



Lecture 10: Instruments and Recommendations for Action

Episode 2: Ten Measure Bundles

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Episode 1: The Context

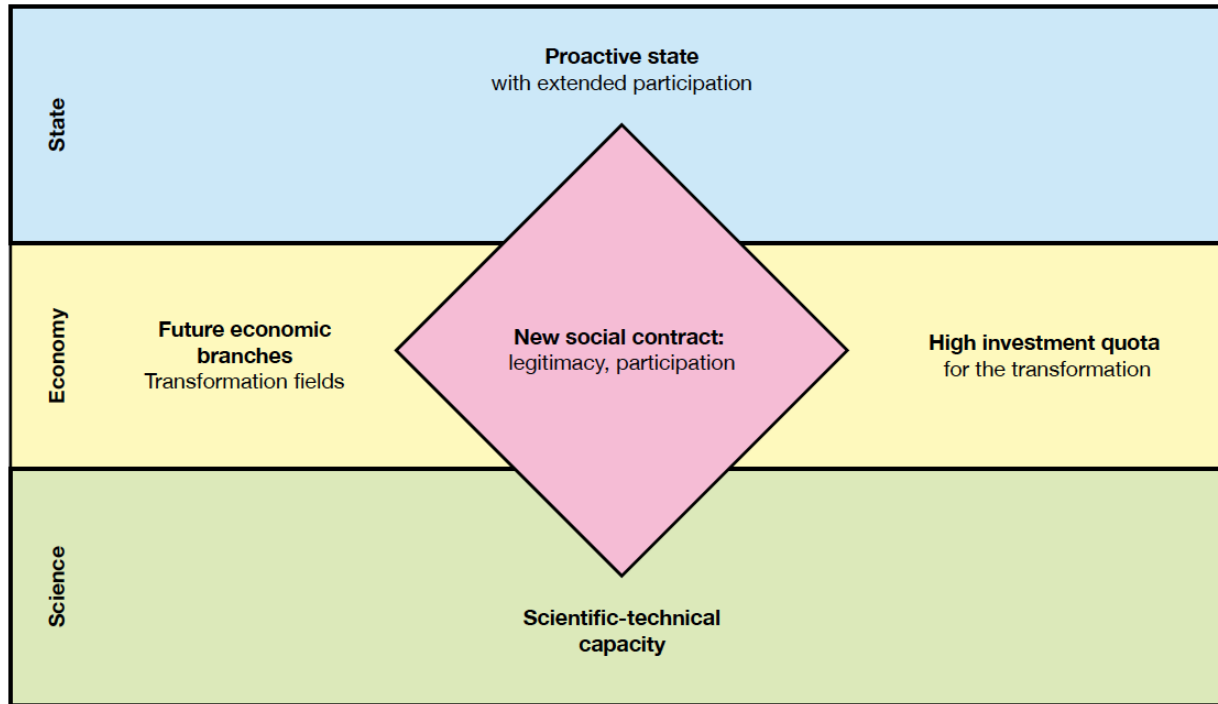
Episode 2: Ten Measure Bundles

Episode 3: Interview



1. You will understand the ten most relevant areas of action for the low-carbon transformation.
2. You will understand the relevance of bottom-up low-carbon initiatives and “big push” elements.





- Illustration of innovative wave of Germany during the Wilhelminian era
- Two elements added for the transformation:
 - proactive state
 - new social contract

1. **Scale:** The extent of the structural changes is crucial.
2. **Acceleration:** The window of opportunity for setting the course to avoid dangerous climate change is very narrow.
3. **Initiate long-term directional changes to avoid path dependencies:** The conversion of energy, mobility and land-use system infrastructures needs long-term oriented visions, target systems and 'road maps'.
4. **Initiate system reforms:** The measure bundles must take into account that the central areas of the low-carbon transformation require synchronous reforms between networked systems.



5. **Global extent of the transformation process:** Even if the emissions in the OECD countries were radically reduced, dangerous climate change could not be avoided.
6. **Convince people, activate them, carry them along (legitimation and political feasibility):** The climate friendly conversion of the industrialised societies impacts the lifestyles and consumption habits of many people.
7. **Potential for the overcoming of barriers and path dependencies:** Some decisions have the power to determine certain developments over decades.



Ten bundles of instruments

1. Proactive/enabling state
2. Price for carbon
3. Regional energy cooperation
4. Internationalize feed-in tariffs/DESERTEC for Africa
5. Reduce energy poverty – low-carbon
6. Low-carbon urbanization
7. Low-carbon land use
8. Finance mechanisms and new business models
9. Low-carbon research strategies/knowledge gaps
10. Global governance for the low-carbon transformation

polycentric strategy

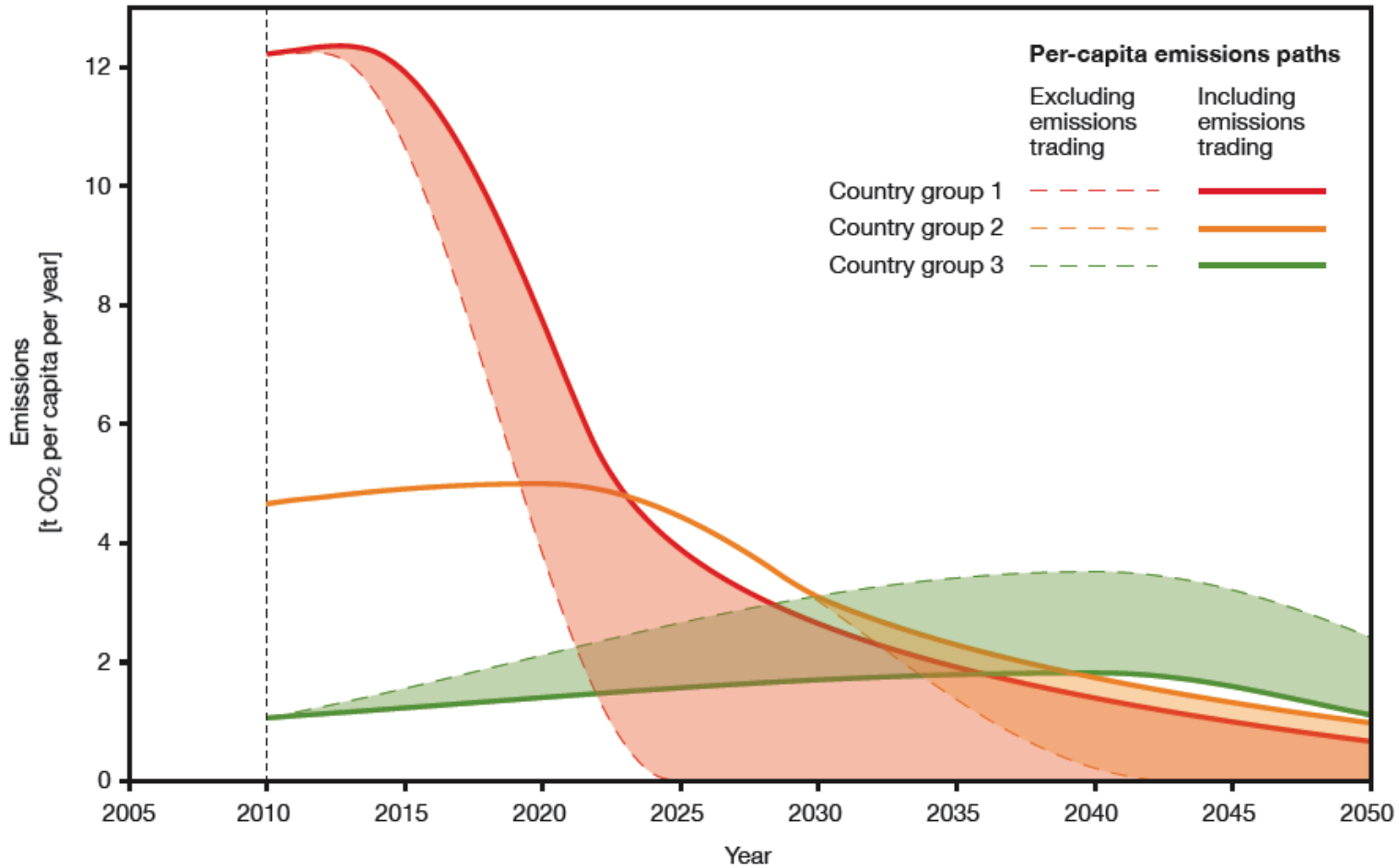
focused strategy

three levels of ambition

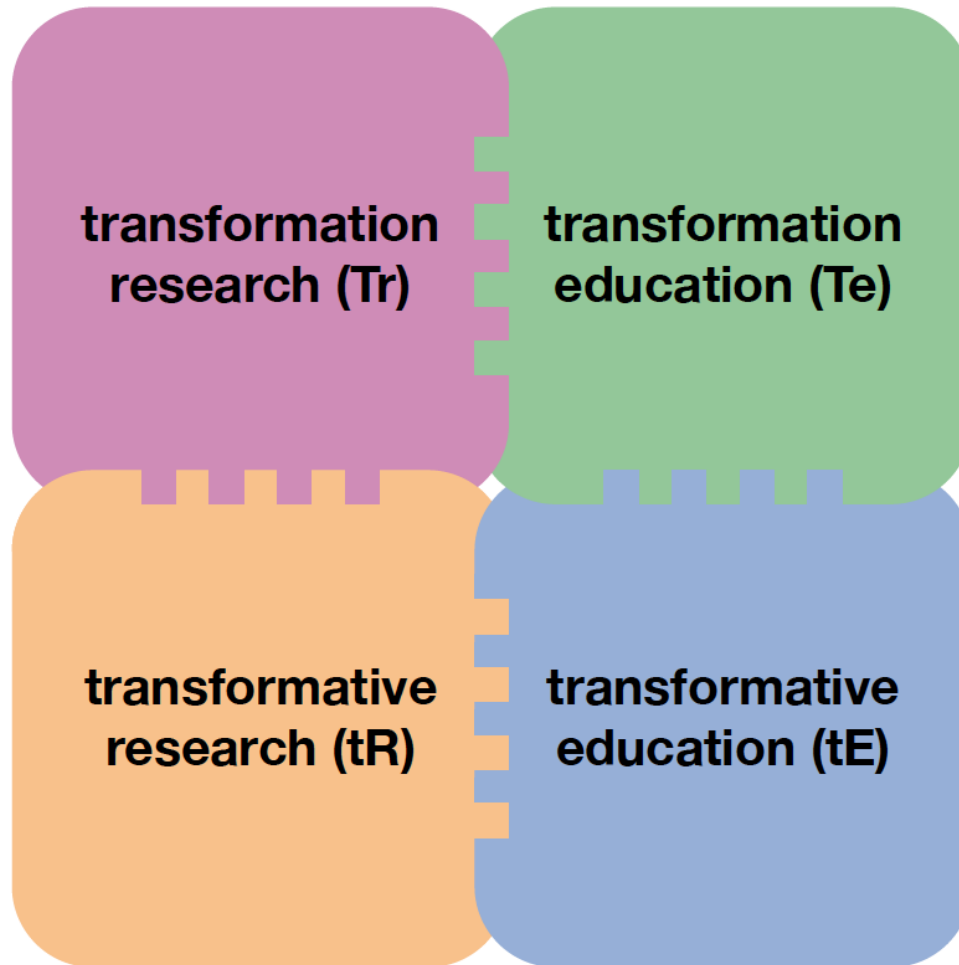


	Share of world population in 1990 [%]	Total budget 1990–2050 [Gt CO ₂]	Emissions to date 1990–2009 [Gt CO ₂]	Budget 2010–2050 [Gt CO ₂]		Estimated emissions in 2008 [Gt CO ₂]	Reach of the budget lifetime, assuming annual emissions as in 2008 [years]
				Total period	Per year		
Germany	1.5	17	17	-0.90	-0.022	0.91	-1
USA	4.7	52	108	-56	-1.4	6.1	-9
China	22	239	75	164	4.0	6.2	26
Brazil	2.9	31	6.1	25	0.62	0.46	55
Burkina Faso	0.16	1.7	0.0090	1.7	0.042	0.00062	2810
Japan	2.3	26	23	2.4	0.058	1.3	2
Russia	2.8	31	31	-0.29	-0.0071	1.6	0
Mexico	1.6	18	6.9	11	0.26	0.46	23
Indonesia	3.4	38	4.8	33	0.81	0.38	88
India	16	175	19	156	3.8	1.5	103
Maldives	0.0041	0.045	0.0098	0.035	0.00086	0.00071	50
EU	8.9	98	81	18	0.43	4.5	4
World	100	1,100	500	600	15	30	20

Source: WBGU, 2009



Source: WBGU, 2009



Source: WBGU, 2011



- “What the research on social dilemmas demonstrates is a **world of possibilities rather than one of necessity**. We are neither trapped in inexorable tragedies nor free of moral responsibilities for **creating and sustaining incentives that facilitate our own achievement of mutual productive outcomes**. It is our responsibility to build relationships on the basis of **trust, reciprocity, and reputation – and to build these three core values themselves.**”
- “We cannot adopt the smug presumption of early group theorists who thought groups would always form whenever a joint benefit would be obtained. **We can expect many groups to fail** to achieve mutual productive benefits owing to their lack of trust in one another or to the lack of arenas for low cost communication, institutional innovation, and the creation of monitoring and sanctioning rules.”
(Ostrom / Walker 2003, 62)



- Pioneer alliances
- UN for the Great Transformation
- Global cities alliances
- International development cooperation



Source: WBGU



Source: Photodisc

1. Discuss the most relevant areas of action to enable the low-carbon transformation.
2. Discuss the relevance of bottom-up initiatives vis-a-vis “big push” elements.
3. Name and discuss some criteria for transformative strategies.
4. Give some examples of existing for global governance initiatives for the low-carbon transformation.



Basic reading:

- WBGU (2011): World in Transition: A Social Contract for Sustainability, chapter 7. Berlin. <http://www.wbgu.de/en/home/>

Further reading:

- WBGU (2009): Solving the Climate Dilemma: The Budget Approach. Special Report 2009. Berlin: WBGU. http://www.wbgu.de/fileadmin/templates/dateien/veroeffentlichungen/sondergutachten/sn2009/wbgu_sn2009_en.pdf
- WBGU (2010): Climate Policy Post-Copenhagen: Action at Three Levels offers Prospect of Success. Policy Paper 6. Berlin: WBGU. http://www.wbgu.de/fileadmin/templates/dateien/veroeffentlichungen/politikpapiere/pp2010-pp6/wbgu_pp2010_en.pdf
- Ostrom, E. (2010): Polycentric systems for coping with collective action and global environmental change. Global Environmental Change 20, 550–557.



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