

Overall Activities in FY 2017-2018

Toshihiko Masui

National Institute for Environmental Studies

The 24th AIM International Workshop
Ohyama Memorial Hall, NIES, Japan
November 5-6, 2018



The 23rd AIM International Workshop at NIES
November 27-28, 2017

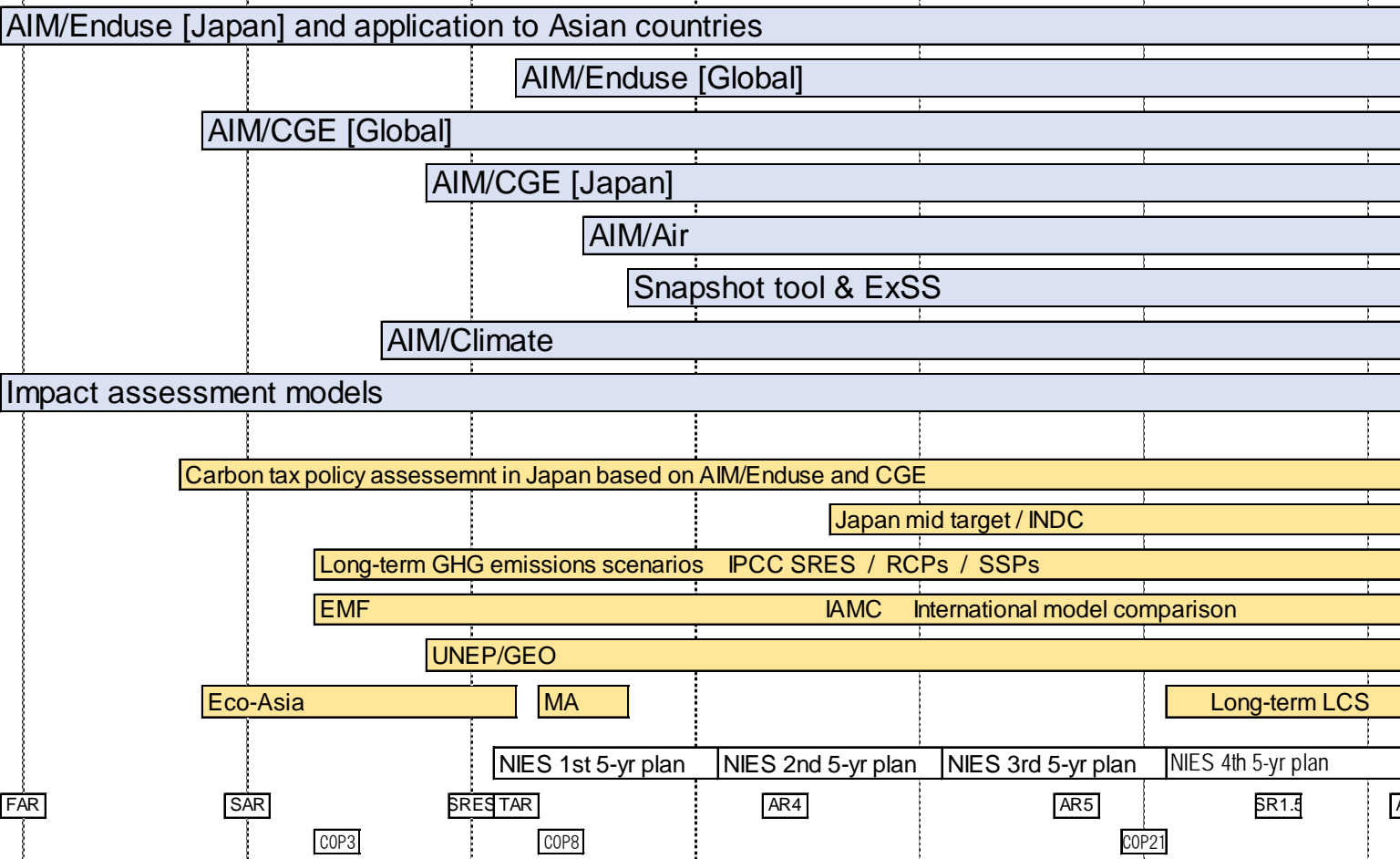


Asia-Pacific Integrated Model

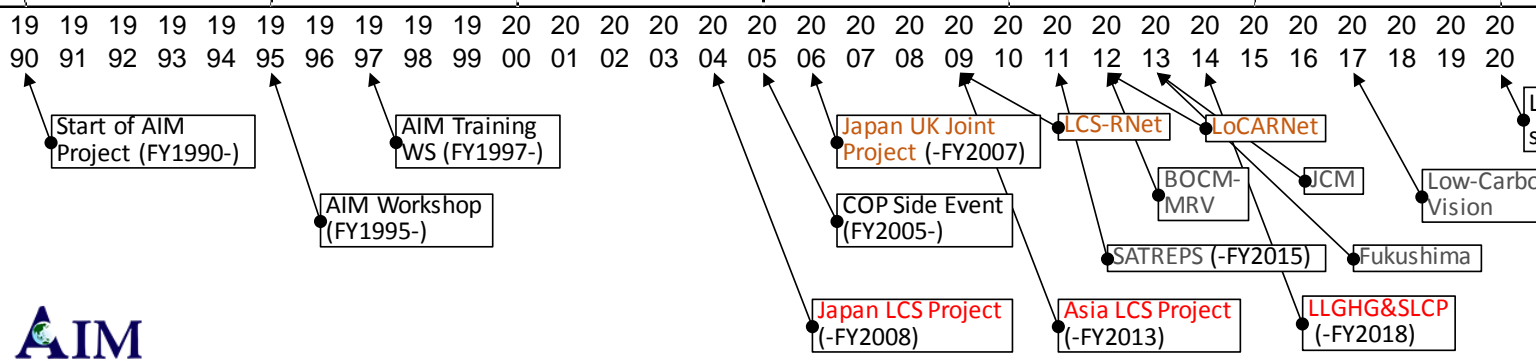
<http://www-iam.nies.go.jp/aim/index.html>



Brief History of AIM and its application



Development of Sustainable Low/Zero-Carbon Society



Long-term Low-carbon Vision by MOEJ

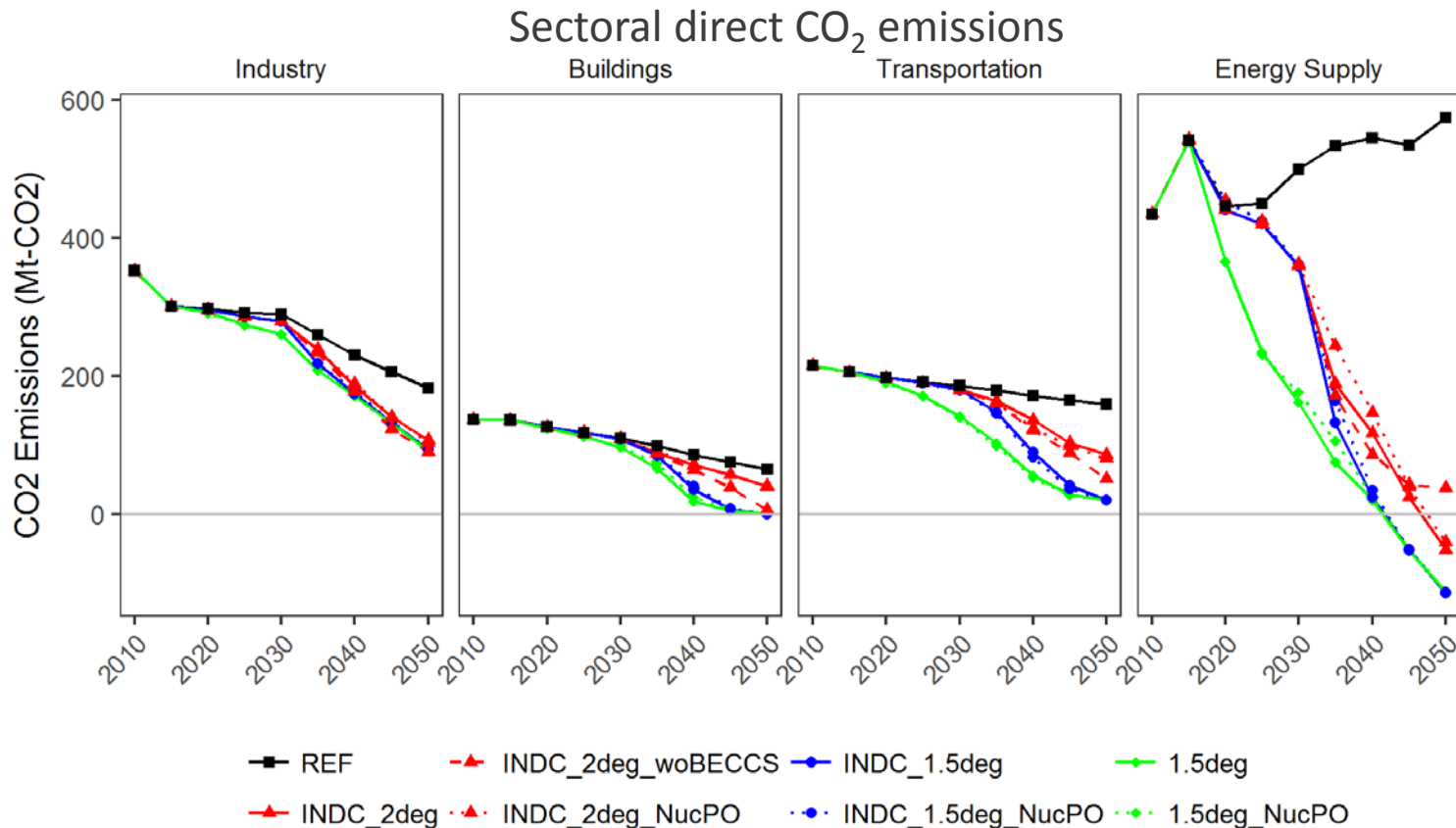
<http://www.env.go.jp/press/103822/713.pdf>

- Background: “Simultaneous solution” of economic and social problems such as population decrease and aging issue etc., and climate change
 - Contribution to global reduction as well as domestic reduction
 - Innovation (on technology, socioeconomic system and lifestyle) is the key
- Key actions to reduce GHG by 80% by 2050
 - Energy efficiency,
 - Low-carbon energy supply, and
 - Switch to low-carbon energies in end-use
- Taking into account "Carbon budget"
- Avoiding "Lock-in" effects
- Introducing "Carbon Pricing" as a policy to strengthen market competitiveness

Sectoral challenges to zero emission

- Results from AIM/Enduse [Japan]

- Power sector requires large-scale transformation.
- Difference between net-zero and 80% reduction is moderate in the buildings and industry sector.
- Buildings sector needs to be almost decarbonized even in 80% reduction.



Oshiro, K., Kainuma, M., & Masui, T. (2017). Transformation of Japan's energy system to attain net-zero emission by 2050. Carbon management

Recent activities related to Japan's long-term strategy

- At Council on Investments for the Future (June 2018), "achieving growth through investments in energy and the environment" was discussed (http://japan.kantei.go.jp/98_abe/actions/201806/_00013.html).
 - From obligatory measures in response to the Government's initiatives, to the accelerated virtuous cycle between the environment and growth, and encouraged technological innovations led by businesses
- Long-Term Strategy under the Paris Agreement as Growth Strategy (Aug. 2018-) (https://japan.kantei.go.jp/98_abe/actions/201808/_00011.html)
 - Measures against global warming are no longer a cost for companies. They are a source of competitiveness. Companies that actively fight against environmental issues attract funds from all around the world, enabling them to prepare for the next phase of their growth and take further measures. This change, which can truly be called a virtuous cycle between the environment and growth, has spread throughout the world at an amazing pace in the past five years or so.

5th Strategic Energy Plan

- On July 3 2018, the Cabinet approved the 5th Strategic Energy Plan as the basis for the orientation of Japan's new energy policy towards 2030 and further towards 2050.

http://www.meti.go.jp/english/press/2018/0703_002.html

- Towards 2030: To reduce emission of greenhouse gases by 26%
 - To achieve energy mix target
 - Currently halfway to the target
 - Deliberate promotion
 - Realistic initiatives
 - Intensify and enhance measures
- Towards 2050: Toward reducing GHGs by 80%
 - Challenges towards energy transitions and decarbonisation
 - Possibility and uncertainty
 - Ambitious multiple track scenario
 - Pursue every option
 - Choose priorities by scientific review

Climate Change Adaptation Act was made public in June 2018, and will be put into practice in December 2018

1. Comprehensive Adaptation Programme

- Set up clear roles of national and local governments, private sectors, and citizens to promote climate change adaptation efforts.
- National government shall formulate **National Adaptation Plan (NAP)** to promote adaptation in all sectors. The national government should develop methodologies for monitoring and evaluation (M & E) of the progress of adaptation efforts.
- Ministry of the Environment shall implement **climate change impact assessments**, every five years. The NAP needs to be revised accordingly.

Promotion of effective adaptation measures in various fields through reliable scientific information

Agriculture, Forestry, Fisheries

Human Health

Water Environment and Resources

Industries and Economic Activity

Natural Ecosystems

Life of Citizens

Natural Disasters

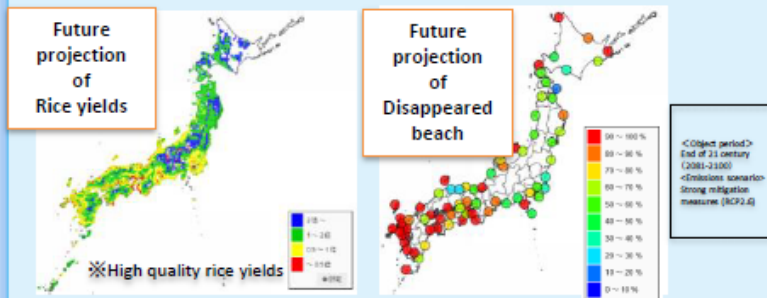
Based on scientific findings of future impact projections ...

- Develop agricultural products with high-temperature-resistant varieties
- Set up fishing grounds based on the changes of fish distribution.
- Maintain embankment and flood control facility.
- Develop flood risk maps.
- Promote heat illness prevention measures.

2. Information Platform

- The National Institute for Environmental Studies (NIES) operates Climate Change Adaptation Platform (A-PLAT) as center of excellence.

Example of the main contents of A-PLAT



<http://www.adaptation-platform.nies.go.jp/index.html>

3. Adaptation in Local Areas

- Prefectures and municipalities should formulate **Local Climate Change Adaptation Plans**.
- Prefectures and municipalities should assign **Climate Change Adaptation Center** as a local climate change data collection and provision center.
- Local stakeholders can organize **Regional Councils** to promote adaptation measures locally in a cooperative manner.

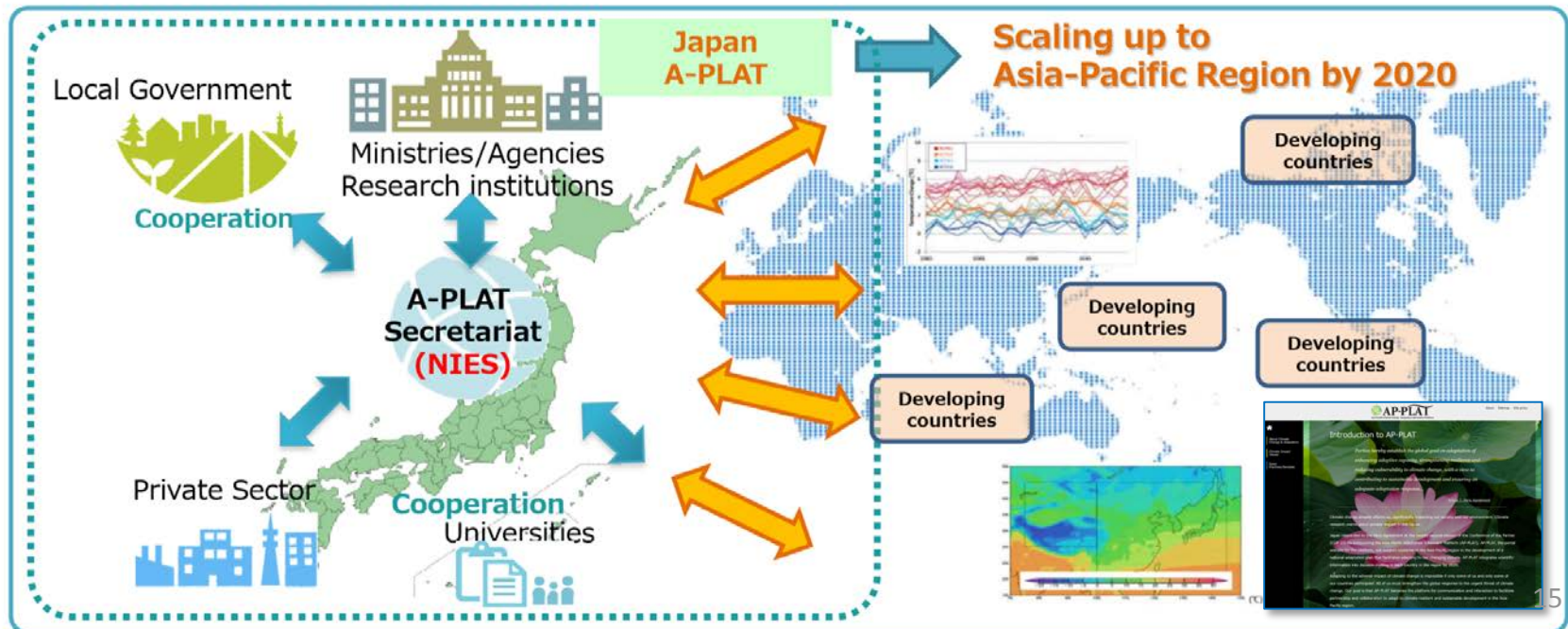
4. International Actions

- Promote International cooperation.
- Promote private sector investment and adaptation business.

Adaptation Program was started in NIES to support AP-PLAT (Asia-Pacific Climate Change Adaptation Platform)

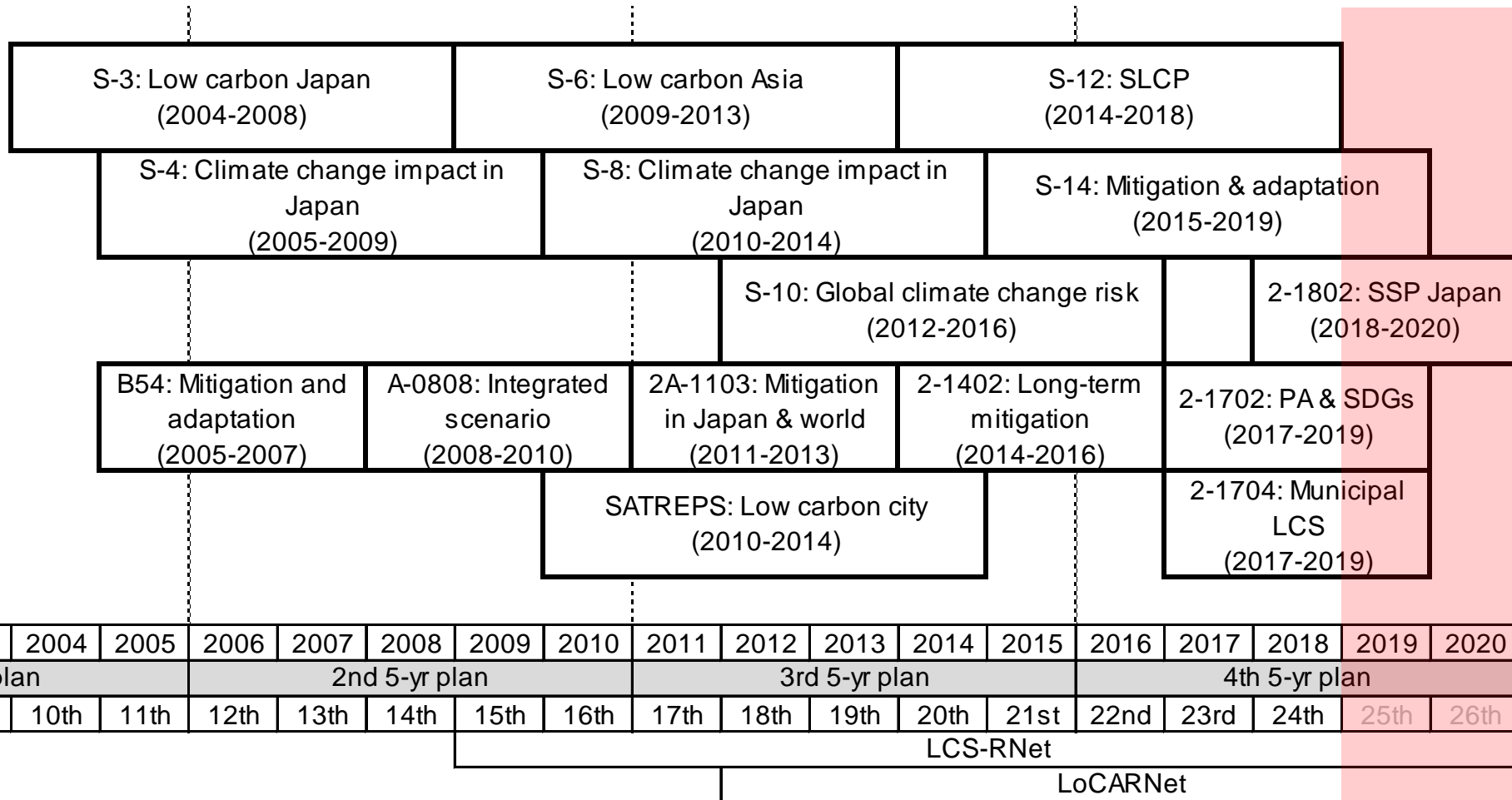
Announced the launch of AP-PLAT at COP22

- **Asia Pacific Adaptation Information Platform** will be established by 2020 to share **climate risk information** via online with research institutes/universities in both developing/developed countries.
- To support adaptation measures by providing advanced scientific climate risk information
- Japan will take a lead in the following activities under the Platform
 - ① **Develop dataset** on **projection of climate change impacts** in the region through bilateral & intensive studies
 - ② **Develop supporting toolkits** for officials and stakeholders engaged in adaptation planning
 - ③ **Build capacity** on climate change **impact assessment/ adaptation planning**



Present and Previous Research Projects

(Environment Research and Technology Development Fund, MOEJ)



What is the next?

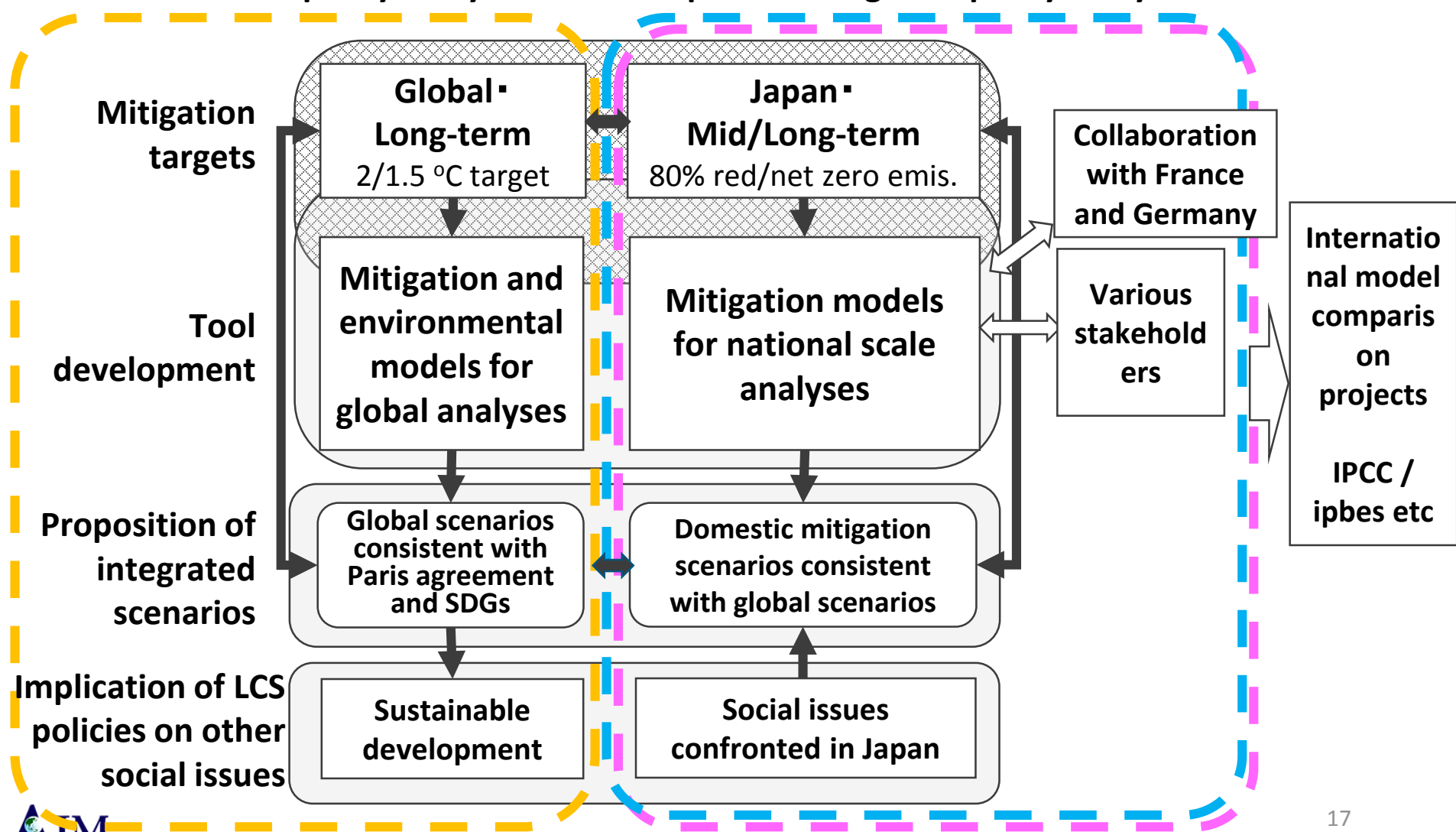
ERTDF 2-1702: Integrated Analyses of Climate Policies for Simultaneous Realization of the Paris Agreement and the SDGs (Dr. K. Takahashi)

Theme 1 (NIES)

Global climate policy analyses

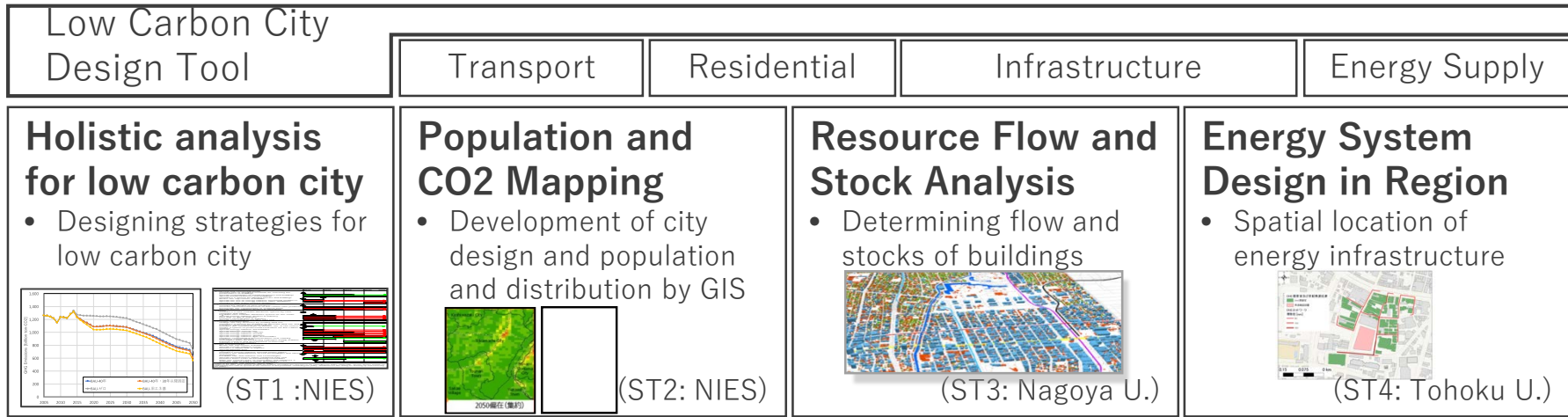
Theme 2 (NIES) • 3 (MHIR)

Japanese mitigation policy analyses



ERTDF 2-1711: Low Carbon Re-development Planning of Municipalities: Development and Application of Analytical Models coupling Resources and Energy Use (Dr. S. Ashina)

1. Development of **planning methodology and analytical models** for designing **Low Carbon & Resilient city** coupling resources and energy use.
2. **Application** of the methodology and models **to municipalities** in Japan.
3. Development of **simplified model and guidelines** those can be utilized by municipalities.



We submitted new research proposal

- Focusing on Asian countries;
 - Classification of countries;
 - Unconditional and conditional targets of NDCs: Thailand, Indonesia, Malaysia, Vietnam, ...
 - Big countries: China, India, Korea
 - Diversity of Asia: Nepal, Taiwan, Bhutan, Lao, ...
 - Model update
 - Not only energy related GHGs but also other GHGs such as waste and landuse change.
 - Targets
 - GHG reduction potential in 2030
 - GHG reduction in 2050 to achieve 2/1.5 degree target
 - Consistent mitigation pathway between 2030 and 2050.
 - Relationship to Japan
 - Necessary technologies
 - Benefits to Japan

Stakeholder meeting using AIM in Bhutan, on May 17-18, 2018



Training workshop of AIM/Enduse model at SIIT, Thammasat University, Thailand

With support from Prof. Bundit Lim, AIM team had a training workshop of AIM/Enduse model at SIIT, TU, Thailand from June 11 to 15, 2018.



Beginners course on 11th June: 11 participants including ONEP, CITC/TGO



Advanced course on 12th – 15th June: 5 participants

Training workshop of AIM/CGE model at SIIT, Thammasat University, Thailand

With support from Prof. Bundit Lim, AIM team had a training workshop of AIM/CGE model at SIIT, TU, Thailand from June 26 to July 5, 2018.



Discussion with policymakers in Thailand and JICA



CGE model development for Thailand, Nepal and Bhutan

At Session 9, we will discuss the next direction of AIM

[Background]

- Present research projects come to end in march 2020.
- We may fail to get new research fund.

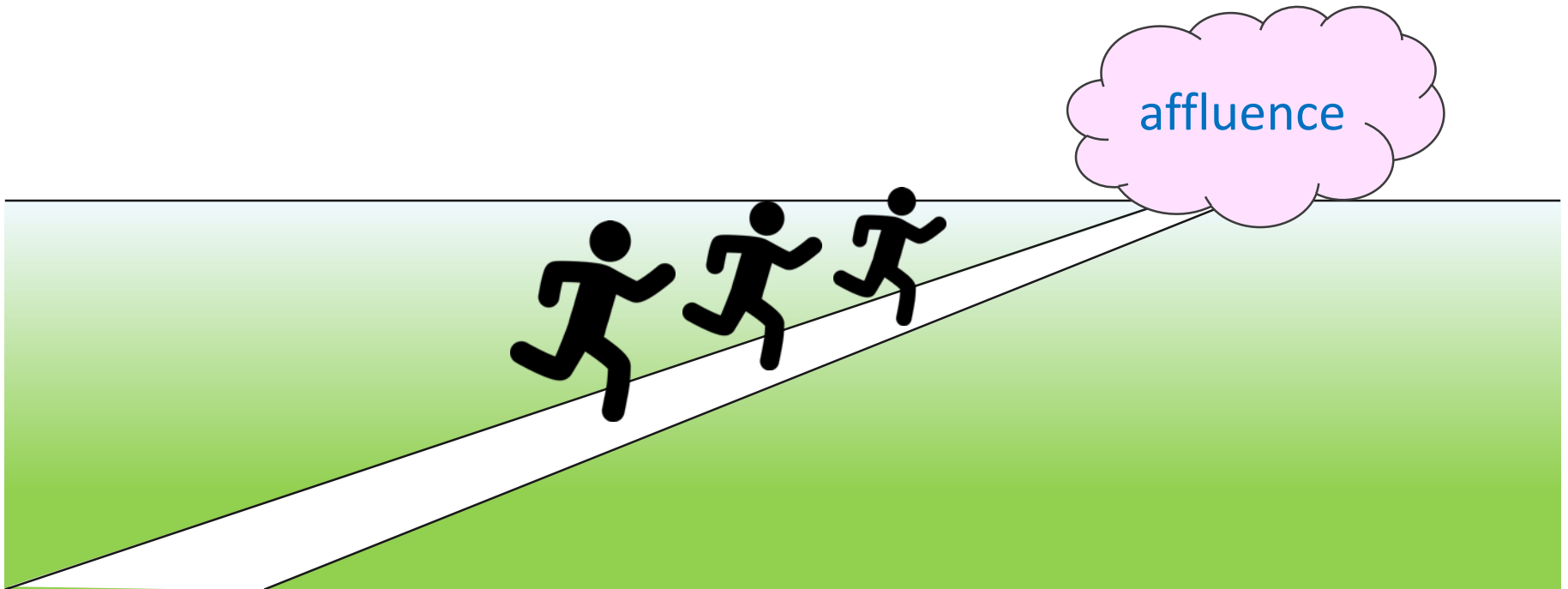
[Discussion]

- About next research issues.
 - Scientific perspective: What is new?
 - Models
 - Issues
 - Environmental perspective: What is useful to solve real problems in each country?
 - Taking into account reality
 - Bridging the gap between real world and ideal world
 - SDGs and other socio-economic issues

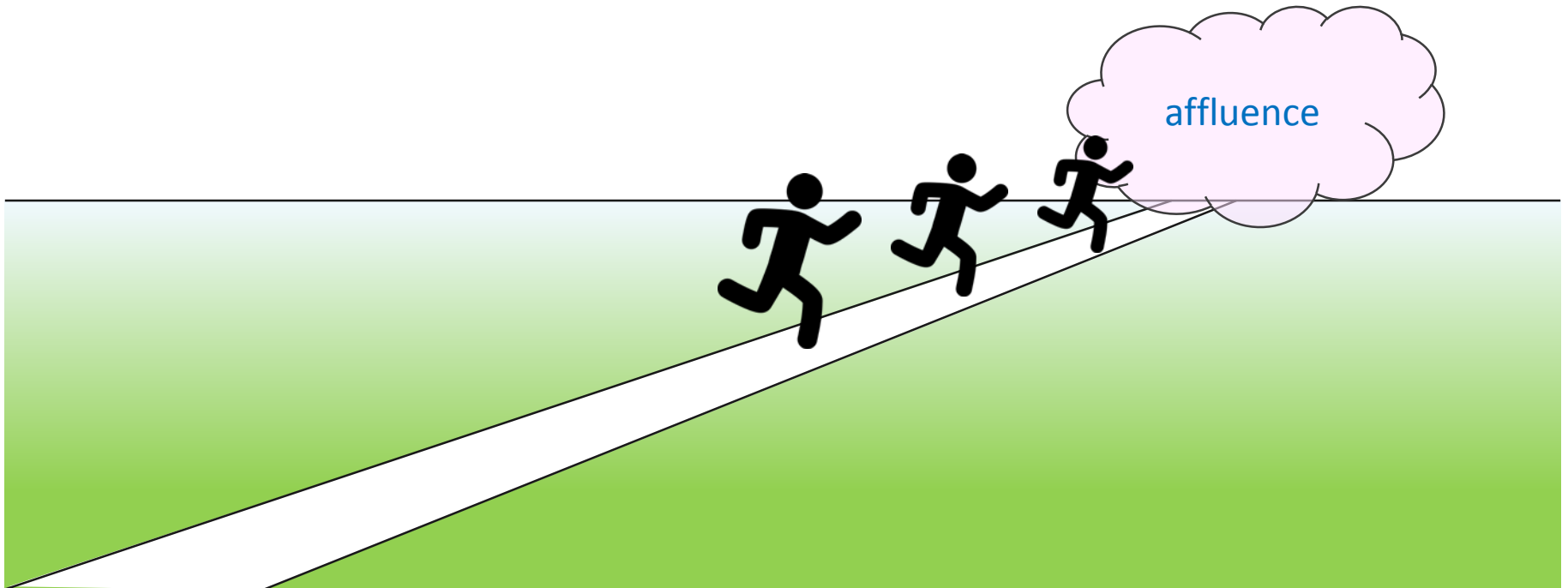
[Note]

- If we cannot get the enough research fund, the next AIM workshop will be held before summer in 2019 to discuss the future AIM activities more intensively.

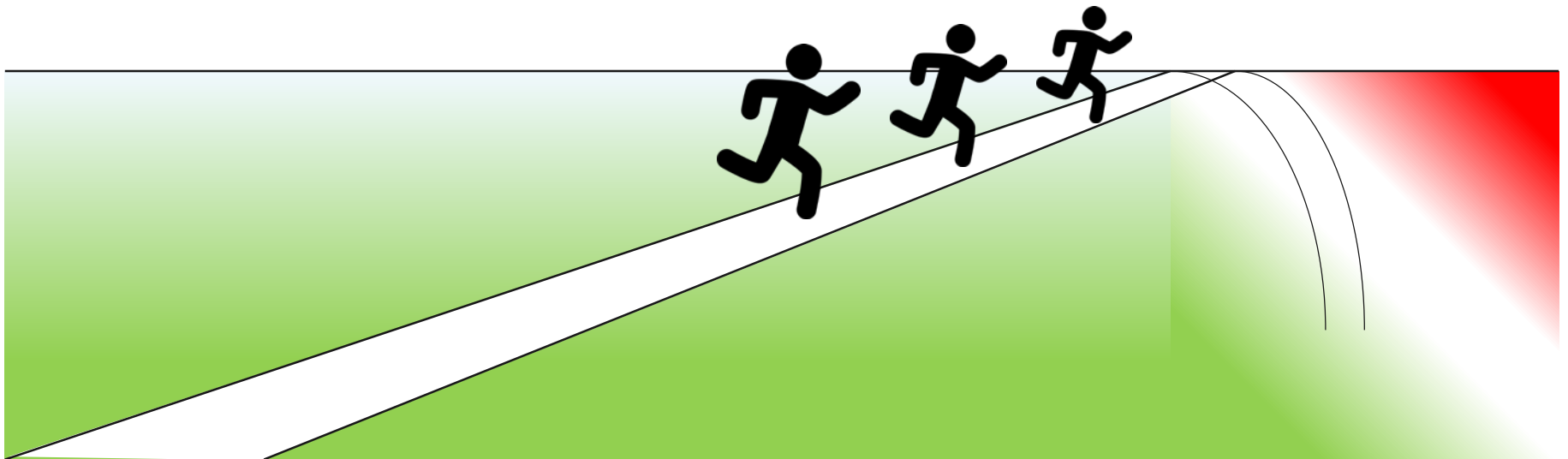
We wanted the better life.



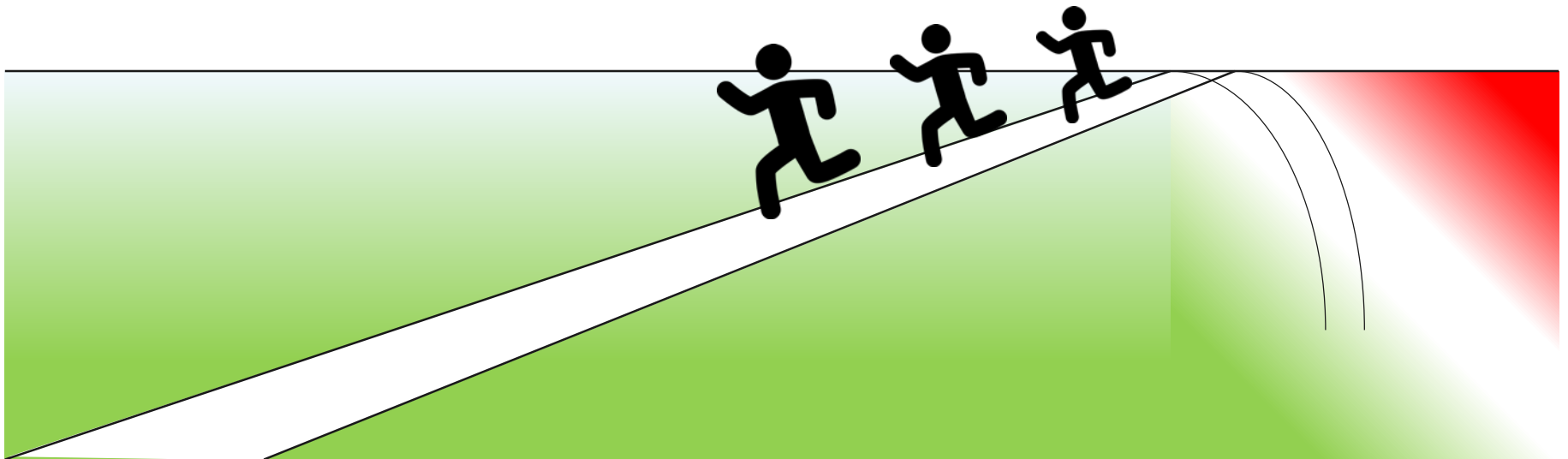
We believed this way is right direction...



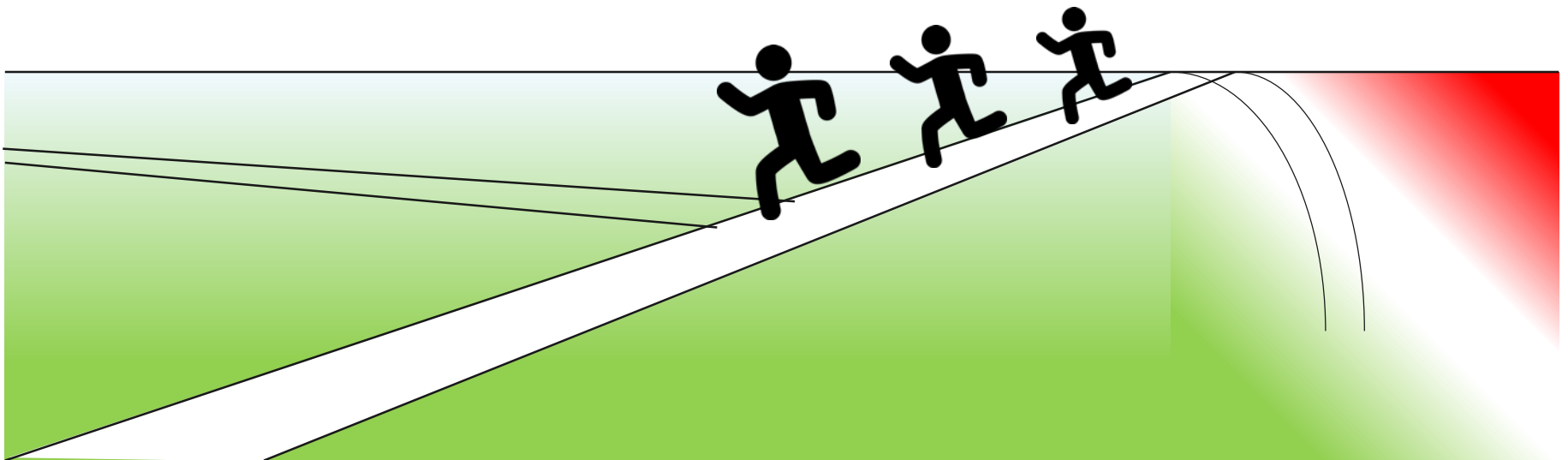
But this way leads to destruction ahead.



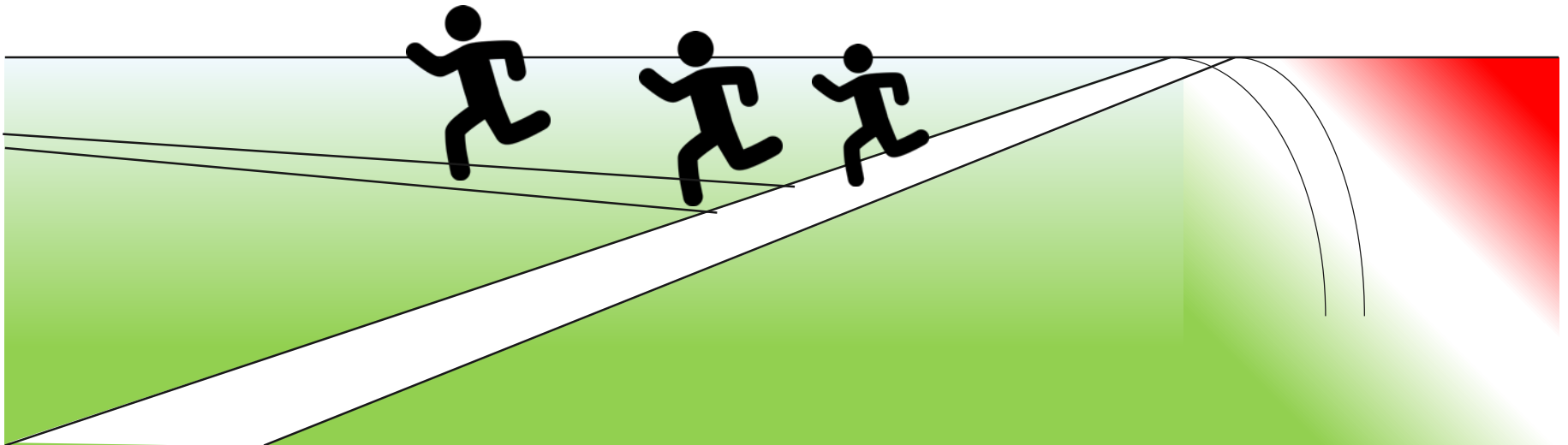
We must turn around.



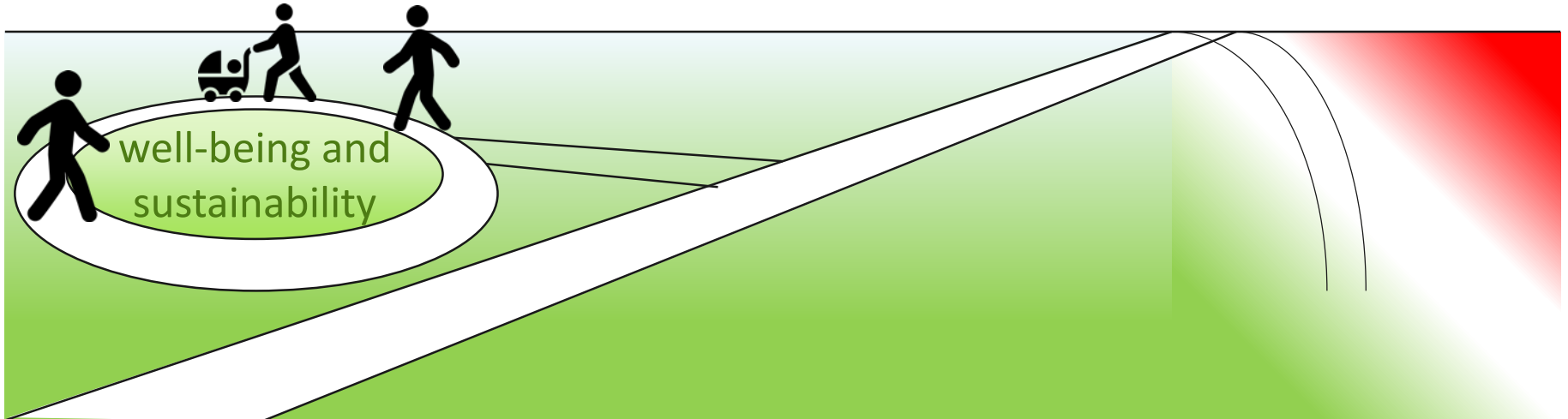
... and look for another way.



Right way can be found.



Right way may be circular one. That is "Transition."



Let's discuss
toward better Asia & World!