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Implementing the Paris Agreement: Energy Transition, Innovation and the role of International Climate Governance

UNFCCC COP23 Side Event

7th November 2017

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www.cop21ripples.eu

Introduction to COP21 RIPPLES

COP21 RIPPLES (Results and Implications for Pathways and Policies for Low Emissions European Societies): a collaborative project of 19 institutes from Europe, China, Brazil and South Africa.

Interdisciplinary approach:

- ✓ quantitative methods
- ✓ political science
- ✓ international law

Multiple levels of analysis:

- ✓ EU, Member States, non-EU major emitters, global

Outcomes

- ✓ Policy recommendations for EU climate policy and climate diplomacy
- ✓ Inputs to Facilitative Dialogue and revision of NDCs

CONTEXT: COP21 set a new strategic context for international and European climate policy action

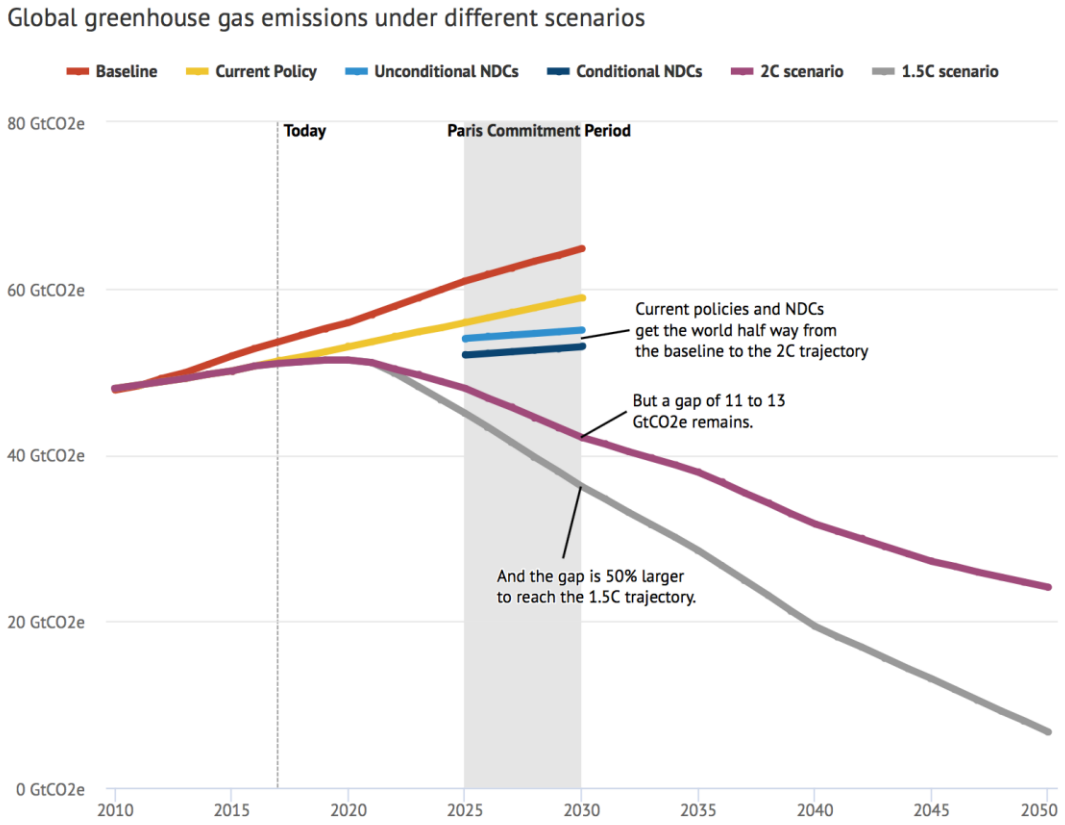
- The NDCs represent a significant acceleration in climate action
- But not sufficient to stay below 2°C goal

CONTEXT: Countries need to significantly increase their ambitions starting already in 2020

- Current NDC commitments only get the world roughly half of the way to 2C from the baseline trajectory – and only a third of the way toward a 1.5C trajectory (UNEP, 2017)

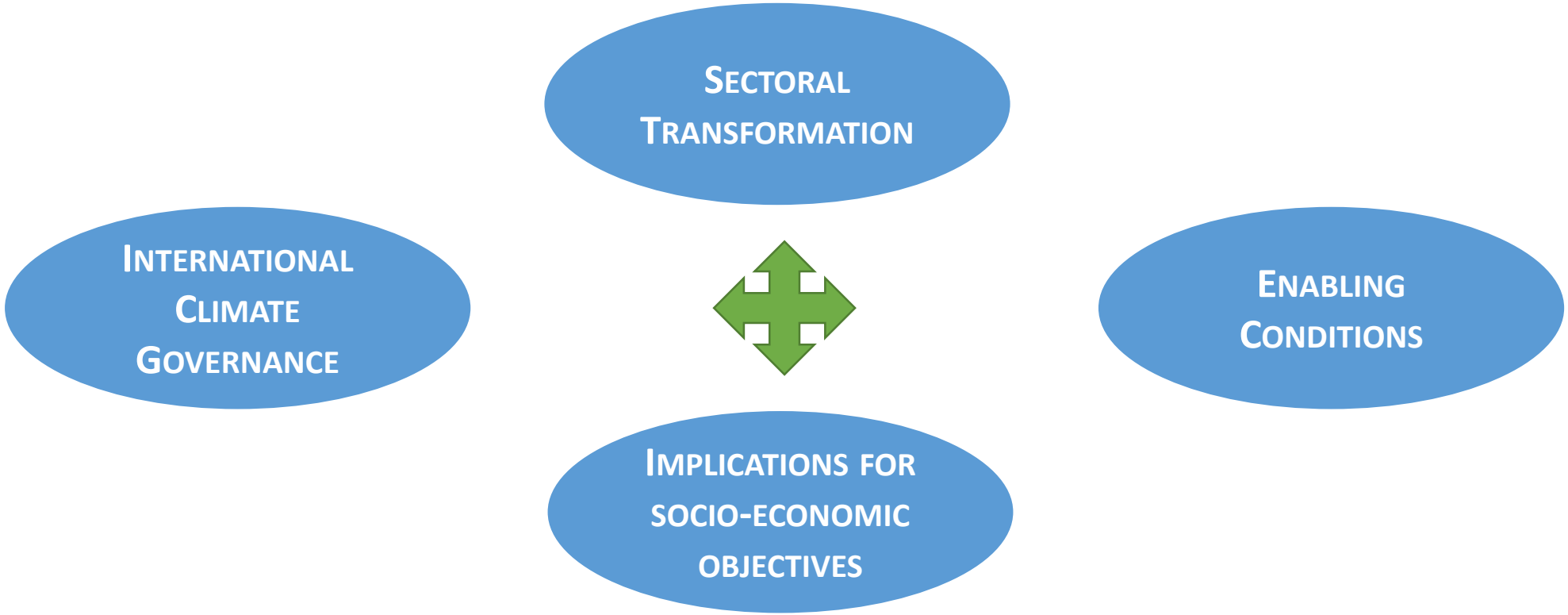
- Countries need to significantly increase their ambitions in the new and updated national plans that will have to be submitted by 2020

How can we ensure a timely implementation of current commitments, as well as alignment of the updated NDCs with the longer term PA goals?



Source: UNEP Emissions Gap Report 2017

PROJECT VISION: an integrated approach to inform the implementation of the PA



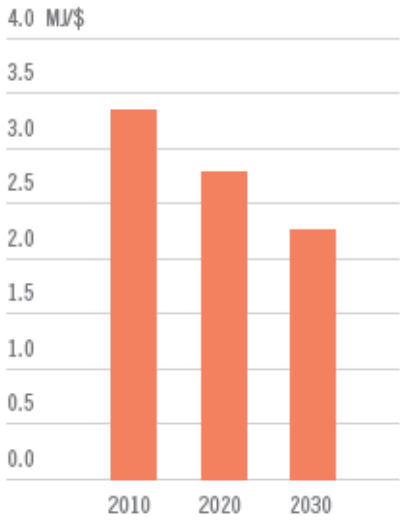
1. Implementing NDCs and deeper decarbonisation implies profound transformations in all sectors in the EU and globally

SECTORAL TRANSFORMATION

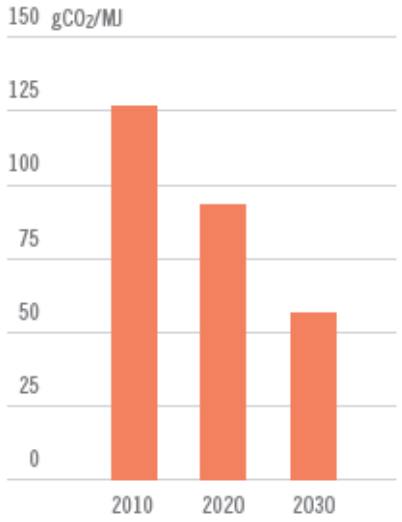
- NDCs do not provide great detail on measures or tools
- Reveal the sectoral transformations behind the emission targets

1. SECTORAL TRANSFORMATION

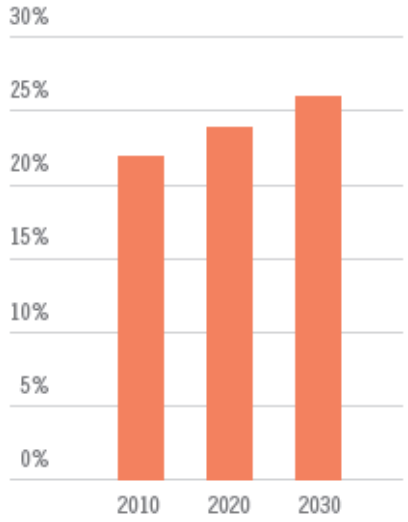
Energy intensity of GDP



Carbon intensity of electricity



Electrification of final energy

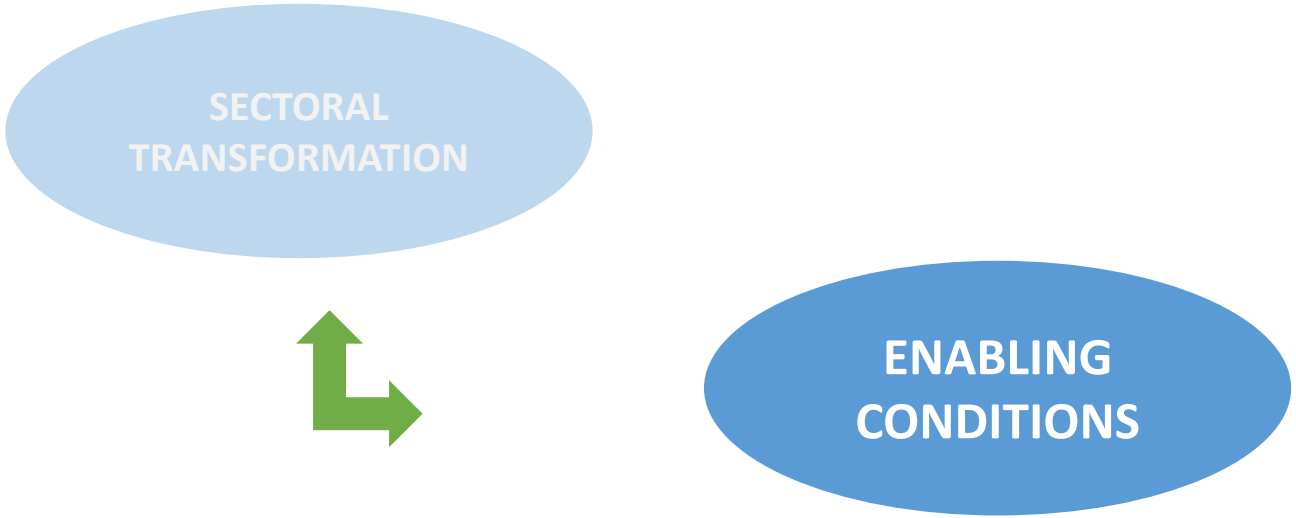


Source: PRIMES model, MILES project (2015).

In EU NDC scenario, energy intensity improves by 33% and carbon intensity of electricity supply reduces by 56% between 2010 and 2030, entailing very significant changes in the EU's electricity generation mix.

- Transformations in the energy systems and wider economy
- Detailed existing and new transition scenarios
- What sector, technology and policy actions should be prioritized?

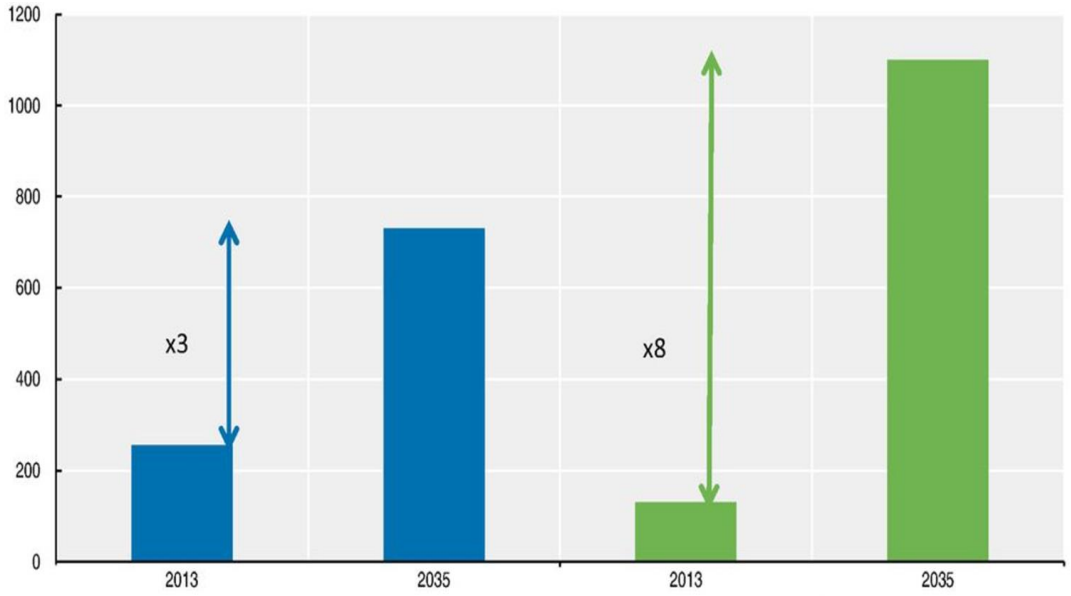
2. Implementing the PA requires early technology and investments shifts



- Scale up **technological deployment and innovation**
- **Acceleration of investment shifts** towards low-carbon solutions

2. ENABLING CONDITIONS: low-carbon technology innovation and investments shifts

Investment Gap – IEA 2°C scenario



Source: OECD Business and Finance Outlook 2016

Finance focus

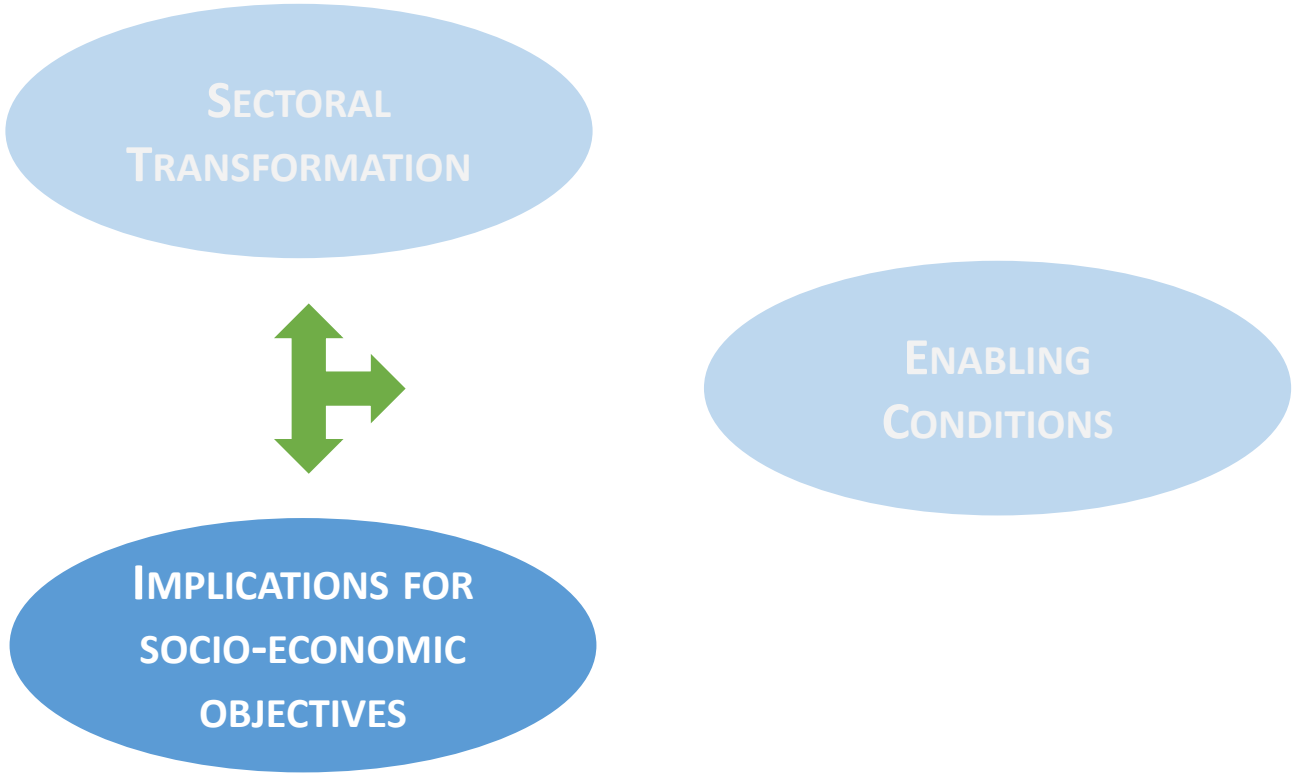
- Investment needs and shifts

Technology focus

- Comparative advantages in the development of low-carbon technologies in EU countries
- Improve accuracy of experience curves in forecasting technology trends

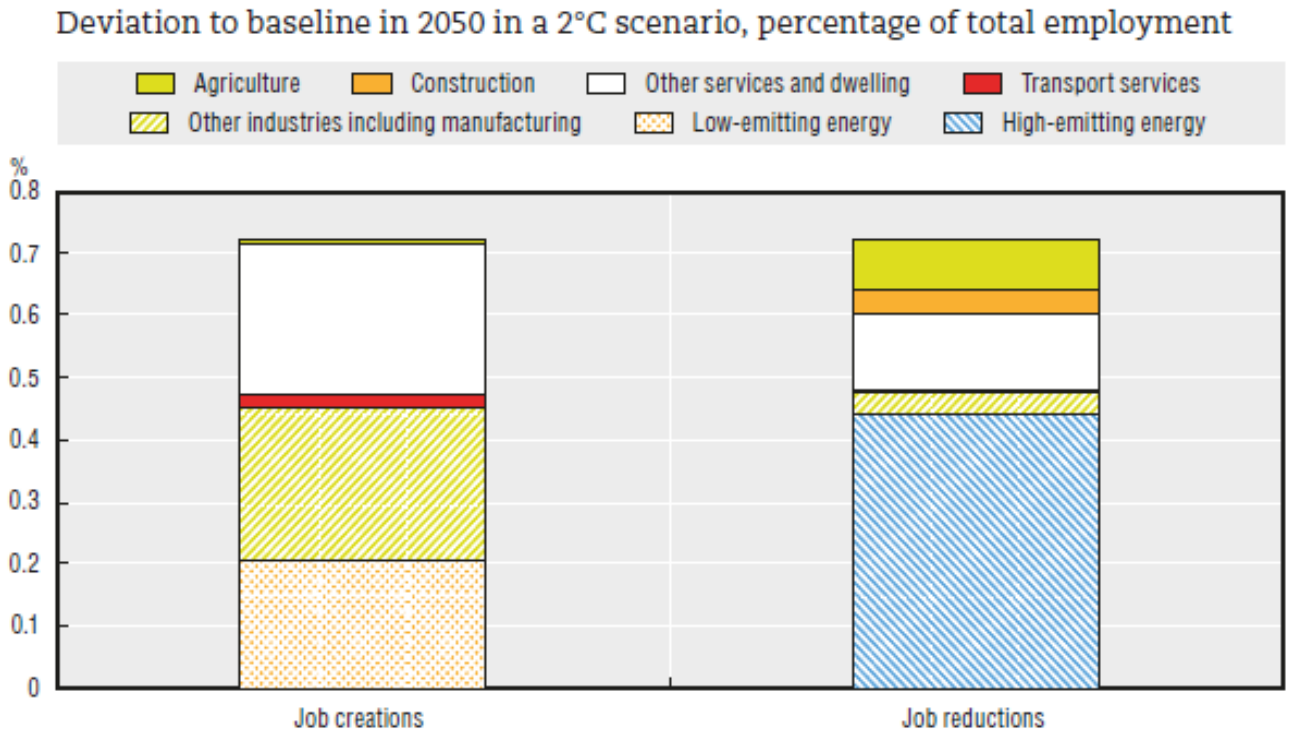
In the 2°C scenario, investment in LC power generation would need to triple between 2013 and 2035

3. The transition will have socio-economic consequences it will affect the implementation of other country policy priorities



3. IMPLICATIONS FOR SOCIO-ECONOMIC OBJECTIVES

Sectoral composition of job reallocation in the world



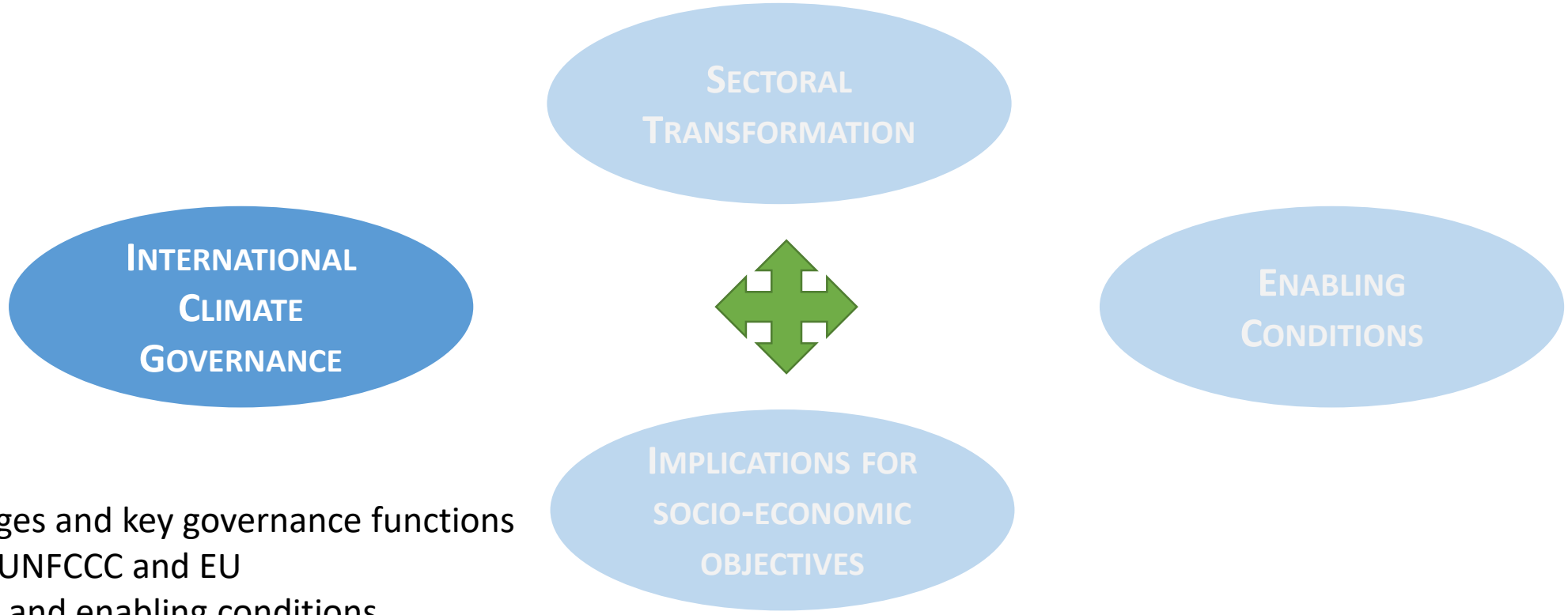
Source: OECD Investing in Climate, Investing in Growth 2017

- **Employment**
- **Household income**
- **Energy security**
- **Competitiveness** and trade
- **Economic growth**

- For the EU and its individual Member States

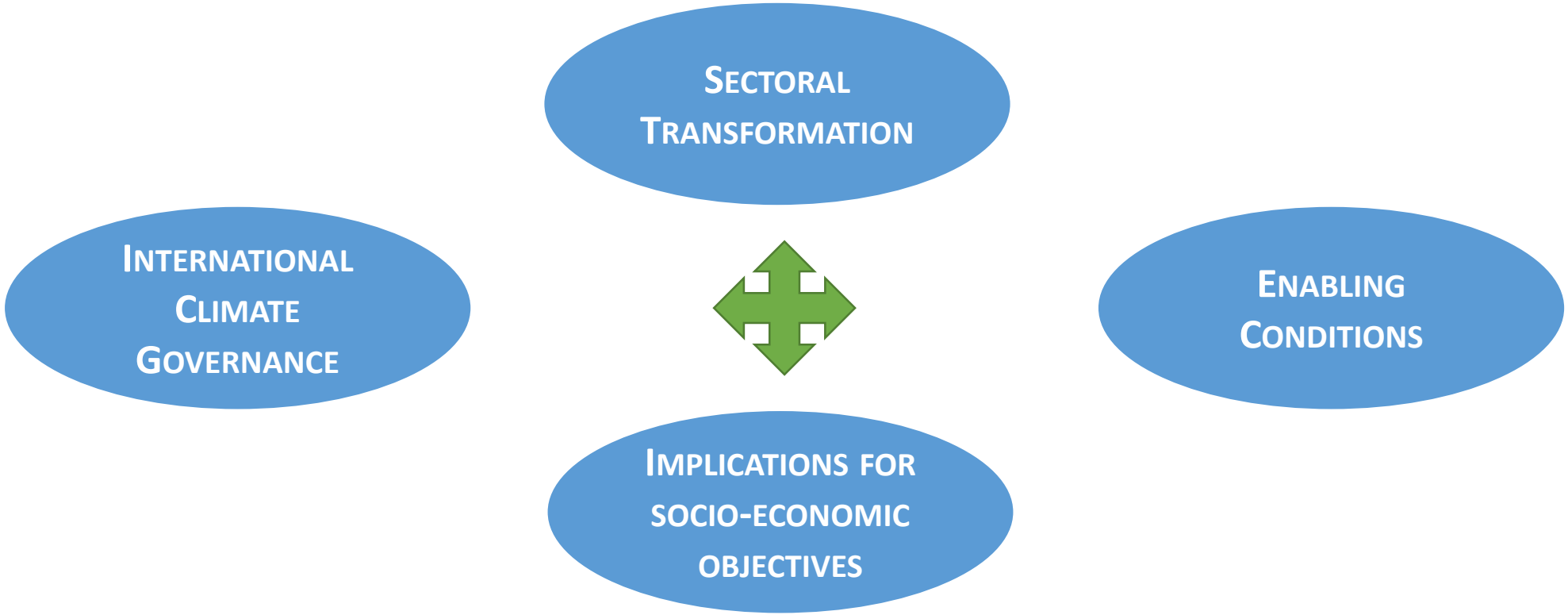
Job shedding in emissions-intensive energy sectors is only partly offset by job creation in low-emission energy sectors, reflecting the important role of improving energy efficiency

4. INTERNATIONAL CLIMATE GOVERNANCE



- Challenges and key governance functions
- Role of UNFCCC and EU
- Barriers and enabling conditions

PROJECT VISION: an integrated approach to inform the implementation of the PA



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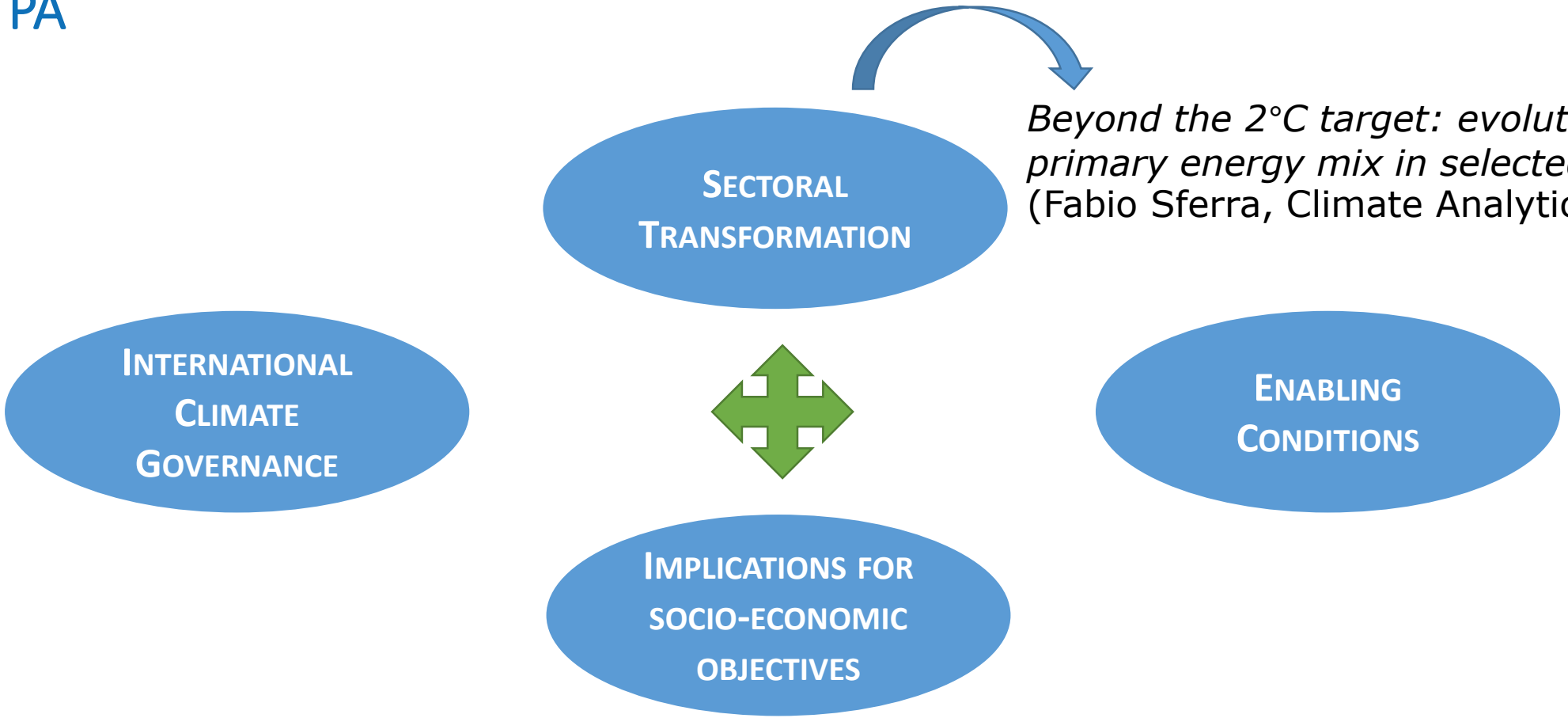

Beyond the 2°C target: evolution of primary energy mix in selected EU MSs
(Fabio Sferra, Climate Analytics)

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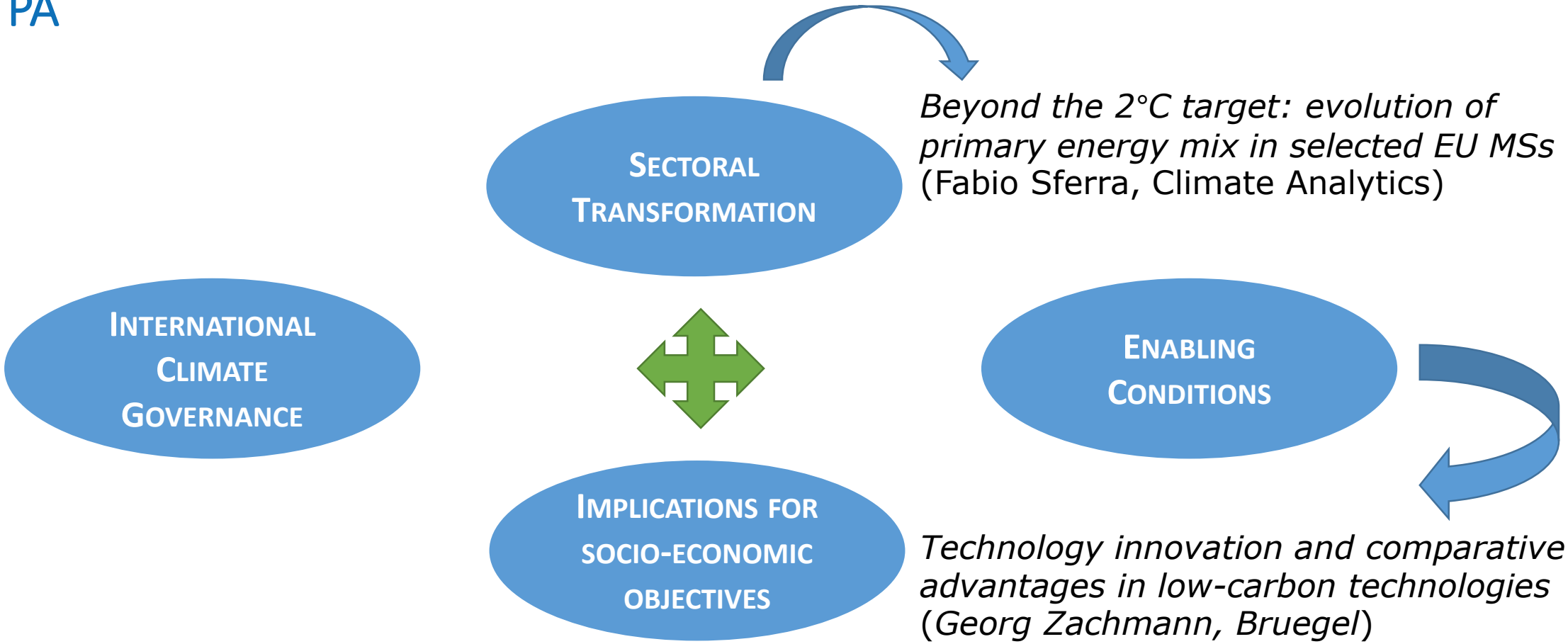

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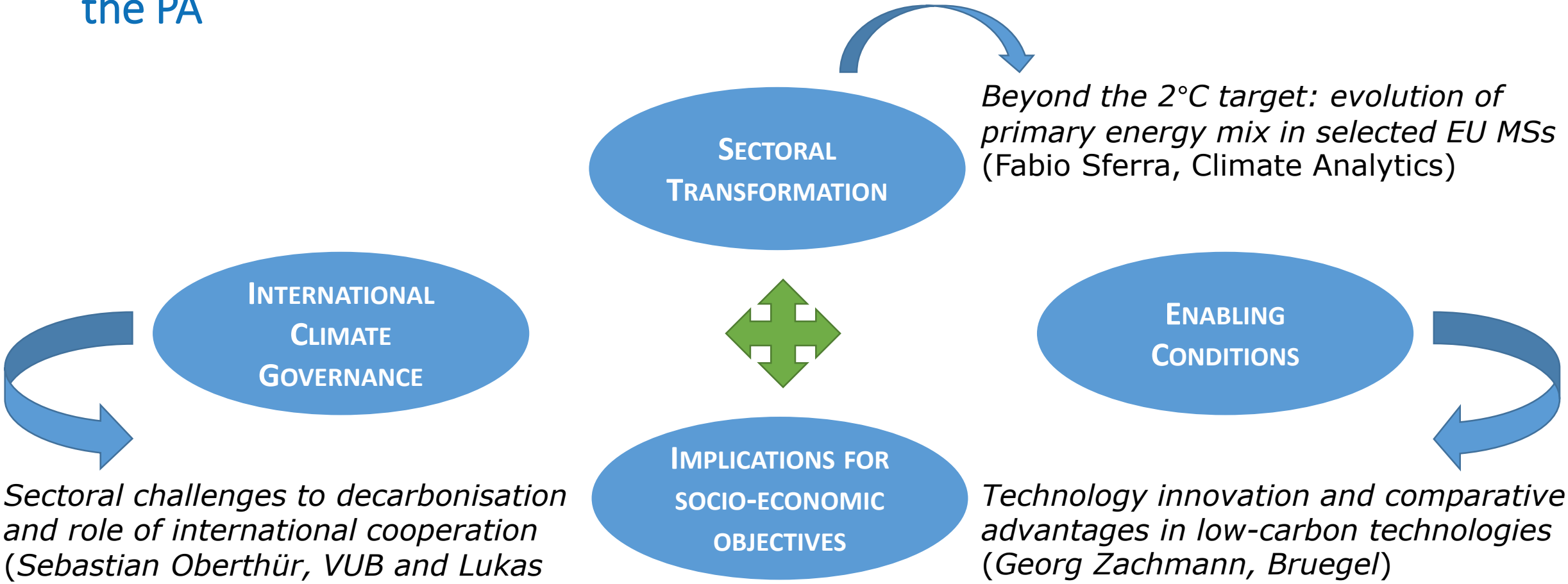

Beyond the 2°C target: evolution of primary energy mix in selected EU MSs (Fabio Sferra, Climate Analytics)

Sectoral challenges to decarbonisation and role of international cooperation (*Sebastian Oberthür, VUB and Lukas Hermwille, WI*)

Technology innovation and comparative advantages in low-carbon technologies (*Georg Zachmann, Bruegel*)

THANK YOU FOR LISTENING!

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