



Recent Activities

- Discussion on Low Carbon
Development Strategy and
Stakeholder Dialogue -

Junichi Fujino (IGES)

25th AIM International Workshop

November 19, 2019 Tsukuba

What is AIM? – start project since 1989 -

- **Asia-Pacific Integrated Model (AIM)** is a family of analytical models which are developed by research institutes in Japan. AIM contributes IPCC reports, discussion on climate change mitigation actions in Japan and Asian countries.
- AIM can be regarded as “**researchers network**”, because AIM is developed and applied through collaboration with researchers in various countries.

Model



Example of AIM's structure and output

Researchers Network



25th AIM International Workshop

AIM Low Carbon Society (LCS) Scenarios in Asia

- Quantitative scenario approach with AIM (Asia Pacific Integrated Model) has been applied to more than 20 regions in Asia, and LCS plans and roadmaps are developed for each region. http://2050.nies.go.jp/LCS/index_j.html





We already share the target!
[2 degree/1.5 degree]

Question is how to reach!!



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Content Editor for Climate
Change Policy and
Adaptation
(Russia/Netherlands)

24 September 2019

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77 Countries, 100+ Cities Commit to Net Zero Carbon Emissions by 2050 at Climate Summit

UN Climate Action Summit
on 23rd Sep, 2019 NY



STORY HIGHLIGHTS

- The Climate Action Summit brought together more than 65 Heads of State and Government as well as leaders of sub-national governments and the private sector.
- Announcements made during the day included commitments by 77 countries, ten regions and over 100 cities to achieve net zero carbon emissions by 2050.
- An initial report on implementation of plans presented at the Summit is expected to be delivered at COP 25 in Santiago, Chile.

Outlines of Japan's Long-term Strategy under the Paris Agreement (Cabinet decision, June 11, 2019)

Chapter 1: Basic Concepts

Provisional Translation

- **Proclaiming a "decarbonized society" as the ultimate goal and aiming to accomplish it ambitiously as early as possible in the second half of this century**, while boldly taking measures towards the reduction of GHGs emissions by 80% by 2050
* an unconventional vision of an "ideal future model" * contributing to the achievement of the long-term goals of the Paris Agreement, including efforts to limit the temperature increase to 1.5°C
- **Realizing "a virtuous cycle of environment and growth" towards the vision with business-led disruptive innovation, Swift implementation of actions from now, contributing to the world, Action Towards a bright Society with Hope for the Future**
[Factors: Achievement of SDGs; "Co-innovation", Society 5.0; the "Circulating and Ecological Economy"; and leading country in solving problems]

Chapter 2: The Vision of Each Sector and the Direction of Measures

Chapter 3: Cross-sectoral Measures for Achieving a Virtuous Cycle of Environment and Growth

Section 1: Measures for Emissions Reductions

1. Energy: For energy transition/decarbonization, pursuing every option

- Utilizing renewable energy as the major power source
- Reducing CO₂ emissions from the thermal power in line with the long-term goals of the Paris Agreement
- Promoting CCS&CCU/Carbon Recycling
- Realizing a "Hydrogen Society"/battery/nuclear/energy efficiency

2. Industry: Decarbonized manufacturing

- Use of CO₂-free hydrogen (e.g. a challenge towards "zero-carbon steel")
- Feedstock change (e.g. CCU including artificial photosynthesis and biomass utilization)
- Achieving drastic energy efficiency, and complete transition from fluorocarbons in mid-long term

3. Transport: the challenge of "Well-to-Wheel Zero Emission"

- Achieving the highest level of environmental performance of Japanese vehicles supplied worldwide by 2050
- Road/transport systems using big data and IoT

4. Community and Living:

Achieving carbon neutral, resilient and comfortable communities and living by 2050/creating the "Circulating and Ecological Economy"

- Capable communities and corporations to achieve carbon neutrality even before 2050
- Shift to carbon neutral living (encouraging technology development and dissemination to achieve net Zero Energy

Section 1: Promotion of Innovation

- Promoting innovation for practical application and wide usage of cross-sectoral decarbonization technologies leading to drastic reduction of GHG, achieving cost that allows commercialization for social application

(1) Progressive Environment Innovation Strategy

- Setting clear goals such as costs, maximizing investment of public and private resources, discovering and creating technological seeds in and outside Japan, setting issues from demands, strengthening support that leads to commercialization
- Challenging R&D, and enhancing alliances among R&D institutes with facilitation of international joint R&D activities [Research and Development 20 for clean energy technologies(RD20)]
- Target setting and visualizing challenges for the practical use
 - Realizing hydrogen cost equivalent to existing energy: e.g. lowering manufacturing cost of CO₂-free hydrogen to 1/10
 - CCU/carbon recycled products to be provided with costs equivalent to existing products, nuclear power(such as Reactor, Fusion)

(2) Innovation in Economic and Social Systems/lifestyle

Section 2: Promotion of Green Finance

- Appropriately "visualizing" corporate efforts in innovation etc. and mobilizing finance for innovation by financial institutions

(1) Mobilizing green finance through TCFD* disclosures and dialogues

- Industry: improving TCFD Guidance & Scenario Analysis Guide / Financial sector: Formulating a guidance on green investment
- Facilitating dialogue between industry and financial sector (TCFD Consortium)
- Promoting discussion and share the above initiatives with the world (TCFD Summit)

(2) Promoting initiatives to expand ESG finance

- Initiatives for ESG finance (Support to the issuance of green bonds, encouraging local ESG finance), development of ESG Dialogue Platform, enhancing ESG finance literacy, ESG Finance High-Level Panel

Section 3: Business-led Promotion of International Application, and International Cooperation

- Promoting competitive technologies and products with high environmental performance/promoting co-innovation benefiting participants from both count

(1) Promoting international application of decarbonization technologies and international rule-making

- Promoting international application of decarbonization technologies and reductions of GHG emissions through development of business environment by improving business environment including working for institutional development in partner countries leading

<https://www.env.go.jp/press/802.pdf>

3. Transport: the challenge of "Well-to-Wheel Zero Emission"

- Achieving the highest level of environmental performance of Japanese vehicles supplied worldwide by 2050
- Road/transport systems using big data and IoT

4. Community and Living:

Achieving carbon neutral, resilient and comfortable communities and living by 2050/ creating the "Circulating and Ecological Economy"

- Capable communities and corporations to achieve carbon neutrality even before 2050
- Shift to carbon neutral living (encouraging technology development and dissemination to achieve net Zero Energy Buildings, equivalency in stock average of housing and office buildings/ shift of lifestyles)
- Carbon-neutral community building (urban city building, farming/forestry/fishing villages building, and development of distributed energy systems)

Section 2: Measures for Carbon Sinks

Chapter 4: Other Measures

- Human Resource Development
- Just transition
- Government-led initiatives
- Integrating climate change adaptation with development of a resilient society
- Carbon Pricing (Expert/technical level discussions)

- Facilitating dialogue between industry and financial sector
- Promoting discussion and share the above initiatives

(2) Promoting initiatives to expand ESG finance

- Initiatives for ESG finance (Support to the issuance of ESG bonds, development of ESG Dialogue Platform, enhancing ESG disclosure)

Section 3: Business-led Promotion of Internationalization

Promoting competitive technologies and products with international promotion and promoting co-innovation benefiting participants from overseas

(1) Promoting international application of decarbonization technologies and international rule-making

Promoting international application of decarbonization technologies and international rule-making by improving business environment including international rule-making cooperating in building policies and standards (e.g. establishing public and private-sector initiatives, utilizing market-based mechanisms)

(2) Strengthening Development and Investment in Energy and City/Transportation

Development and investment of energy and city/transportation infrastructure to achieve long-term goals of the Paris Agreement (e.g. renewable energy, CCS&CCU/Carbon Recycling, smart cities)

(3) Creating platforms for global scale decarbonization

- Supporting partner countries in the formulation of NDCs

Chapter 5: Review and International Cooperation

- **Review:** Re-examining policies and measures flexibly every 5 years
- **Implementation:** <https://www.env.go.jp/press/802.pdf> in cooperation with stakeholders including the youth

NDCs: National Determined Contributions



LDCs: Locally Determined Contributions

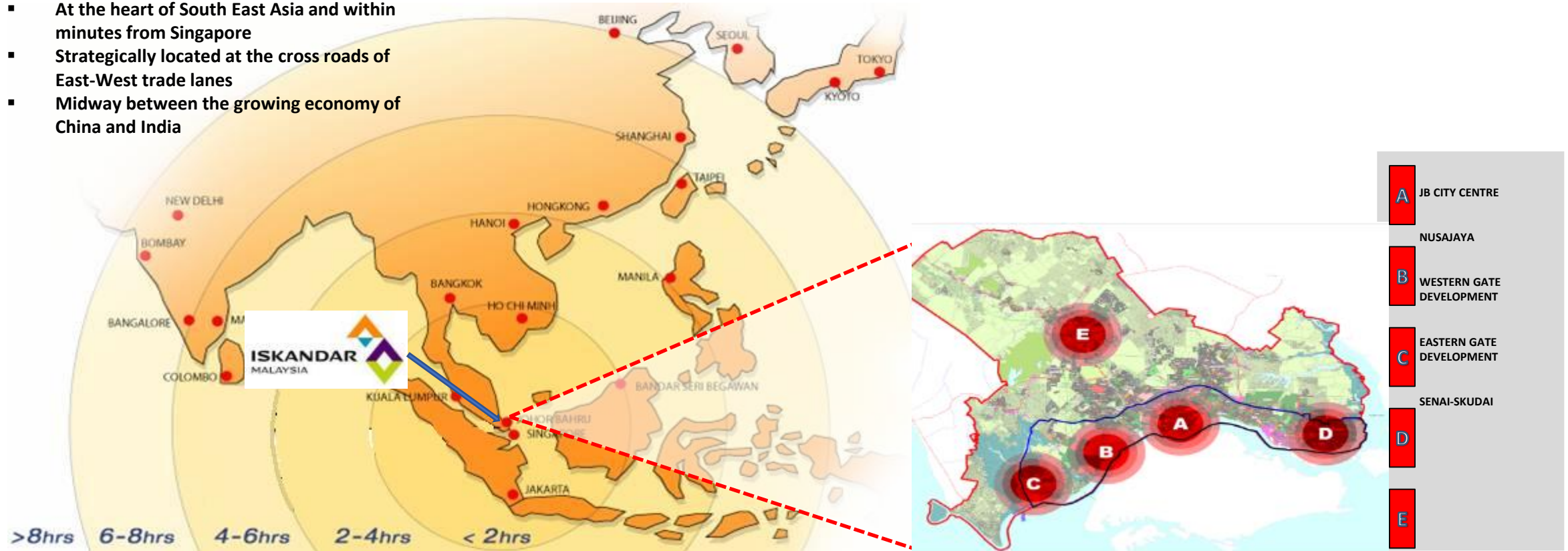


Iskandar Malaysia Vision “Strong and Sustainable Metropolis of International Standing”

+

LCS scenario research (Low Carbon Society) by SATREPS (JST/JICA) scheme

- At the heart of South East Asia and within minutes from Singapore
- Strategically located at the cross roads of East-West trade lanes
- Midway between the growing economy of China and India



Low Carbon Society Blueprint for Iskandar Malaysia 2025

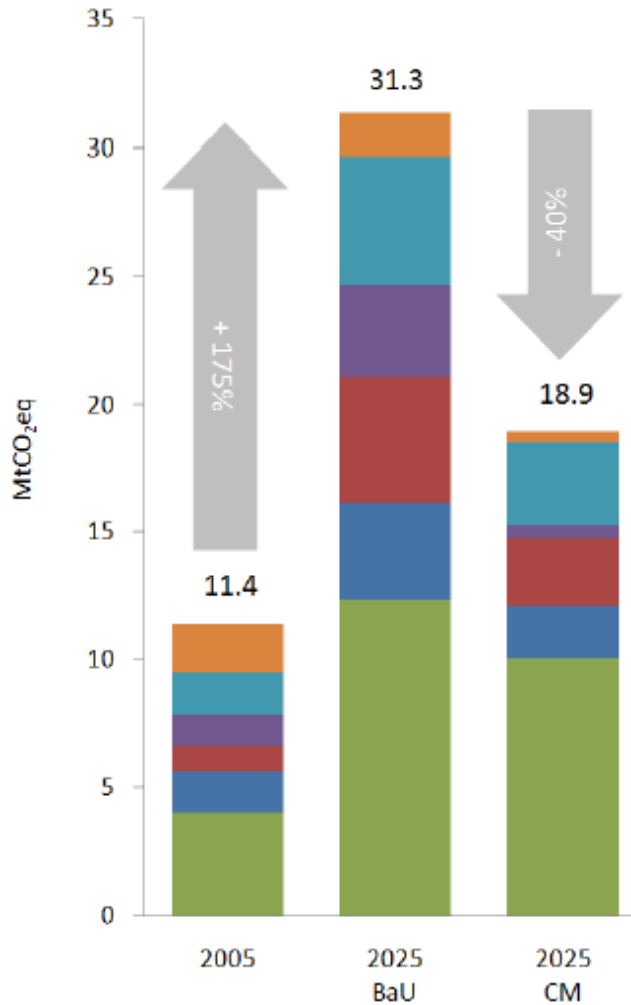
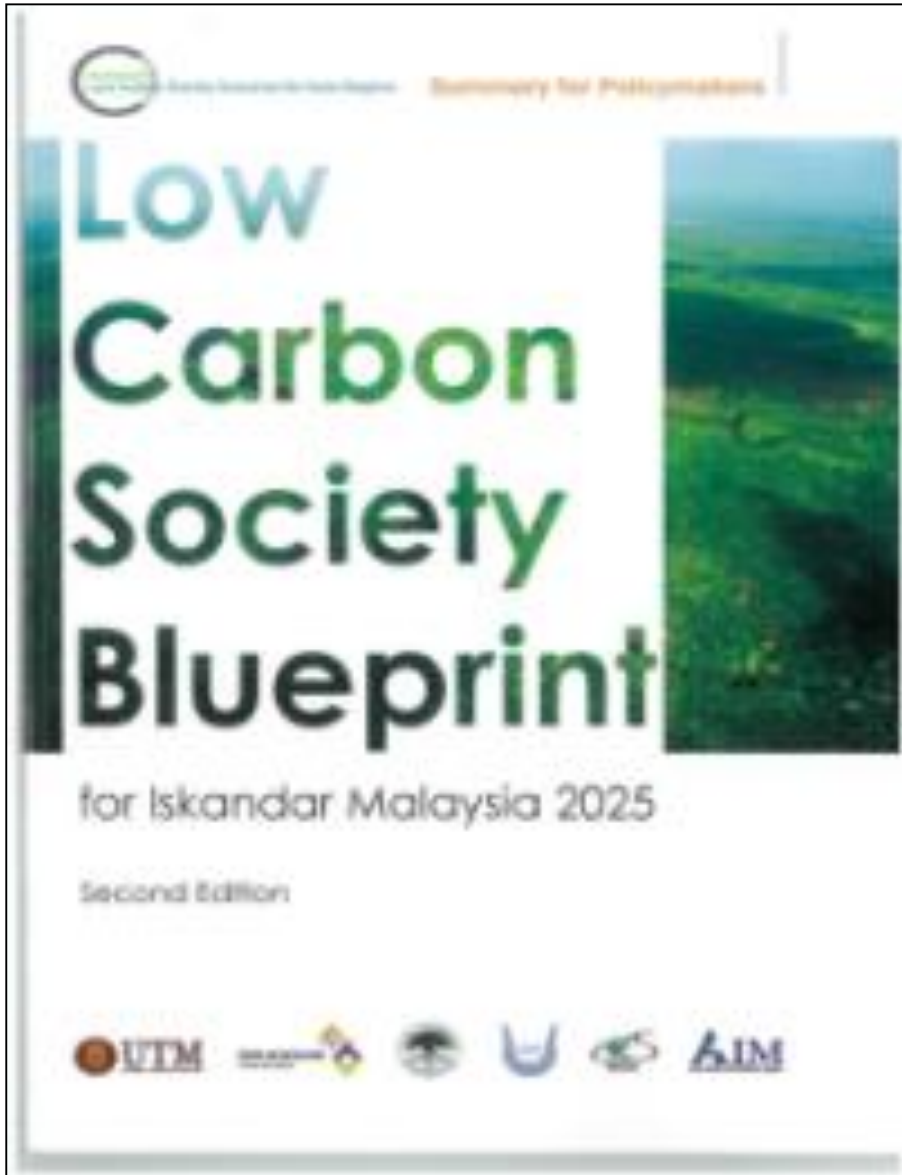


Figure 1: GHG emissions by sectors

	Action Names
1	Integrated Green Transportation
2	Green Industry
3	Low Carbon Urban Governance
4	Green Buildings & Construction
5	Green Energy System & Renewable Energy
6	Low Carbon Lifestyle
7	Community Engagement & Consensus Building
8	Walkable, Safe, Livable City Design
9	Smart Growth
10	Green and Blue Infrastructure & Rural Resources
11	Sustainable Waste Management
12	Clean Air Environment

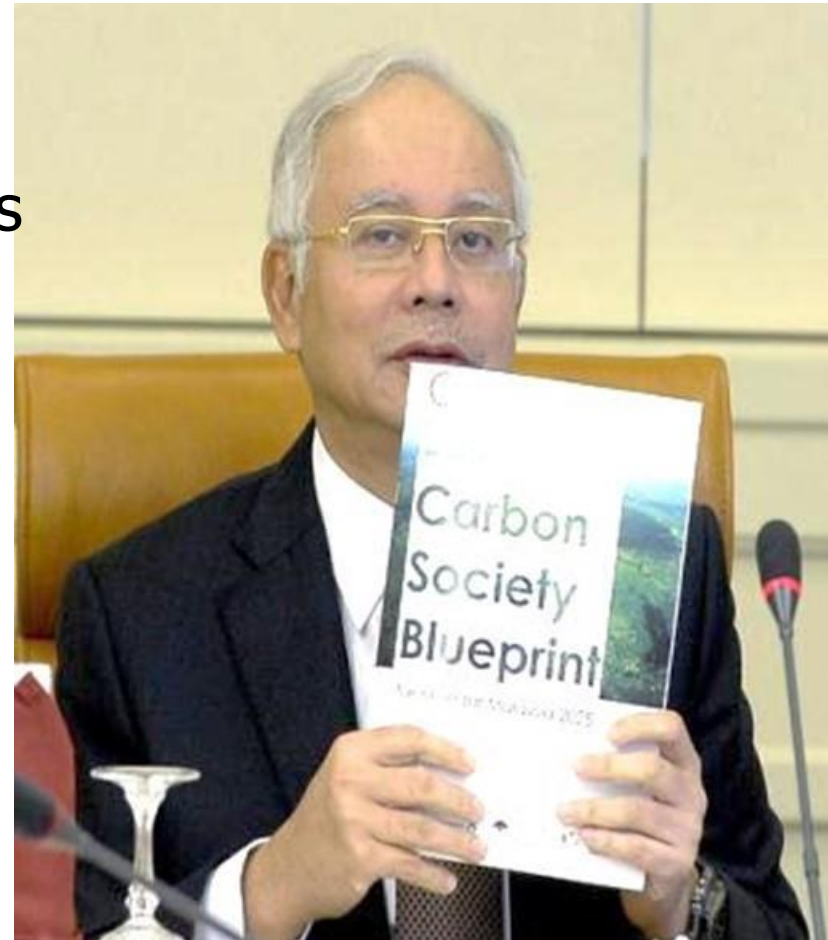
12 action, 281 program

“Development of Low Carbon Society Scenarios for Asian Regions” In the case of “**Iskandar Malaysia**”

Japanese experience on
Low Carbon Scenarios & Roadmaps
+
Malaysian challenge on
Implementation of Low Carbon Visions



Premier of Malaysia provided
permission in the 13th IRDA
Steering Committee to start
the Iskandar Low Carbon
Society planning
(December 11th, 2012)



Selected Climate Action Plans by UTM-LCARC In collaboration with IGES



Selected City Climate Actions by UTM-LCARC

Iskandar Malaysia
MBJB
MBIP (then MP JBT)
MPPG
MPKu
MDP
(2009-2018, ongoing)

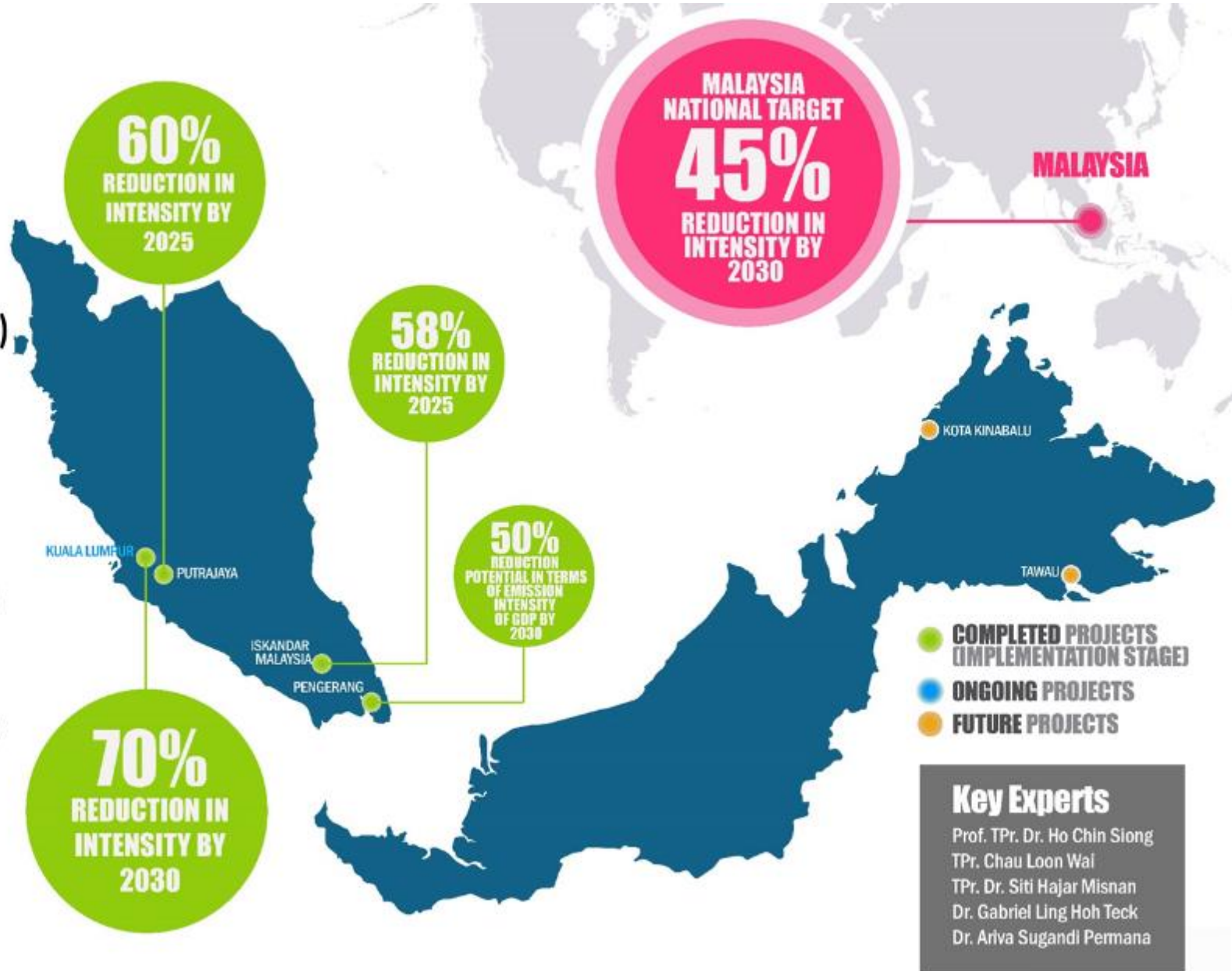
Putrajaya
(2011-2013, ongoing)

Kuala Lumpur
(2016-2017, ongoing)

Pengerang
(2017-2018, ongoing)

Kota Kinabalu
Tawau

(Coming soon?)



City to city collaboration between Kuala Lumpur and Tokyo

Tokyo is a giant energy consumer (around 700 PJ in 2012). Mitigation actions in the building sector take an important role to achieve their declared target for climate change actions.

Tokyo has developed measures for both existing and new buildings as well as Tokyo Metropolitan Government (TMG) properties. (eg. Cap & Trade Scheme, CO2 emission reporting program, Green building program)

Kuala Lumpur and Tokyo started their collaboration on the building sector as of June 2019.



Kickoff ceremony in DBKL (June 2019)



Discussions in Japan on energy saving measures (July 2019)

Aug 23 2019 in KL



Junichi

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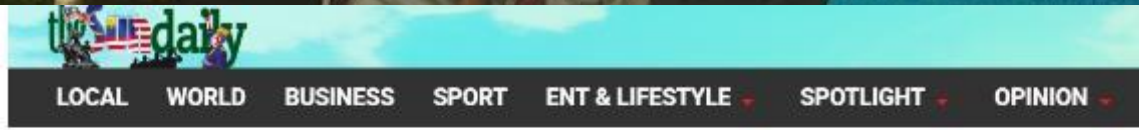
Junichi Fujino is 😊 feeling thankful with Setifu Di Sana and 5 others at The hall, biro Pelancongan KL.

August 24 at 2:02 PM · Kuala Lumpur, Malaysia

T2KL LCS (Tokyo to Kuala Lumpur Low Carbon System) seminar (Aug 23) hosted by Mayor of Kuala Lumpur, Dato' Hisham, successfully completed.

IGES coordinates (soft) technology transfer program from TMG (Tokyo Metropolitan Government) to KLCH (Kuala Lumpur City Hall) that aims to conduct energy saving and renewable energy program on around 2000 public buildings/facilities in collaboration with UTM (University Technology Malaysia) and SEDA (Sustainable Energy Development Authority), funded by MOEJ (Ministry of the Environment Japan).

TMG has already conducted this program on around 4200 public buildings/facilities in Tokyo!



KL and Tokyo looking into low carbon society collaboration

23 AUG 2019 / 19:54 H



Media Coverage by Malaysian "the sun daily" on 24th Aug 2019



Climate and SDGs

- Paris Agreement (Dec. 2015)
- 2 degree target (1.5 degree)
- Global review (Global Stocktake) by every 5 years
- **Nationally Determined Contributions (NDCs)**
- UNFCCC/COP
- 2030 Agenda (Sep. 2015)
- 17 goals, 169 targets
- Global review at UN General Assembly by every 4 years
- **Voluntary National Reviews (VNRs)**
- HLPF (High Level Political Forum)

Both Paris Agreement and 2030 Agenda have “Follow-up and Review” process for all countries!



Voluntary National Reviews Database

As part of its follow-up and review mechanisms, the 2030 Agenda for Sustainable Development encourages member states to "conduct regular and inclusive reviews of progress at the national and sub-national levels, which are country-led and country-driven" (paragraph 79). These national reviews are expected to serve as a basis for the regular reviews by the high-level political forum (HLPF), meeting under the auspices of ECOSOC. As stipulated in paragraph 84 of the 2030 Agenda, regular reviews by the HLPF are to be voluntary, state-led, undertaken by both developed and developing countries, and involve multiple stakeholders.

The voluntary national reviews (VNRs) aim to facilitate the sharing of experiences, including successes, challenges and lessons learned, with a view to accelerating the implementation of the 2030 Agenda. The VNRs also seek to strengthen policies and institutions of governments and to mobilize multi-stakeholder support and partnerships for the implementation of the Sustainable Development Goals.

This online review platform is dedicated to compiling information from countries participating in the voluntary national reviews of the High-level Political Forum on Sustainable Development ([scroll down](#)).

VNRs: Voluntary National Reviews



VLRs: Voluntary Local Reviews



World First VLR Report to HLPF2018



Sustainable Development Goals Report on Cities
 - Launch of SDG City Reports on Shimokawa, Toyama, and Kitakyushu

HLPF2018 Special Event Local and Regional Governments' Forum



Emilia
SG, UCLG

Parks
President
UCLG

Bernadia
UCLG
ASPAC



HLPF2018 Japan Side Event

ISAP2018/ICLEI Cafe

Fujino IGES

Okamoto Cabinet Office

Bernadia UCLG ASPAC

Katinka ESCAP

Kitahashi Kitakyushu

Takemoto UNU-IAS

Takahashi MOEJ

Rafael UN-HABITAT

Kanie Keio Univ.

IGES launched 3 Voluntary Local Review (VLR) report at HLPF2018 with 3 Japanese local governments



Shimokawa Town
the Sustainable Development Goals Report

—The Shimokawa Challenge—
Bringing people and nature into the future—

2018



Shimokawa Town, Hokkaido



Toyama City
the Sustainable Development Goals Report

—Compact City Planning based on Polycentric Transport Networks—

2018



Toyama City, Toyama



Kitakyushu City
the Sustainable Development Goals Report

—Fostering a trusted Green Growth City
with true wealth and prosperity, contributing to the world—

2018

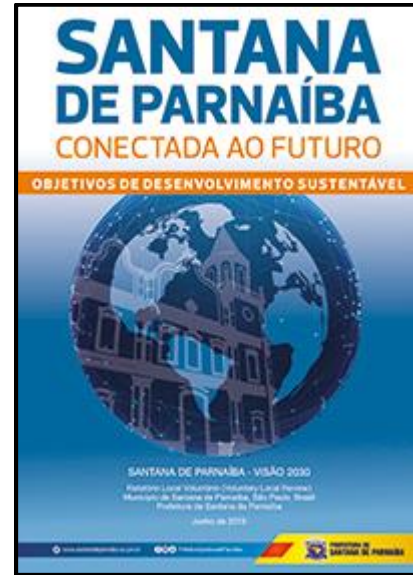


Kitakyushu City, Fukuoka

Newly launched "Voluntary Local Review (VLR) Report At HLPF2019, July 2019 in NY



Buenos Aires



Santana de Parnaíba



Bristol



Los Angeles



Mr. Resnicoff,
Buenos Aires



Ms. May, GAIA Foundation,
VLR-Lab partner



FAYE LEONE

Content Editor, SDGs
and 2030 Agenda for
Sustainable
Development (US)

3 October 2019

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UN Secretary-General Announces Annual Platform to Check on SDG Decade of Action

25 September 2019: The UN Secretary-General announced that the first “annual platform” to drive SDG progress will take place in September 2020, as part of the UN’s commemoration of its 75th anniversary. Annual platforms will be continue to be convened each year as part of the recently launched decade of action for the SDGs.

Addressing the SDG Summit, UN Secretary-General Antonio Guterres [said](#) he is issuing a global call for a decade of action to deliver the SDGs by 2030. As part of this, he said he will convene an annual platform to drive the decade of action.

SDGs Summit
Sep 25, 2019

NDCs: National Determined Contributions

LDCs: Locally Determined Contributions

+

VLRs: Voluntary Local Reviews

VNRs: Voluntary National Reviews

Climate and SDGs, and Cities

Cities are places to be suffered by climate change and to accelerate actions!

- Paris Agreement (Dec. 2015)
- 2 degree target (1.5 degree)
- Global review (Global Stocktake) by every 5 years
- Nationally Determined Contributions (NDCs)
- 2030 Agenda (Sep. 2015)
- 17 goals, 169 targets
- Global review at UN General Assembly by every 4 years
- Voluntary National Reviews (VNRs)



Locally Determined Contributions (LDCs) !



Voluntary **Local** Reviews (VLRs) !

Regional / Local Circulating and Ecological Sphere (CES)

Integration of environmental, economic and social dimensions
Integrated response to declining and aging population, Local revitalization
CES to achieve *integrated solution* for those local issues

