IGES Activities on STI for SDGs

The Institute for Global Environmental Strategies (IGES) is a non-profit research institute in Japan. As a "Change Agent", IGES pursues a decarbonised and sustainable society in harmony with nature in the Asia-Pacific region and the world, where planetary boundaries are respected, a green economy is scaled up, and the human well-being is improved.

IGES recognises the importance of science, technology and innovation (STI) to achieve the SDGs, and tries to incorporate STI into our research and engagement with target stakeholders. This brochure shows examples of STI-related research activities by IGES which take a needs-based approach.

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Taking an integrated approach to sustainable development through SDG interlinkages

Innovative aspects

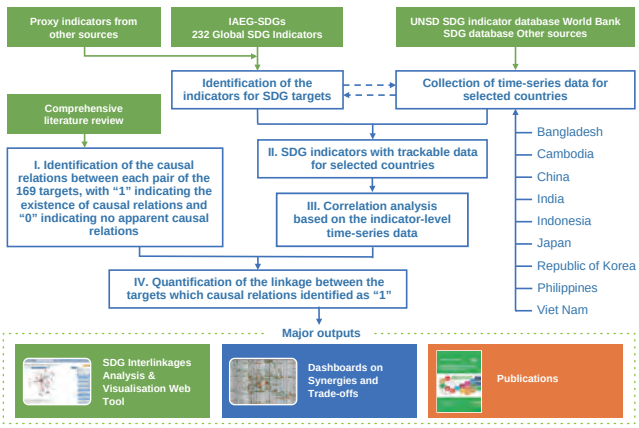
The 2030 Agenda and the Sustainable Development Goals (SDGs) put the world on a new, ambitious developmental path for eradicating poverty everywhere and for providing a better life for all, leaving no one behind. The 17 SDGs and their targets cover a wide range of separate and diverse elements that interact and complement each other in an indivisible way, and in so doing make up a complex network of interlinkages. SDGs implementation therefore calls for an integrated approach to seek and scale up the synergies and minimise the trade-offs for cross-sectoral integration and institutional collaboration.

To facilitate integrated SDG policymaking and implementation, IGES developed an innovative **SDG Interlinkages Analysis & Visualisation Tool (V2.0)** with the potential for real practical use. The tool currently covers nine Asian countries and can help in identifying synergies and trade-offs among SDG targets, visualising interlinkages charts, and in tracings strategic targets and core indicators for countries.

The tool is designed primarily for use by national policymakers and international organisations, but it can also be beneficial for academics as well as individuals interested in understanding SDG interlinkages. Nine selected Asian countries are covered in the current version of the web tool, with plans to update and expand progressively. By enabling the identification, quantification and analysis of SDG interlinkages between targets, the web tool can contribute to decision-making at various stages of a policy cycle.

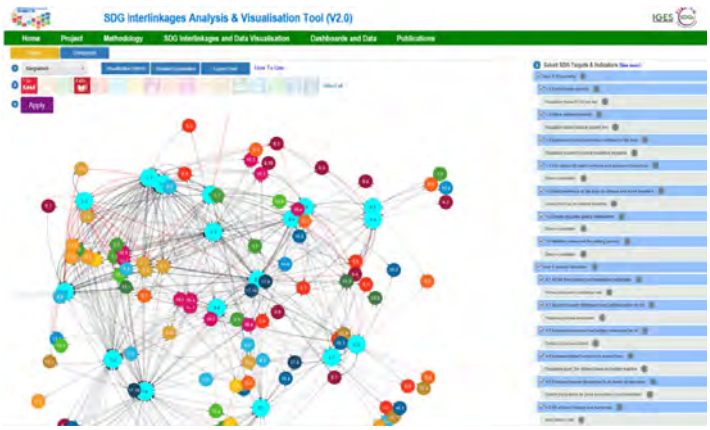
Since the SDG implementation challenges are largely country-specific, the web tool provides options for identifying and understanding SDG integration at the country level. However, the tool is flexible and can be easily customised to serve different levels of policy-making – global, national, regional/cities as well as the business sector.

Framework for the analysis and visualisation of SDG interlinkages



Source: Zhou and Moinuddin (2018)

Snapshot of IGES SDG Interlinkages Analysis and Visualisation Web Tool (V2.0)



Source: https://sdginterlinkages.iges.jp/visualisationtool.html

Impacts

Within two years since its launching, IGES SDG Interlinkages Tool has received significant attention from policymakers, researchers and academia. IGES presented/demonstrated the tool at several international conferences and symposiums (including the Expert Group Meeting of the Inter-Agency Task Force on Science, Technology and Innovation 2018). It has been featured in UNESCAP's SDG Help Desk (https://sdghelpdesk.unescap.org/), and cited in a number reports and articles from international and regional organisations.

- Planning: Priority setting based on strategic SDG targets in the network of interlinkages; checklists for conducting SEA/SA of national development plans and sectoral programmes based on the synergies and trade-offs.
- Institutional arrangement: Review of the existing national institutional arrangement; propose effective institutional arrangements based on SDG interlinkages.
- Financial arrangement: Efficient allocation based on the synergies by avoiding duplicating investment; effective allocation to address the trade-offs.
- Monitoring and reporting: Help check the quality of indicators; development of headline indicators; monitoring the level of SDG integration.

Aside from gaining wide recognition, the tool has been used to support practical policymaking. Following consultation with the Governance Innovation Unit of the Prime Minister's Office of Bangladesh, IGES conducted an initial study on SDG priority setting and institutional arrangement for Bangladesh. IGES provided the preliminary results and policy recommendations to the government of Bangladesh to help validate the existing priority list of the government based on scientific evidence. IGES is also initiating consultations with some other countries to support their SDG planning activities with the application of the IGES SDG Interlinkages Tool.

For more details: **IGES SDG Interlinkages Analysis & Visualisation Tool** (https://sdginterlinkages.iges.jp/)

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Taking a co-benefits approach in five steps: cases from Bandung and Semarang, Indonesia

Innovative aspects

Co-benefits are the multiple benefits of actions that mitigate climate change while addressing other development priorities. Many cities in Asia have potential to achieve co-benefits. However, urban policymakers often lack concrete demonstrations over which actions can maximize co-benefits. Since 2015, IGES has been collaborating with local governments, researchers and other partners on projects supported by the Ministry of the Environment, Japan (MOEJ) that analyse potential climate and air quality co-benefits in the transport sector in Bandung and Semarang, Indonesia. The analysis then helped arrive at practical recommendations that the two cities could implement to reduce greenhouse gases (GHGs) and air pollutants. The research is innovative due to its evidence-based approach that could help other cities address air pollution and climate change, while achieving sustainable development goals (SDGs) .

This evidence-based approach consisted of five main steps: 1) developing an emissions inventory for air pollution and GHGs for the transport sector; 2) prioritising local policies and measures that could reduce air pollution and GHGs based on existing plans; 3) quantifying the impacts of priority policies and estimate reductions in air pollution and GHGs for selected policies; 4) building a consensus across relevant stakeholders on follow-up actions based on the quantitative analysis; and 5) translating policy recommendations into practical actions. These five steps are potentially replicable in other cities and sectors. This is particularly true given the growing emphasis on aligning nationally determined contributions (NDC) and other climate actions with other development priorities.

Taking a Co-benefits Approach in Five Steps

1st Year

Step 1 — Emissions Inventory Tool
- Quantify Emissions from the Road Transport Sector (especially GHG Emissions)
- Tools: IVE Model
- Data Gathering: Interview, Onsite Measurement, Secondary Data

Step 2 — Prioritizing Local Actions
- Prioritizing Policies from the Local Transport Masterplan considering: Applicability, Affordability, Feasibility, Short term and Mid term priorty
- Apply Tools: Analytical Hierarchy Process (AHP)
- Target: 2-3 Priority Policies

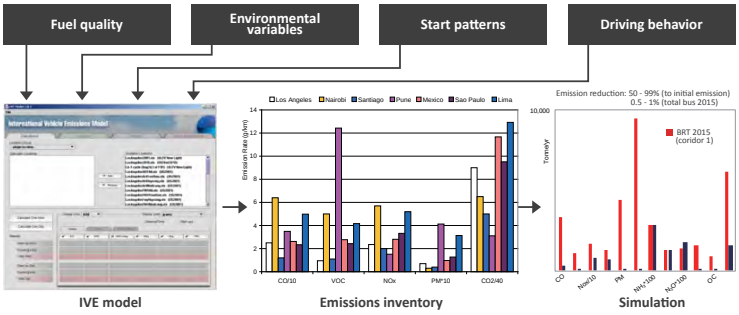
Step 3 — Quantifying the Impacts of Priority Policies
- Developing Future Scenarios based on Priority Policies
- Quantifying Multiple Benefits: Mitigating Climate Change and Air Pollution

Step 4 — Consensus Building on Follow-up Actions
- Consensus Building Among Stakeholders on Follow-up Actions
- Select 1-2 Follow-up Actions

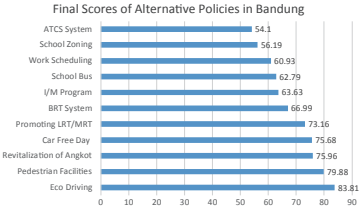
2nd Year

Step 5 — Translating Policy Recommendation into Practical Actions
- Reassess the Co-Benefits: Provide feedback to improve the methodology
- Provide feedback to the program for improvement of institutional arrangements
- Evidence Based Approach & Science Policy Dialogue: Strengthening the role of Universities and Research Institutes

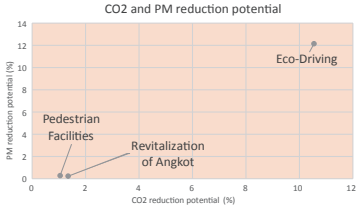
Step 1: Emissions inventory tool



Step 2: Policy prioritization

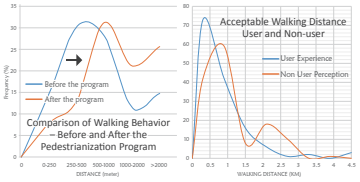


Step 3: Quantifying co-benefits



Step 4: Consensus

Step 5: Policy recommendation



Impacts

Policymakers and other stakeholders played a key role in the follow through of planning and/or implementation of activities after the project concluded.

1) Bandung city is designing pedestrian facilities with an emphasis on the outcomes of this research by making sure pedestrians are assured safety and security, one of the most influential factors affecting the decision to walk in Bandung.

2) The results of the eco-driving training designed in collaboration with Bandung city government were presented to the national government office which is considering institutionalizing eco-driving into regulations.

3) Semarang city is improving accessibility of their BRT system based on the recommendations of this project. It has also conducted pilots to increase the modal shift among students who are the largest customer base for BRTs in the city.

For more details: https://www.iges.or.jp/en/integrated-policy/co-benefits.html
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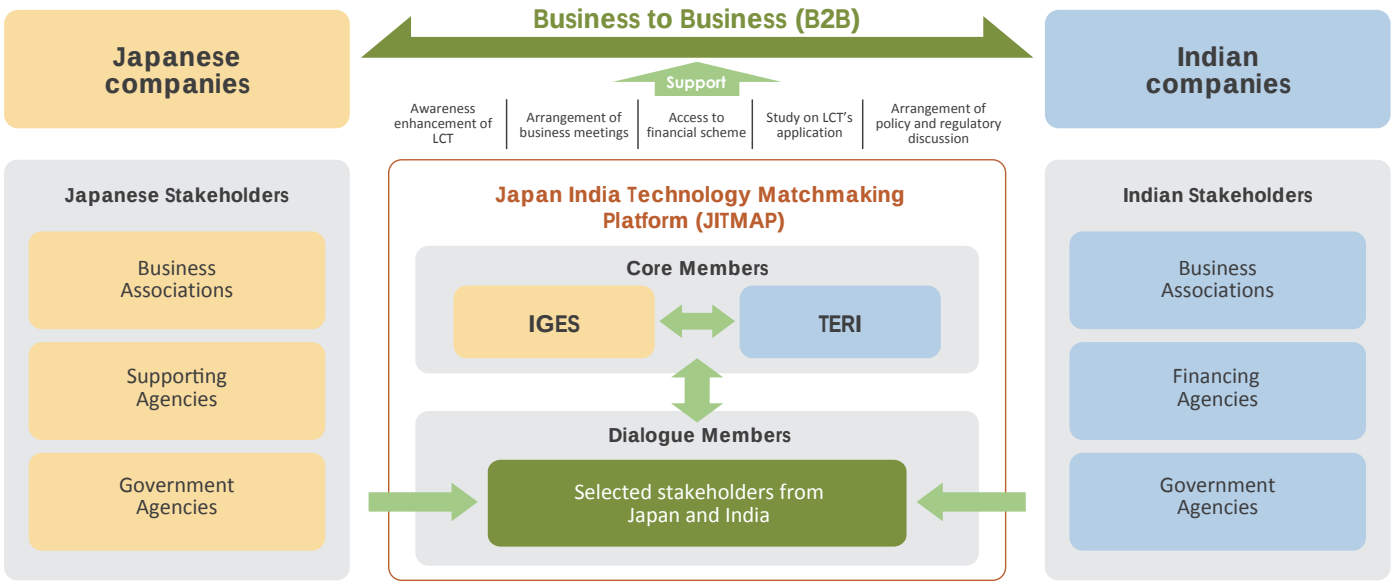
JAPAN–INDIA TECHNOLOGY MATCHMAKING PLATFORM (JITMAP)

Innovative aspects

IGES, Japan, and The Energy and Resource Institute (TERI), India, initiated Japan-India Technology Matchmaking Platform (JITMAP) on July 2016, as part of a project funded by Ministry of the Environment, Japan (MOEJ). JITMAP is a multi-stakeholder platform that promotes the engagement and matching (direct and virtual) of Japanese and Indian stakeholders, public and private, to facilitate mutually beneficial transactions in low carbon technologies (LCTs).

IGES and TERI, as core members of JITMAP, select/invite representatives from Business Associations (BA), Financing Agencies (FA) and Government Agencies (GA) in India and Japan to Join the platform as "Core Members" (Collaborators). Core members and Dialogue Members collaborate and support the matching of Japanese manufacturers of low carbon technologies with Indian industries looking for such technologies in terms of: 1) Awareness enhancement, 2) Networking assistance, 3) financial assistance, 4) technical assistance, and 5) policy /regulatory assistance.



Schematic diagram of JITMAP as a supporting mechanism to promote business matchmaking

Innovative features of JITMAP are as follows;

- **Bilateral:**
  - Exclusive platform for stakeholders in Japan and India;
  - Jointly initiated by two non-for-profit institutions from Japan and India.
- **Practical/comprehensive:**
  - "On the ground" interventions coupled with "Online" Information sharing;
  - Concise information sharing about technologies, policies, and financing options;
  - Multi-tiered support based on businesses' needs (from market assessment towards technology diffusion);
  - Ambits technology matchmaking for Small, Medium, and large industries.
- **Complementary:**
  - Complementary to other existing initiatives between Japan and India.

Impacts

- Five (5) Japanese companies were matched with twenty (20) Indian end-users. As a result, actual best operating practices and/or technologies have been implemented at ten (10) sites;
- The capacities of around one hundred (100) Indian energy auditors were enhanced through three (3) training programs;
- The awareness of around two hundred (200) end-users were enhanced through five (5) dissemination workshops;
- Five (5) among the leading government agencies and/or business associations in Gujarat, Maharashtra and Andhra Pradesh states in India acknowledged the usefulness of JITMAP and joined it as dialogue members.

For more details: http://jitmap.org/

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