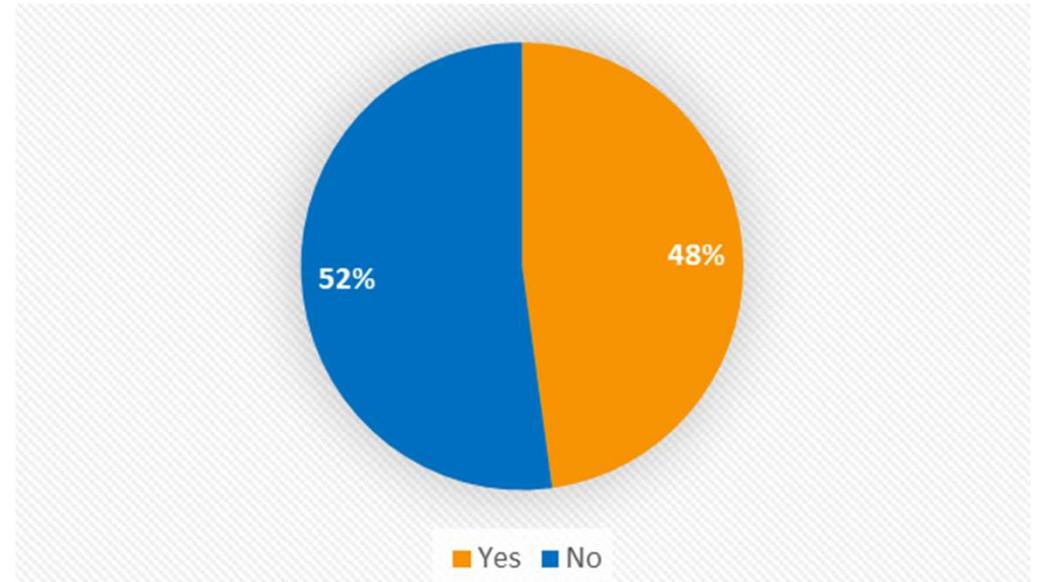


**FIGURE 2**  
Ratio of target action of corporate NNL goals



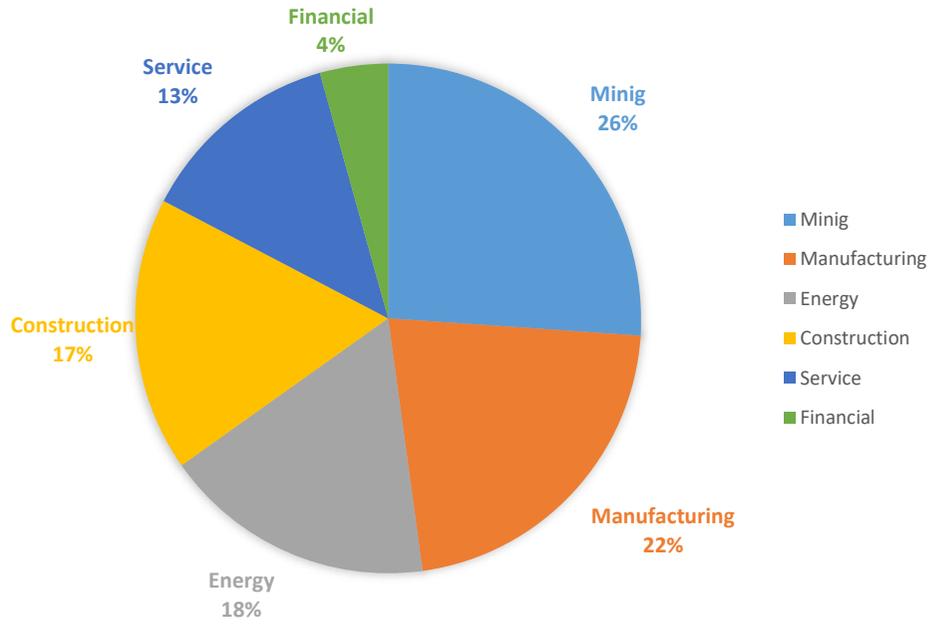


**FIGURE 3**  
Ratio of adoption of mitigation hierarchy in corporate NNL goals

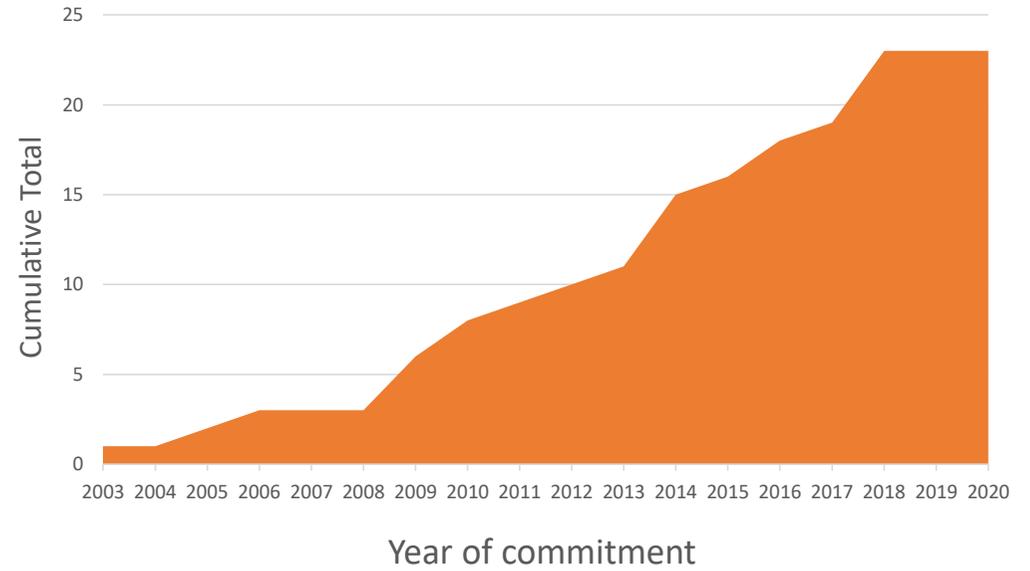


**FIGURE 4**  
Ratio of adoption of biodiversity assessment in corporate NNL goals





**FIGURE 5**  
Ratio of industry of the companies



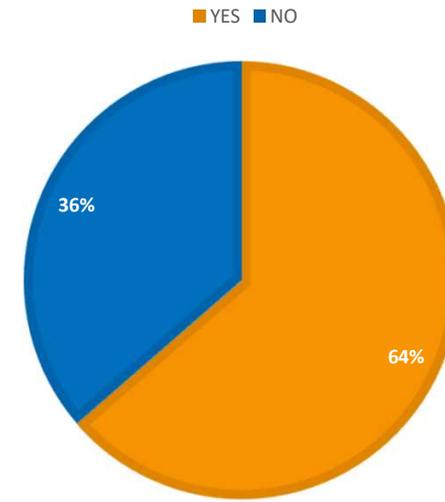
**FIGURE 6**  
Growth in number of company with NNL goals over time



**TABLE 3**

Whether countries have NNL policy

| Country with head office | Whether countries have NNL policy |
|--------------------------|-----------------------------------|
| Australia                | ○                                 |
| Canada                   | ○                                 |
| France                   | ○                                 |
| India                    | ×                                 |
| Japan                    | ×                                 |
| Norway                   | ×                                 |
| South Africa             | ○                                 |
| Thailand                 | ×                                 |
| Netherlands              | ○                                 |
| UK                       | ○                                 |
| USA                      | ○                                 |



**FIGURE 7**

Ratio of whether country has NNL policy

**TABLE 4** The companies that countries of head office don't have no net loss policy

| Company                  | No Net Loss Goals   | year | Country  | Industry      | Target of NNL | Target Action of NNL | Mitigation Hierarchy | Biodiversity Assessment |
|--------------------------|---|------|----------|---------------|---------------|----------------------|----------------------|-------------------------|
| SONY                     | zero environmental footprint                              | 2010 | Japan    | Manufacturing | Environment   | Manufacture          | ×                    | ×                       |
| Norsk Hydro ASA          | no net loss of biodiversity                               | 2011 | Norway   | Mining        | Biodiversity  | Development          | ×                    | ×                       |
| BRIDGESTONE              | in balance with nature(Biodiversity no net loss)          | 2012 | Japan    | Manufacturing | Biodiversity  | Manufacture          | ×                    | ×                       |
| PTTEP                    | no net loss for Biodiversity and Ecosystem Services (BES) | 2013 | Thailand | Energy        | Biodiversity  | Development          | ○                    | ×                       |
| Daiwa House Group        | no net loss of green space                                | 2014 | Japan    | Construction  | Nature        | Development          | ×                    | ×                       |
| TOYOTA MOTOR CORPORATION | Net Positive Impact                                       | 2015 | Japan    | Manufacturing | the Earth     | Manufacture          | ×                    | ×                       |
| NTPC LTD.                | no net loss of biodiversity                               | 2018 | India    | Energy        | Biodiversity  | Development          | ×                    | ○                       |



**TABLE 5** The companies which have/had no net loss goals in Japan

| Company                  | No Net Loss Goals                                 | Year | Presence | Industry      | Characteristics   | Mitigation Hierarchy | Biodiversity Assessment |
|--------------------------|---|------|----------|---------------|---|----------------------|-------------------------|
| SONY                     | zero environmental footprint                      | 2010 | ○        | Manufacturing | Sony business operations rely on a healthy natural environment. To help promote fulfilling lifestyles today and tomorrow, and achieve a zero environmental footprint by the year 2050, we have set goals from four environmental perspectives: curbing climate change, conserving resources, controlling chemical substances, and promoting biodiversity.   | ×                    | ×                       |
| Mori Building Co., Ltd.  | no net loss in urban areas                        | 2010 | ×        | Construction  | We evaluated Urban development business using quantitative evaluation technique called JHEP by a point of biodiversity. We regard “biodiversity” as “livability for the animal” and “regional characteristic of green”, we evaluate quantitatively an influence degree and a contribution degree to biodiversity of the operation.  | ×                    | ○                       |
| BRIDGESTONE GROUP        | in balance with nature (Biodiversity no net loss) | 2012 | ○        | Manufacturing | We aim to enhance contribution (recovering habitat of the animals and plants, productivity improvement of the natural rubber farm, reduction of CO <sub>2</sub> emission at the time of the use of product) while minimizing footprint (reduction the influence of land use, reduction the influence of water intake, reduction of discharge to the atmosphere and sea, reduction of CO <sub>2</sub> emission at the time of manufacturing, waste reduction). | ×                    | ×                       |
| Komatsu Ltd.             | no net loss of biodiversity                       | 2014 | ×        | Construction  | We maintenance habitat that creatures are easy to inhabit and for the purpose of returning it naturally, we protect young tree of the site and manage upbringing and maintains the seedbed.   | ×                    | ×                       |
| Daiwa House GROUP        | no net loss of green space                        | 2014 | ○        | Construction  | We minimize a loss of natural capital by the development and in cooperation with customer, we aim to improve quality of green in house, building, city planning with achieving “the loss of green ≤ the creation of green” by the expansion of green area and the grasp the loss of quantity of green.  | ×                    | ×                       |
| TOYOTA MOTOR CORPORATION | Net Positive Impact                               | 2015 | ○        | Manufacturing | We minimize water use in the factory and clean drainage and minimize recourses in manufacturing car and recycle it to the maximum and conserve biodiversity and forest.   | ×                    | ×                       |
| SEKISUI CHEMICAL Group   | no net loss of ecosystem                          | 2016 | ×        | Manufacturing | We approach water risk and water circulation with the environmental contribution product and use of edge materials and conserve sea ecosystem by the NPO cooperation  | ×                    | ×                       |



**TABLE 6** The policies which have a potential for no net loss in Japan

| <b>Client</b>               | <b>Case</b>   | <b>Characteristics</b>  |
|-----------------------------|---|---|
| Zushi City, Kanagawa Pref.  | Ordinance to Create A Good Urban Environment in Zushi                   | They introduced biodiversity assessment.                                    |
| Yamanashi Pref.             | Ordinances Concerning Environmental Impact Assessment in Yamanashi      | They introduced mitigation hierarchy.                                       |
| Shiki City, Saitama Pref.   | Regulations to Restore Nature in Shiki                                  | They introduced mitigation hierarchy.                                       |
| Tokushima Pref.             | Guideline of Environmental Consideration in Public Project in Tokushima | They introduced mitigation hierarchy.                                       |
| Okinawa Pref.               | Biodiversity Okinawa Strategy   | They introduced mitigation hierarchy.                                       |
| Nara Pref.                  | Biodiversity Nara Strategy  | They considered introduction of no net loss system.                         |
| Aichi Pref.                 | Aiti Mitigation   | They introduced mitigation hierarchy and biodiversity assessment.           |
| Ministry of the Environment | Regional CES  | They introduced viewpoint like no net loss.                                 |
| Kanagawa Pref.              | Technical Guideline of Environmental Impact Assessment in Kanagawa      | They introduced mitigation hierarchy.                                       |
| Osaka Pref.                 | Technical Guideline of Environmental Impact Assessment and Follow-up    | They introduced biodiversity assessment.                                    |
| Tottori Pref.               | Biodiversity Strategy in Tottori  | They considered introduction of biodiversity offset aiming for no net loss. |



## 4. CONCLUSIONS

- Corporate no net loss is different from in EIA at the point of **mitigation hierarchy** and **biodiversity assessment**.
- There is **23 companies** which have no net loss goals.
  - It seems that company which have no net loss goals increase hereafter.
- Corporate no net loss which country don't have no net loss policy seems deficient, compared to it which country have no net loss policy.
  - It is important to have no net loss policy at the level of nation.



# 5. REFERENCES

Akira Tanaka (2009) “生物多様性オフセット”制度の諸外国における現状と地球生態系銀行, “アースバンク”の提言.

academic journal of Japan Society for Impact Assessment , Vol. 7, No. 2, p1-7.

Akira Tanaka, Tomohiro Isoyama (2011) 自然生態系の「ノーネットロス」政策の起源と変遷に関する研究. 都市計画論文集, Vol. 46, No. 1, p49-54.

Akira Tanaka, Shinsuke Otaguro (2008) 諸外国における自然立地のノーネットロス政策の現状. Japan Society for Impact Assessment meeting for reading research papers proceedings in 2008 , p47-51.

Advanced Glazings Ltd. (2020) About Advanced Glazings Ltd. <https://www.advancedglazings.com/about>. 2020.7.25.

AngloGold Ashanti (2020) ENVIRONMENT. <https://www.anglogoldashanti.com/sustainability/environment/>. 2020.7.25.

Balfour Beatty plc (2020) Biodiversity services. <https://www.balfourbeatty.com/expertise/specialist-services/biodiversity-services/>. 2020.7.25.

BARRATT DEVELOPMENTS PLC (2020) Net gain for biodiversity.

<https://www.barrattdevelopments.co.uk/sustainability/taking-action/case-studies/net-gain-biodiversity>. 2020.7.25.

Barrick Gold Corporation (2020) PROTECTING THE ENVIRONMENT.

<https://www.barrick.com/English/sustainability/environment/default.aspx>. 2020.7.25.

Bridgestone Corporation (2020) Environment <https://www.bridgestone.com/responsibilities/environment/index.html>.

DAIWA HOUSE INDUSTRY CO. LTD. (2020) Long-Term Environmental Vision.

<https://www.daiwahouse.com/English/sustainable/eco/vision/>. 2020.7.25.

DE BEERS GROUP (2020) BIODIVERSITY AND CONSERVATION.

<https://www.debeersgroup.com/buildingforever/reporting/environment/biodiversity-and-conservation>. 2020.7.25.



First Quantum Minerals Ltd (2020) Programs Biodiversity. <https://www.firstquantum.com/English/sustainability/programs/biodiversity/default.aspx>. 2020.7.25.

Georgina, Mace M., Norris, Ken, and Fitter, Alastair H.(2012) Biodiversity and ecosystem services: a multilayered relationship. Trends in Ecology & Evolution, Vol. 27, Issue 1, January 2012, pp 19-26

Gyan Charitha de Silva, Eugenie Christine Regan, Edward Henry Beattie Pollard, Prue Frances Elizabeth Addison (2019)

“The evolution of corporate no net loss and net positive impact biodiversity commitments: Understanding appetite and addressing challenges.” Business Strategy and the Environment vol.28(7), pp.1481-1495

Interface (2020) Our Sustainability Journey. [https://www.interface.com/US/en-US/sustainability/our-journey-en\\_US](https://www.interface.com/US/en-US/sustainability/our-journey-en_US). 2020.7.25.

KOMATSU (2020) Environmental Report Digest2014.

[https://s3-ap-northeast-1.amazonaws.com/sustainability-cms-komatsu-s3/en/csr/pdf/ENV-Digest-2014\\_en\\_A3.pdf](https://s3-ap-northeast-1.amazonaws.com/sustainability-cms-komatsu-s3/en/csr/pdf/ENV-Digest-2014_en_A3.pdf). 2020.7.25.

Martine Maron, Susie Brownlie, Joseph, Bull W., Megan, Evans C., Ameri, Hase V., Fabien Quetier, Watson, James E. and Ascelin Gordon(2018)

“The many meanings of no net loss in environmental policy” NATURE SUSTAINABILITY, vol1, January 2018, pp.19-27

Rainey, Hugo J., Pollard, Edward H. B., Ekstorm, Guy Dutton Jonathan M. M., Temple, Suzanne R. Livingstone Helen J. and Pilgrim, John D. (2014)

“A review of corporate goals of No Net Loss and Net Positive Impact on biodiversity.” Oryx vol.49(2), pp.232-238

Tittensor, Derek P. et al., (2014) A mid-term analysis of progress toward international biodiversity targets. Science, 10 Oct 2014, Vol. 346, Issue 6206, pp. 241-244

Norsk Hydro ASA (2020) Environment. <https://www.hydro.com/en-JP/sustainability/environment/environment/>. 2020.7.25.

Rio Tinto (2020) Biodiversity.<https://www.riotinto.com/sustainability/environment/biodiversity>. 2020.7.25.

Royal Dutch Shell plc (2020) OUR APPROACH TO BIODIVERSITY.

<https://www.shell.com/sustainability/environment/biodiversity/our-approach-to-biodiversity.html>. 2020.7.25.

SONY (2020) Sony Group Environmental Vision. [https://www.sony.net/SonyInfo/csr\\_report/environment/management/vision.html](https://www.sony.net/SonyInfo/csr_report/environment/management/vision.html). 2020.7.25.

Teck Resources Limited (2020) Biodiversity and Reclamation. <https://www.teck.com/responsibility/sustainability-topics/biodiversity-and-reclamation/>. 2020.7.25.

TOYOTA MOTOR CORPORATION (2020) Environmental Initiatives. <https://www.daiwahouse.com/sustainable/eco/vision/>. 2020.7.25.



# ***Let's continue the conversation!***

Post questions and comments via chat in the IAIA21 platform.



**#iaia21**

**Asahi ABE, Akira TANAKA**

*Tokyo City University Graduate School,  
Research Division in Environmental and Information Studies,  
TANAKA Landscape Ecosystems Laboratory*

JAPAN

asatcuearth@gmail.com

<https://www.facebook.com/asahi.abe.31>

<https://www.comm.tcu.ac.jp/tanaka-semi/index.html>

