

LCS-RNet research and activities in FY2018

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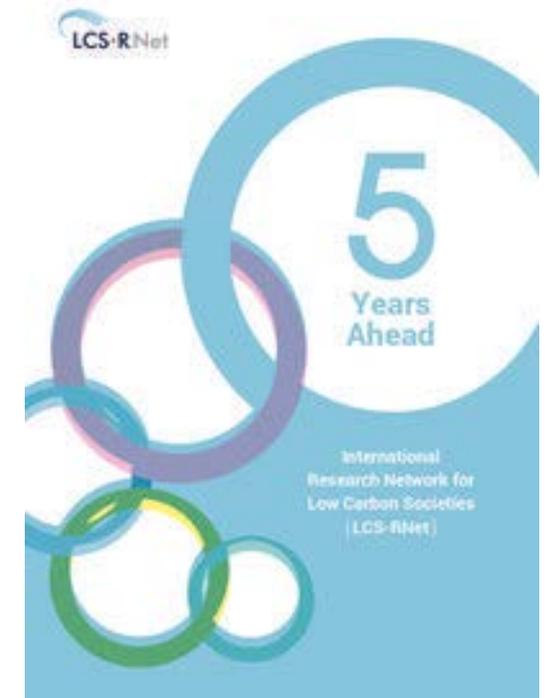
5 November 2018
National Institute for Environmental Studies

LCS-RNet enters a new phase!

- Considering the growing importance of scientific support to climate policy processes after the Paris Agreement, LCS-RNet members have discussed the future of LCS-RNet, and decided to strengthen the network **as a group of action-oriented researchers**.
- To transition to a decarbonised society within the limited time remaining, the research community needs to not only provide scientific knowledge to stakeholders but also **proactively take on the role of actual “change agent” in society**.
- And, it has introduced a **“common agenda approach” to boost the level of activities** amongst member institutes...

LCS-RNet 5 years Ahead – New Role of Research Communities in Transition towards Decarbonised Societies

- Science assumes a **new, more transformative and facilitatory role** in coming up with solutions. The process and methods of science should derive from the goal of '**service to society**'.
- Science needs to be more **inter-/trans-disciplinary**.
- **Collaboration with non-science actors** becomes important, where continuous interaction and dialogue with other stakeholders in society should take place.
- It also implies the growing importance of "**action research**" focused on solving critical societal problems.



Looking ahead to 2050 and onwards, eight fields to be tackled over the next five years

1. Providing support in **strengthening NDCs** in each country; formulating policies to pursue steady implementations; contributing to the UNFCCC's global stocktaking process
2. Development and assessment of long-term (**beyond 2050**) low-carbon society strategies
3. Deployment of **carbon pricing policies**
4. Making the overall **supply chain** low-carbon, from consumption to production
5. Encouraging "**Non-state Stakeholders**", the key players in the transition to LC societies
6. Promotion of IPCC and Future Earth-related **scientific activities**
7. Strengthening **science-based policymaking** and fostering capacities towards realising low-carbon development
8. Recognising the **critical and expanding role of research communities** making it happen for decarbonised societies

What are the emerging research agendas to be tackled jointly? (1/2)

1. Comparative study on **long-term strategies and scenarios** (ADEME, CIRED, IDDRI, WI, NIES/IGES)
2. Development of **"template"** for enhancing transparency of models: tools for simplifying cause-result relations in scenario/models (CIRED, WI, (NIES))
3. **Toolkit/Dashboard** approach for comparison of NDC/LTLCS performance (IDDRI, NIES/IGES)
4. Transition strategies of **energy intensive processing industries**: How do we deal with the hard core of GHG emissions? (WI, IGES/NIES)
5. Analysis of **energy-materials relationship**, for deep-reaching cuts into energy use throughout the entire cycle linking consumption and production. (WI, NIES (Modeling), IGES (SCP))
6. New LC **financial mechanism** to promote world economy: How low carbon investment can revitalise stagnant world economy. (CIRED with Brazil and India)

What are the emerging research agendas to be tackled jointly? (2/2)

7. Deployment of **“carbon pricing” policy**: Limiting usable carbon (Carbon Budget) inevitably involves carbon pricing policy; the ongoing argument concerns its design, in domestic and international contexts. (CIRED, WI (Carbon Market/ CDM), IGES (JCM), ERI, Korea (Carbon Market))
8. Joint research with developing countries on **Long term, low-carbon development strategies**: Developing/emerging countries hold keys to global GHG emissions reduction. Collaboration with such countries to foster/strengthen science-based policy making is one of the issues that research community can contribute. (ADEME, CIRED, ENEA, NIES/IGES, Brazil, India, China, ASEAN, Africa)
9. Co-work for **Alternative pathways / Leapfrog development**: Small developing countries that are already carbon neutral have potential to be front-runners in low carbon development? (WI with Iran GIZ, ENEA with Comoro, IGES/NIES with Bhutan)
10. **Participatory process** for designing long-term LC Strategies (DGEC (Direction Générale de l'Énergie et du Climat), IGES)

Research and activities agreed with MOEJ in FY 2018

1. Research on **transition/transition management** (WI, IGES/NIES)
 - Transition strategies of energy intensive processing industries
 - Participatory process
2. **Modeling and scenario comparison/exchange** (IMACLIM (CIRED), 3ME (ADEME), NIES (AIM))
3. Co-work for seeking **alternative pathways/Leapfrog development** in natural resource-dependent developing countries (in their responses to the global transition to carbon neutrality) (Bhutan, IGES/NIES, etc.)
4. Support for developing countries to **foster capacities** towards realising low-carbon development
5. Interview to **IPCC SR1.5 authors**
6. Joint organisation of **annual meeting** and **COP24 side event**



COP24 side event

Date and time: **13:00-14:30, 6 December 2018**

Venue: **COP24 Japan Pavilion**

Organisers: WI and IGES

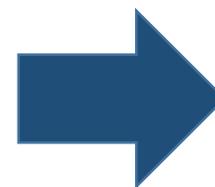
Theme: SR1.5 and transition

Speakers: Jim Skea (IPCC WGIII) 、 Stefan Lechtenböhmer (WI) 、 Yann Briand (IDDRI) 、 Sergio la Motta (ENEA) 、 Takeshi Kuramochi (NewClimate Institute) 、 Hironori Hamanaka (IGES) 、 Mikiko Kainuma (IGES) , etc

12/4 1500-1800
Presentation by IPCC at SBSTA

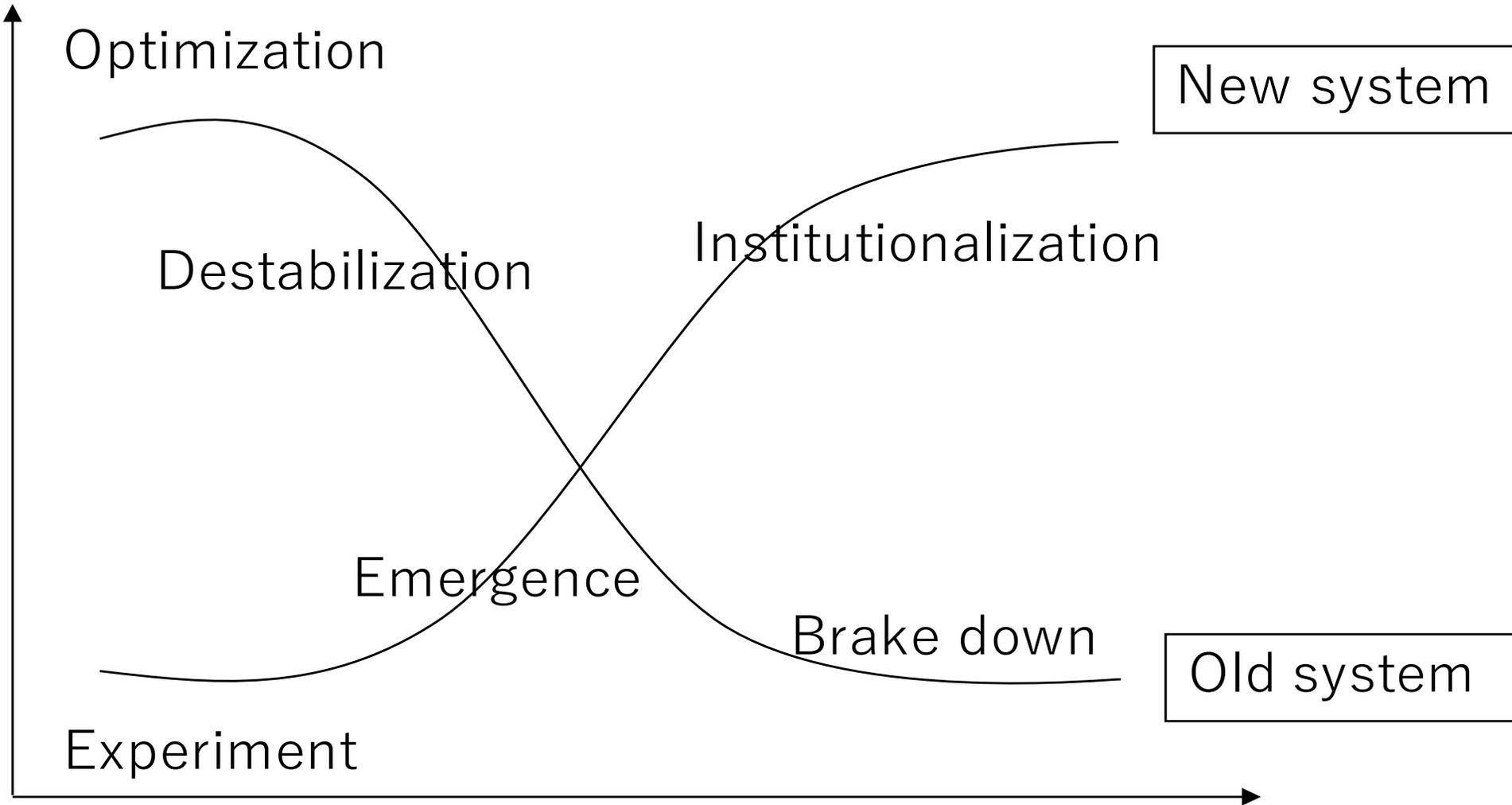
12/6 1000-1200
Special lecture on SR1.5 at COP24 (wrap up of preparatory phase)

12/6 1300-1430
Our side event at Japan pavilion.



Talanoa Dialogue

Case Studies on low carbon future

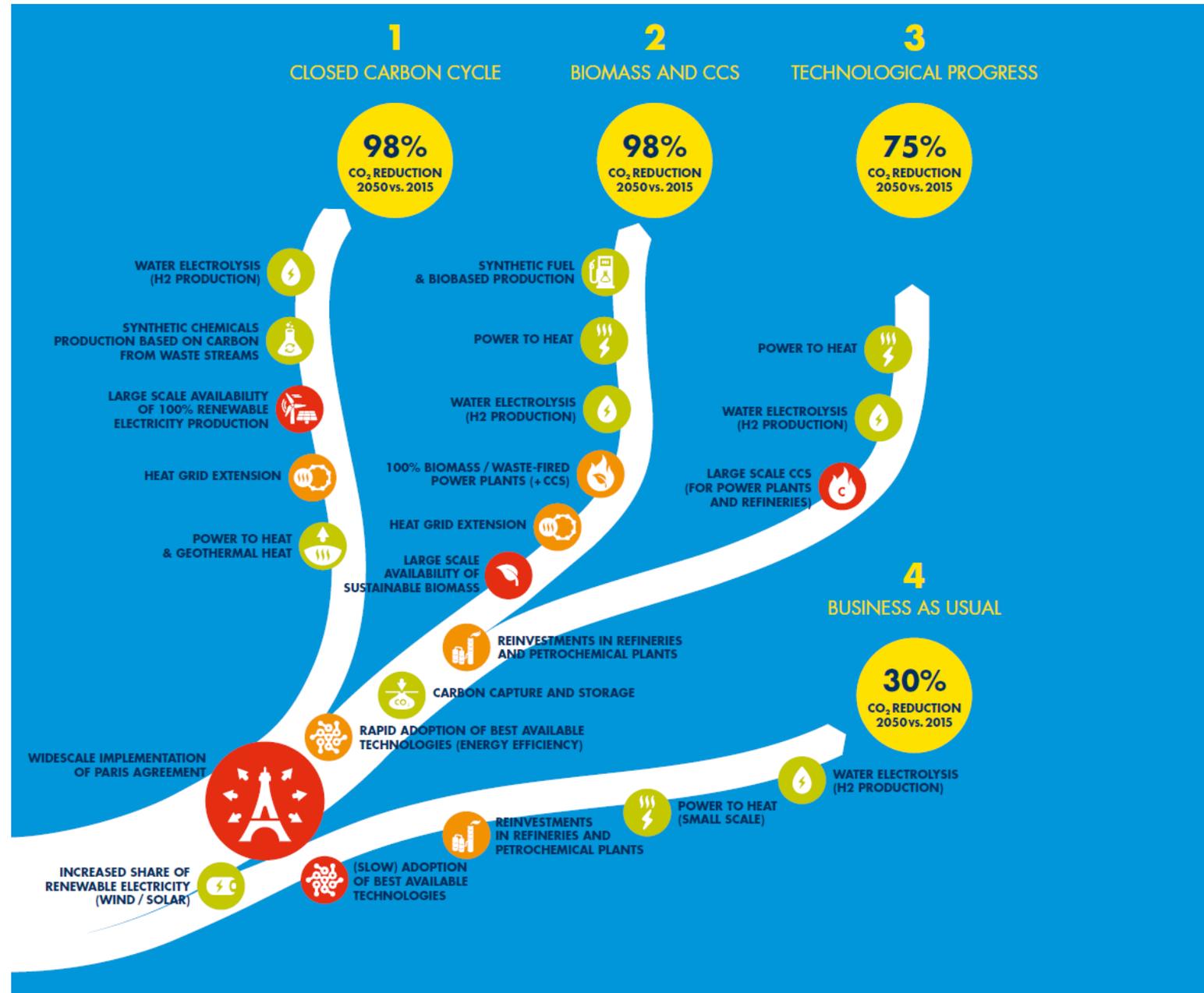


Conceptual diagram for transformation

drawn based on the idea from Loorback, DRIFT

Case of Rotterdam Port

- Collaborating with Wuppertal Institute, Rotterdam Port Authority plans to achieve 49% reduction by 2030 and 95% by 2050. Their final goal is carbon neutral.
- 5 Transition arena workshops were held during half an year in 2015 with participation from various fields in the authority and clarified their role to make transition happen in Rotterdam Port.

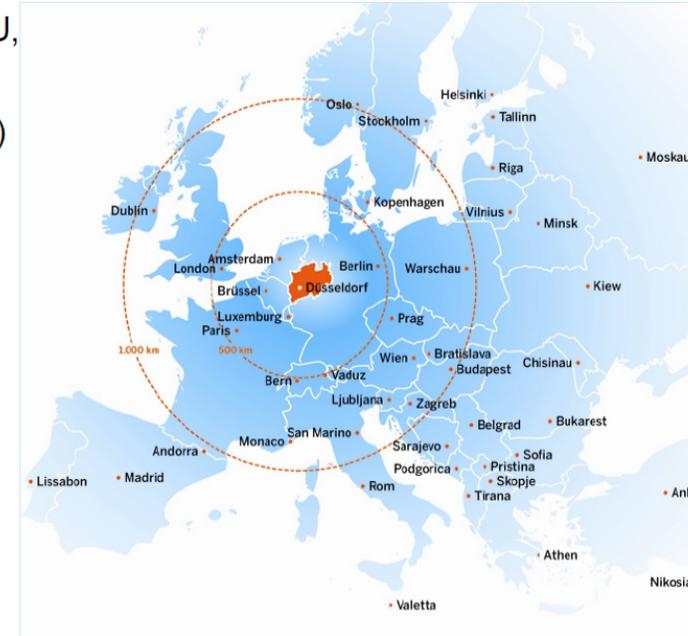


Case of North Rhine-Westphalia (NRW)

- Climate Protection Act in 2013 and Climate Protection Plan in 2015.
- 25% reduction by 2020 and 80% reduction by 2050.
- 54 strategies and 154 actions
- CPA requests active stakeholders participation.
- Inclusiveness: 6 working groups for mitigation and 4 working groups for adaptation.
- Iterative processes for stakeholders participation.
- Active participation from industry groups with sense of ownerships.
- Soft agreement among stakeholders.

Industrial heart of Germany and energy supplier No. 1

- NRW is a German federal state with a population of 18 million inhabitants (4% of EU, 22% of Germany).
- Share of industry in gross value added (GVA) is 27% (German average: 26%, EU average: 20%)
- Backbone of its economic structure is the energy sector and a huge energy-intensive industry
- 30% of Germany's electricity supply is produced in NRW (70% coal based, 90% fossil).
- 35% of German greenhouse gas (GHG) emissions (~300 Mio. t/a) comes from NRW (6%-7% of the entire EU GHG emissions).



Role of scientific inputs

Three prototypical scenarios of a low carbon industry in NRW Wuppertal Institut

| | <i>iCCS</i> | <i>PtX Import</i> | <i>all-electric</i> |
|----------------|---|---------------------------|---------------------|
| TRANSPORT | biofuels | synthetic fuels import | electric motors |
| BUILDINGS | mixed system: heat pumps, decentralised CHP, bio etc. | | |
| STEEL | coal+CCS | H-DRI (H2 import) | H-DRI |
| PLASTICS | Steam Cracking+CCS | PtC via methanol (import) | PtC via methanol |
| INDUSTRY OVENS | fossil fuel + CCS | biomethane (import) | electric ovens |
| STEAM | fossil+CCS / biomethane | biomethane (import) | PtH |

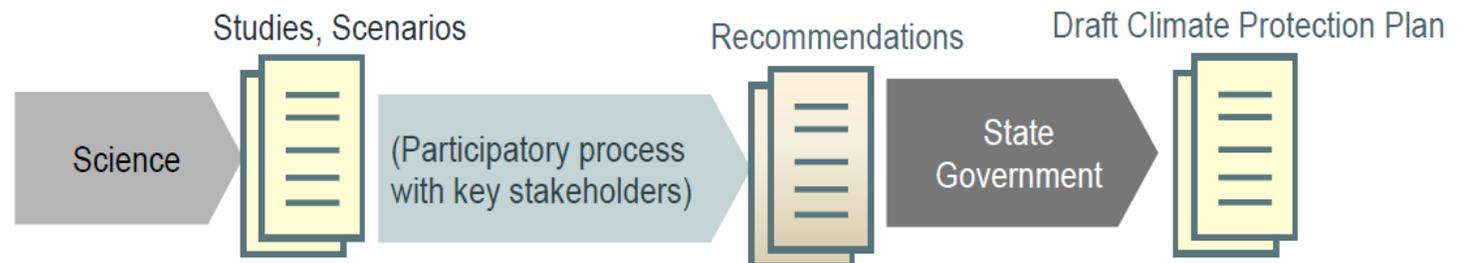
Shift of participatory approach from sequential to interactive.

Key factors to promote dialogue

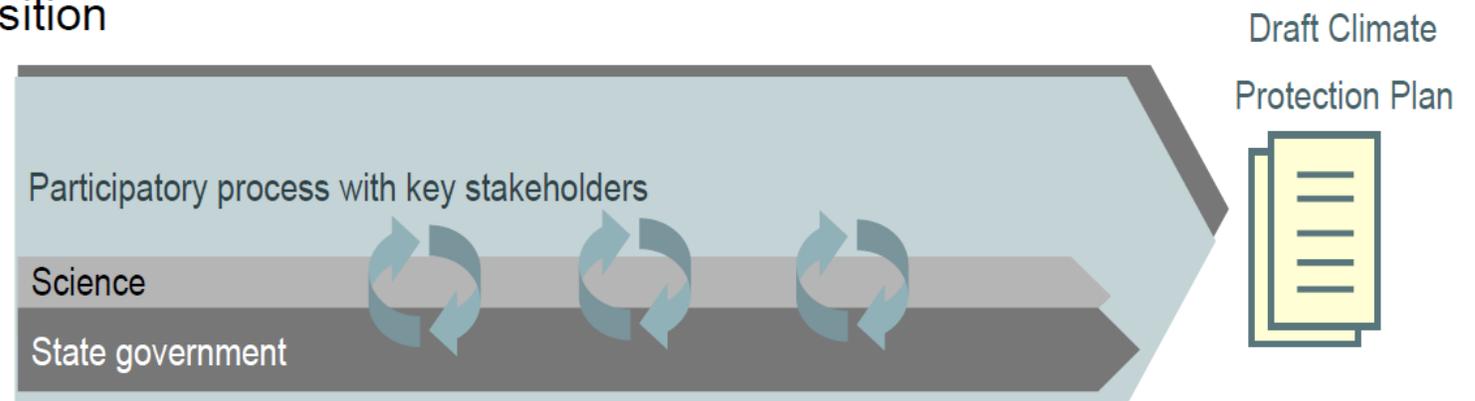
- Leadership of the government/ authorities
- Independent technical support organization: Scientific institute, experts for facilitation

Participatory approach of the Climate Protection Plan

IDEA: Overcome traditional linear approach of science, society, policy integration



AIM: Explore an open iterative process that empowers stakeholders, science and policy to co-create a new position



Decision by the state parliament

(Reference) Decision making policy processes in UK and Japan

Timing of integration to reflect stakeholders' opinions in the process of decision making



Case of UK

Participation from various stakeholders such as citizens, business sectors.



- Consultation by papers in early stage. Sometimes several consultations in the processes. Briefing and hearing are also conducted.
- Consultation period is more than 3 months
- Positive inquiry to get comments especially requested to potentially involved persons (documents are sent to related stakeholders)
- The results are feed backed to those who commented.

Policies
(Law, Plan, etc.)

Start of discussion Draft Final Plan Activated

Review & discussion at offices

Review and discussion at councils

Parliamentary councils



Case of Japan



Public people

- "Public comments" are requested after the final draft is done. Usually once.
- Period is about 30 days
- Public comments are requested through hope page.
- It is said the feed back of the comments is about 20-30 percent.

*" Knowledge and action should go hand in hand;
knowledge and action are one;
knowledge is action, action is knowledge."*

- Wang Yangming (1472–1529 CE)

Thank you very much for your kind attention.