NEW DYNAMICS FOR EUROPE -
REAPING THE BENEFITS OF SOCIO-ECOLOGICAL TRANSITION

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Investing in People and Skills in the Danube Region

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This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement No. 290647.

Outline

- Starting condition and vision
- Social investment and the Welfare State
- Decoupling
- The green Innovation regime
- The role of the local level

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Starting situation

- Europe (EU) is a long run success model
  - from 6 to 28 (+), largest economic area
  - from trade to common market and common currency
  - catching up to technology frontier, export surplus
- Europe is also challenged
  - Economically (Recovery or lost decade)
  - Solving internal disequilibria: S-Europe (not only Greece)
  - Lacking support: unemployment, income spread, populism
  - Conflicts in neighbourhood: from Ukraine to IS, Kosovo
  - Closing technology gap to the US with high road strategy
  - Use or lose technological lead in renewables, energy efficiency
  - Refugees, Brexit

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Distracting misperceptions

- Growth will return and solve unemployment

  => return of growth is far from automatic, growth rates are unlikely to resume level necessary to reduce unemployment soon.

- Debt should be reduced quickly at any price

  => issue is one of relative returns of public investments.

- EU lacks money for future investment

  => question is one of priorities, e.g. plenty of subsidies into the “old” energy sector.

- Ageing reduces labour supply and dynamics in EU

  => Migration will continue to increase labour supply

- Cutting labour costs and standards needed for dynamics

  => Comparative advantage cannot be based on wages

⇒ Wrong conclusions, prevent optimism and success.

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WWWforEurope in a nutshell: The three goals promoting Wellbeing

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Goals

Economic Dynamics	Social inclusiveness	Ecological sustainability

▪ Income growth
  • Specifically incomes under the median income
  • Regions with low incomes
▪ Structural change, mobility, opportunities
	▪ halve unemployment, specifically for young people
	▪ reduce inequality (starting chances, gender inequality)
		• Strong reduction of fossil energy (-80%)
		▪ Doubling energy efficiency
		▪ Reduction in material consumption
		▪ Decreasing waste and use land use
		▪ Biodiversity and respecting the limits of the planet

⇒ Sustainability constraint: debt levels.	⇒ Sustainability constraint: - political stability, - avoiding polarisation.	⇒ Sustainability constraint chances for next generation.

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Three guiding principles

- Simultaneity between goals and instruments
  - Instead of silo strategies
  - The latter are expensive and inefficient
- High-Road-Strategy
  - Forfeiting low costs and standards
  - Based on capabilities, ambitions
- Two-stage strategy
  1. Consolidation and reprogramming
  2. Socio-ecological transitio

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It has to be a high-road strategy

- Productivity more important than costs
  - Enlightened version of cost competitiveness:
- Competitive advantage:
  - Quality, sophisticated products, technology
- Growth drivers:
  - Innovation, education, universities
- Ambitions/Institutions:
  - Social empowerment, ecological excellence, trust
- Objectives: Beyond-GDP goals in general

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It has to be a two-stage strategy

- In the very long run (rich countries) may have lower growth
  - Supported by decreasing marginal utility of income
  - Increasing non material values with rising income
  - Burn outs are neither warranted nor necessary
- But over the next 10 years we have to have decent growth
  - For returning to full employment, paying back public debt
  - Favouring redistribution
  - Jobs for migrants and refugees
  - Driven by investment in decarbonisation and social innovations

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Even the first stage cannot be business as usual but investment in change

- New infrastructure much less dependent on fossils
- Social innovations prepare for second stage
- Changing institutions, behaviour, awareness
- Redefine competitiveness towards Beyond GDP goals
- Reduce dominance of GDP, address goals directly
- Start double decoupling (emission and labour)
- Support industry moving towards 4.0 (lower material/ energy)

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Seven drivers of change

- Innovation: boosting and redirecting
- Dynamics: reducing inequality, investment in change
- Welfare: from protection to social investments
- Employment: symmetric flexibility + upgrading skills
- Energy: decoupling and decarbonisation
- Public sector: halving taxes on labour
- Finance: recommitting towards real economy and aligning to societal needs.

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Social Investment and the Welfare State

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Background – long term trends

- Pressure on welfare states to adapt:
  - „Quantitatively“:
    - Demographic ageing
    - Low growth rates
  - „Qualitatively“:
    - New social risks
    - Increased role of human capital
    - Increasing importance of lifecourse transitions
    - Rising economic inequality

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The SI perspective

- SI perspective on welfare state adaptation:
  - Social policy can increase efficiency and competitiveness
  - Focus on prevention through human capital development and activation
  - Life course perspective to identify appropriate policies and higher returns

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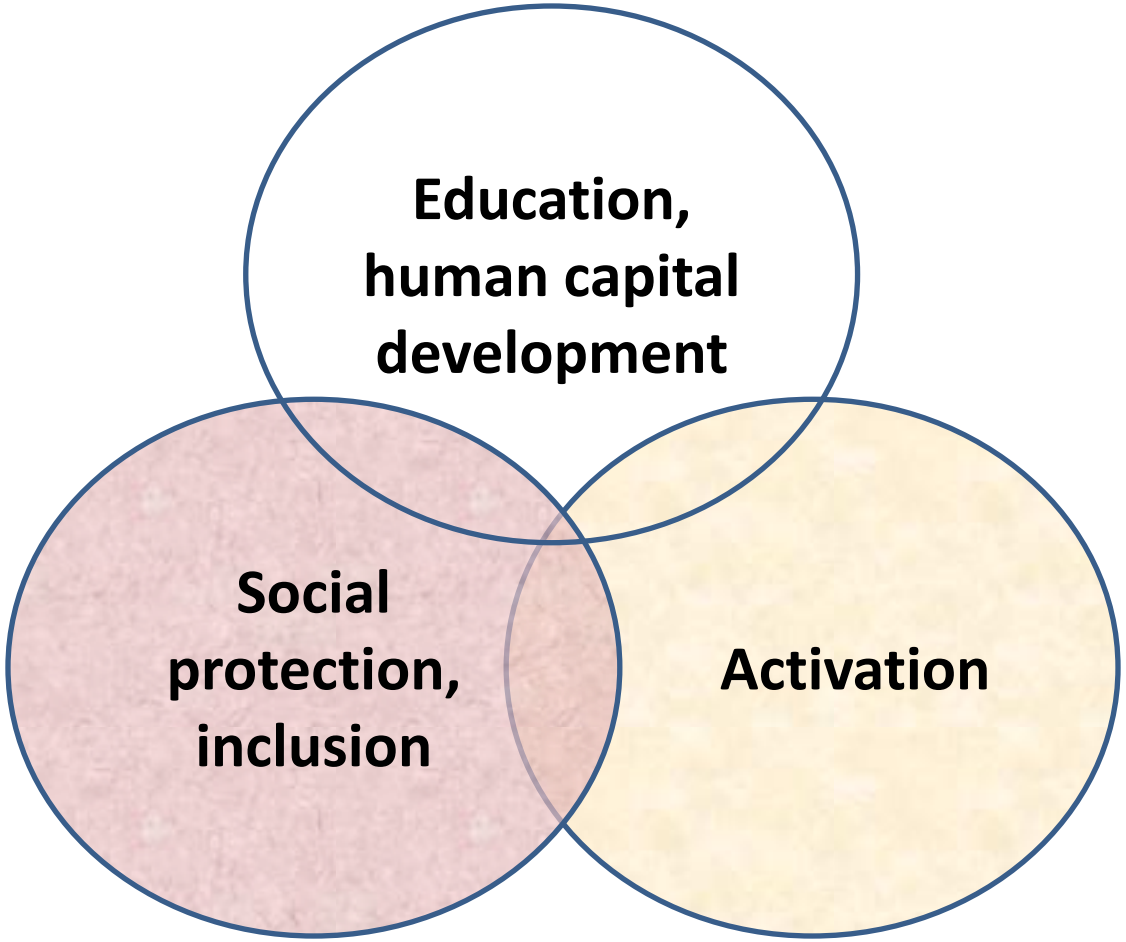
Three pillars of SI welfare state



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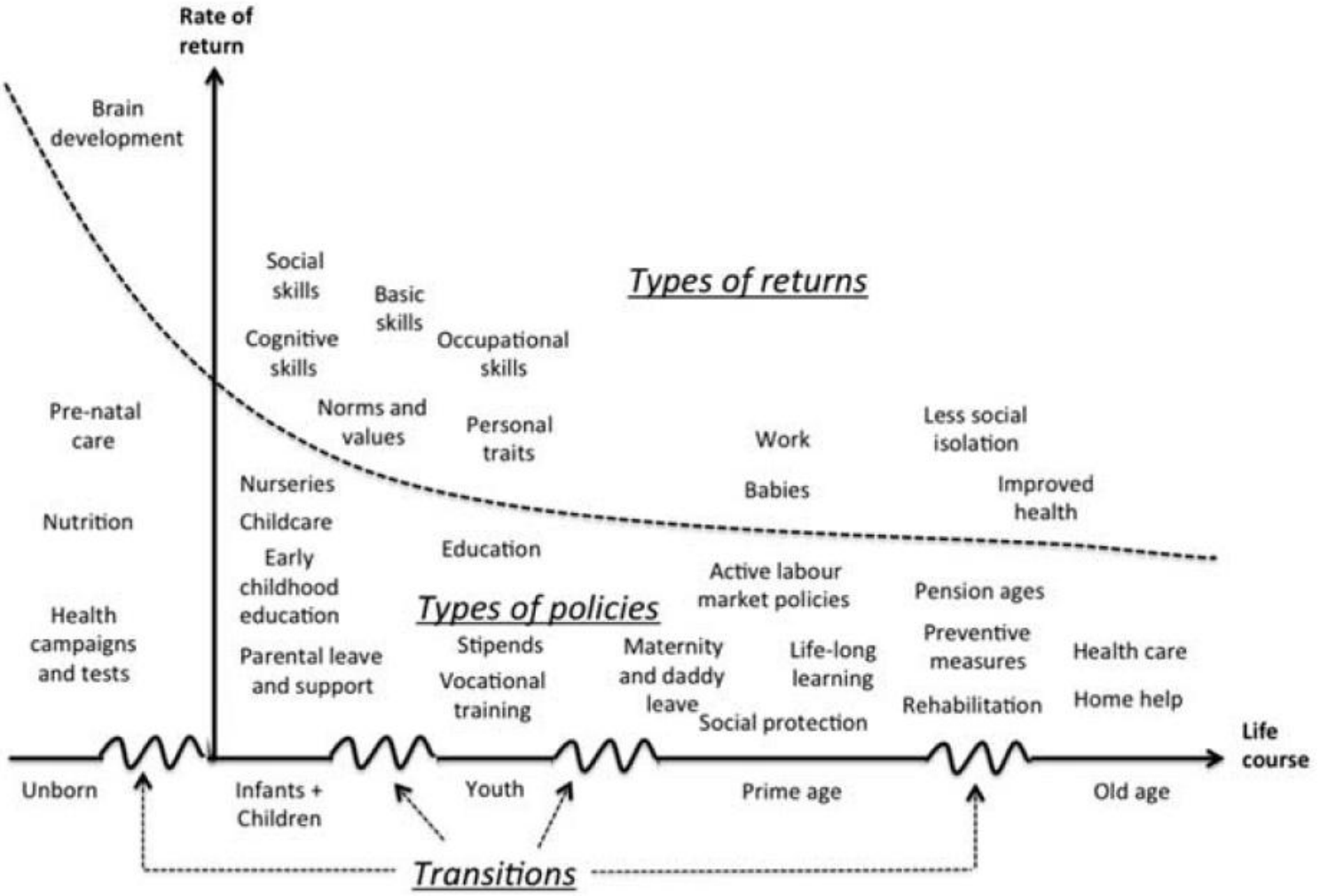
A life course perspective on social investment



Source: Kvist (2014)

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Has a „social investment turn“ taken place?

- Empirically we can observe a shift towards SI
  (*Kvist* 2013; *Nikolai* 2012; *Kuitto* 2014)

This shift is however:

- slow
- asymmetric across policy fields
- imbalanced across countries
- partly jeopardized by crisis fall-out

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The Ressource Constraint and Decoupeling

Can it be done?

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Most major metals will peak before 2050

	estimated peak year		
	pessimistic	average	optimistic
Iron	2025	2040	2080
Aluminum	2030	2130	2230
Copper	2032	2038	2042
Nickel	2022	2026	2028
Gold	2012	2013	2017
Silver	2028	2034	2040
Platinum	2010	2015	2025
Phosphorus	2025	2040	2100

source: Sverdrup & Ragnarsdottir 2014, pp 270-276

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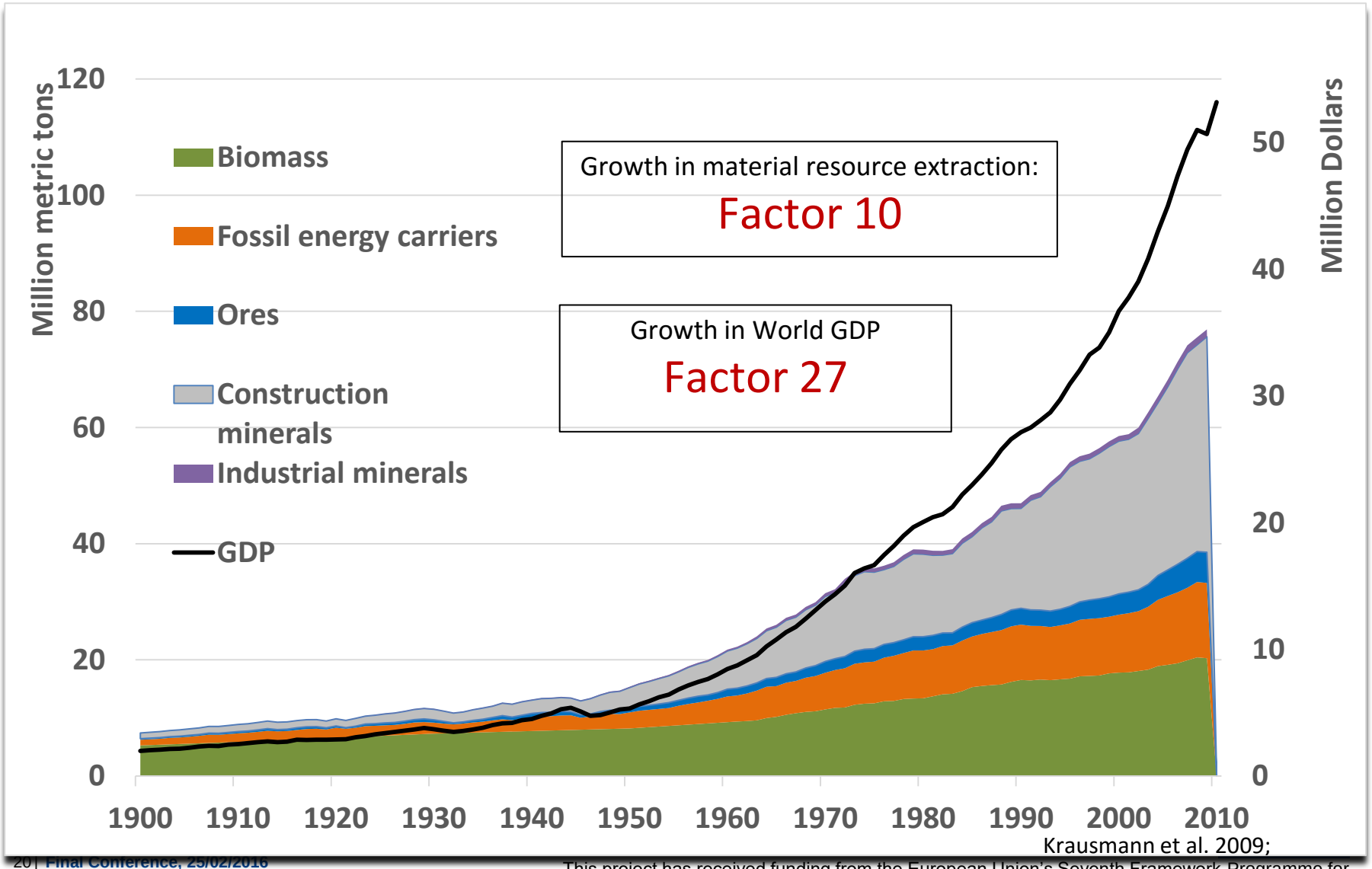
Global economic and biophysical growth in the 20th century



Krausmann et al. 2009;

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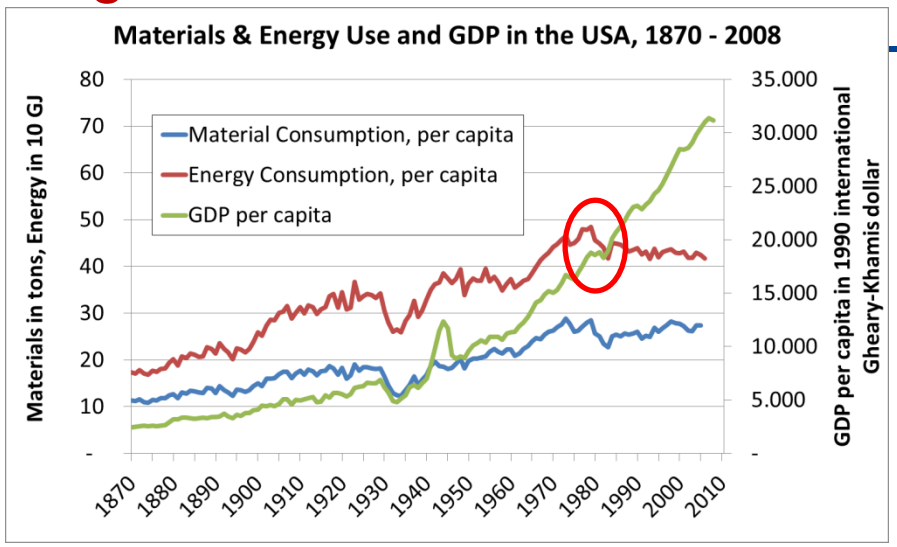
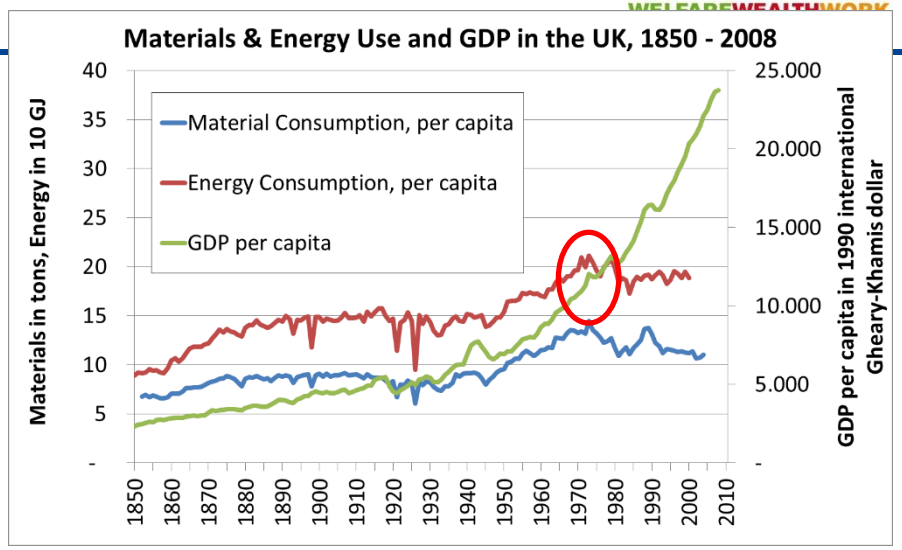
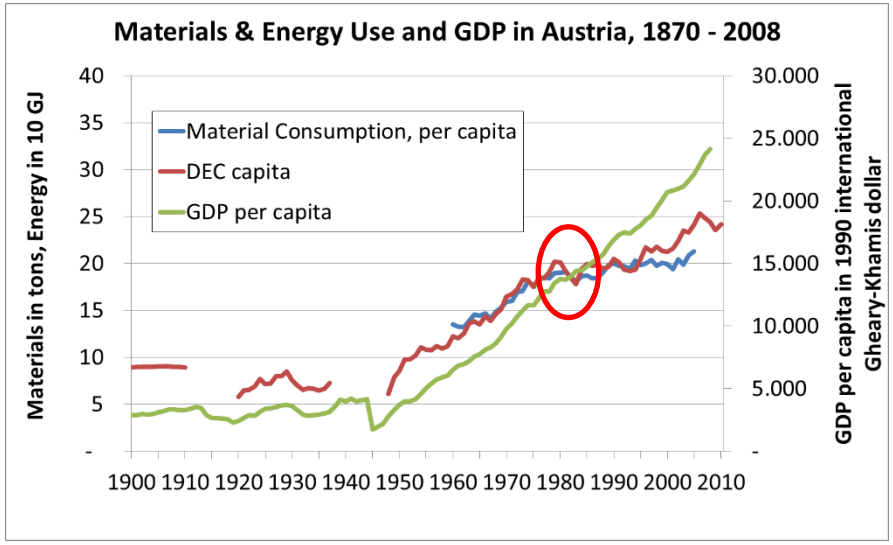
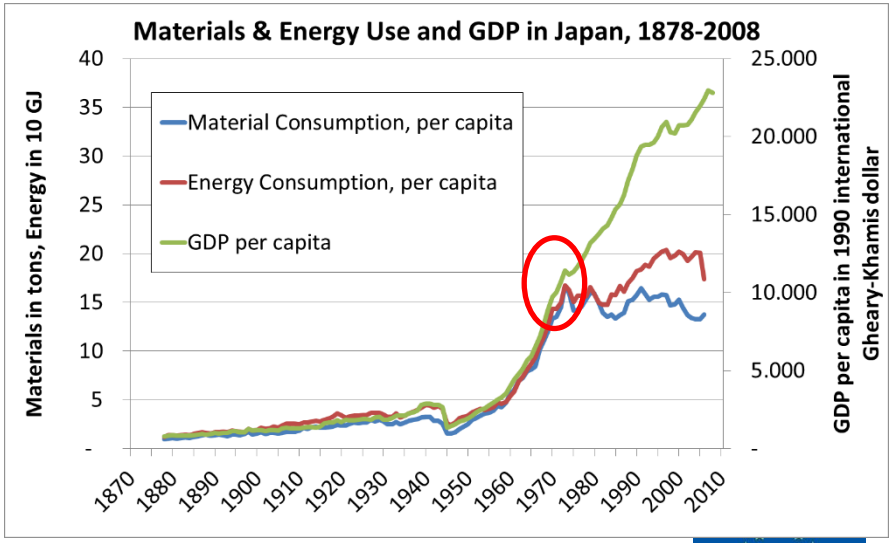
Structural breaks in Materials & Energy Use per capita in high income industrial countries in the 1970s









Gierlinger and Krausmann 2012 USA, Krausmann et al. 2011 Japan, SEC database UK and Austria, GDP data from Maddison 2010 (const. values)

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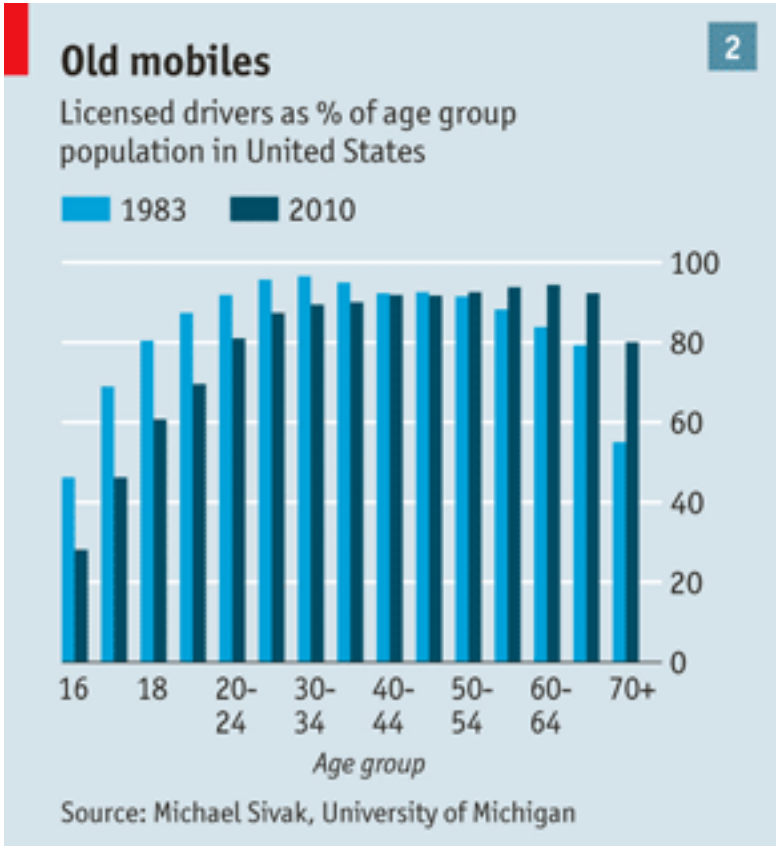
Peak Car?



The Future of Driving. Seeing the Back of the Car? The Economist Sept. 22nd, 2012. http://www.economist.com/node/21563280

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The green innovation machine

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Why we need a green innovation machine full speed

- To keep the costs of mitigation and adaptation to climate change “manageable”, we need a sufficiently wide portfolio of technologies

- These include:
  - ❑ Existing clean technologies improved and quicker diffused/deployed;
  - ❑ Speeding up of research and development of technologies in the pipeline
  - ❑ Science & Research into new technologies, not yet available or still far from large-scale commercialisation

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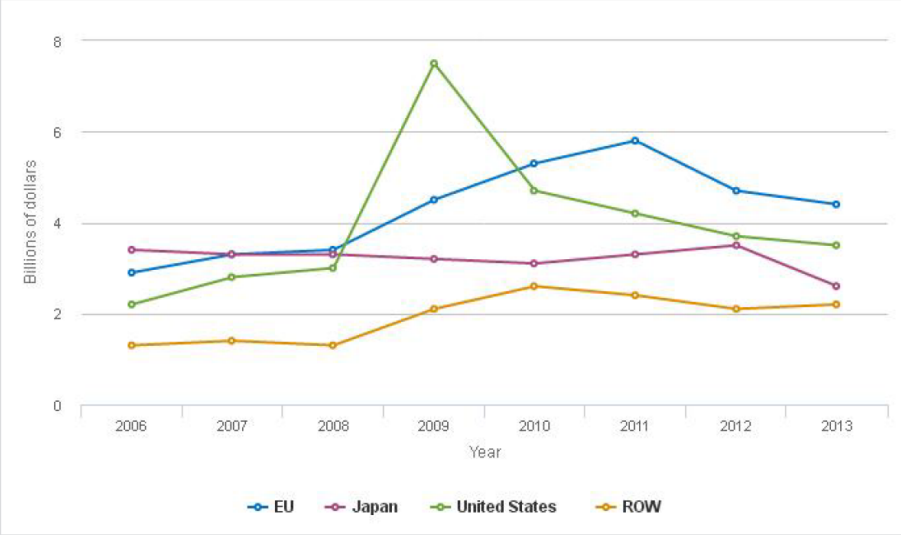
Investment in CET

Public RD&D on clean energy and other non-fossil fuel technologies, by selected region/country /economy: 2006–13



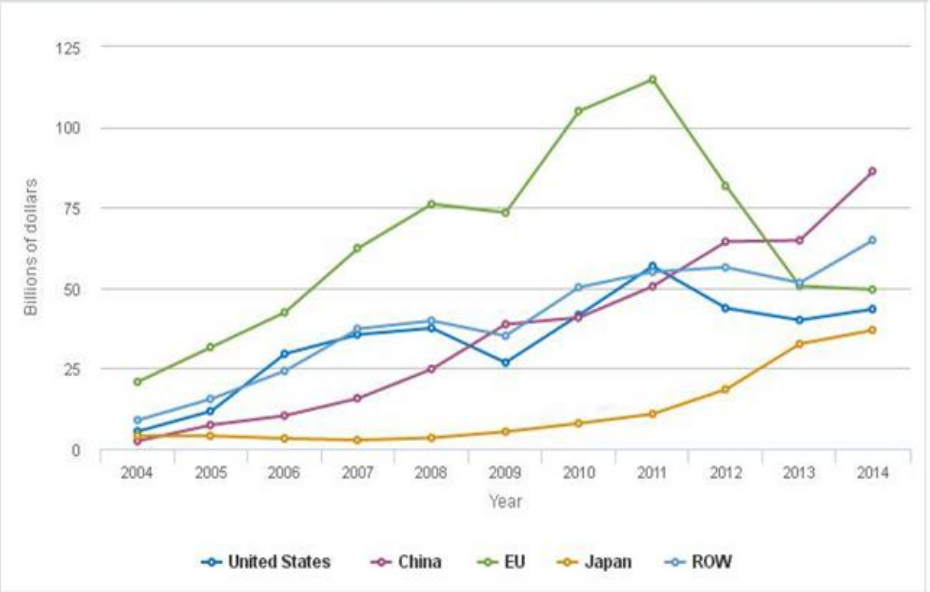
EU = European Union; RD&D = research, development, and demonstration; ROW = rest of world.

NOTES: Clean energy and other non-fossil fuel technologies include renewables (solar, wind, biofuels, ocean energy, and hydropower), nuclear, hydrogen and fuel cells, CO_2 capture and storage, other power and storage, and energy efficiency. The EU includes Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Luxembourg, Netherlands, Poland, Portugal, Slovakia, Spain, Sweden, and the United Kingdom. ROW includes Australia, Canada, Norway, and Switzerland.

SOURCES: International Energy Agency, Statistics and Balances, http://www.iea.org/stats/index.asp, accessed 15 February 2015. See appendix table 6-54.

Science and Engineering Indicators 2016

Private investment in clean energy technologies, by selected region/country/economy: 2004–14



EU = European Union; ROW = rest of world.

NOTES: Clean energy technologies include biomass, geothermal, wind, solar, biofuels, and energy smart and efficiency technologies. Private investment includes asset finance, small distributed capacity, venture capital, private equity, reinvested equity, and public markets. Mergers and acquisitions are excluded.

SOURCE: Bloomberg New Energy Finance, http://bnef.com/, special tabulations (2014).

Science and Engineering Indicators 2016

Main messages

- Reaching CC targets at affordable costs will require smooth functioning of green innovation machine
- If governments want to leverage the needed private innovations (deployment, development, research), they will have to provide a well designed time consistent policy, combining carbon pricing, regulations and public funding.
- A sufficiently high and predictable carbon price is pivotal. This will reduce the amounts needed for public funding of technologies, especially for Development, Demonstration and Deployment of later stage technologies

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Are the right policies being deployed?

- The two main instruments of policy intervention, carbon pricing and R&D subsidies have been shapeless to turn on the private green innovation machine
  - On carbon prices: relatively low level, cross country fragmentation and volatility
  - On green public R&D investments: relatively low level, uncoordinated and volatile

  Especially the lack of long-term commitment is detrimental for inciting the private green innovation machine.

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Governance at the local level

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Seven Research Questions

Research Questions

1. Is there a common understanding of *sustainability transition?*
2. Which kinds of citizen participation and user *self-organisation* can be observed?
3. Who are the *actors and what factors* motivate a socio-ecological transition in these urban resource systems?
4. What are the *lessons learned* and the reputations gained from leadership in local resource management?
5. Could we observe transitional socio-ecological *norm-adoption* towards trust and cooperation in the urban context?
6. Does *local decision-making* autonomy matter in socio-ecological transitions in relation to superior governance levels?
7. To what extent do citizens have an *equal voice* in the governance of urban resource systems?

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	Energy	Green spaces	Water
Which kinds of citizen participation and user self-organisation can be observed?	- Participation and self-organisation (P/SO) contested and sometimes problematic - Self-organisation quite uncommon	- P/SO emerge more easily and more often	- Misled understanding as private monitoring
Who are the actors and what are the factors driving local SET?	- Role of research centres and universities	- P/SO are drivers Motivated civil servants	- Water utilities are main actors
What are the lessons learned and reputations gained from leadership in local resource management?	- EU and national government needed to foster energy transition	- Cities already advanced allow innovative experiments	- Media coverage biased towards pricing
Does local decision making autonomy matter in socio-ecological transition processes	- Autonomous decision-making constrained by many intervening actors	- Generally, a high degree of autonomy is stated	- LDM autonomy is not present in all cities Awareness still low

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Conclusion

- Contribution of local and regional actors is highly heterogenous => needs analysis item for item

- But some general conclusions possible
  - **Make Sustainability Transition a Key Issue at the local level**
  - **Develop Common Criteria and Information Basis for Everyone**
  - **Develop Trust and Reputation in Joint Transition**

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Roundup

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- There is obviously a lot of room for more research!

- Basical the guidelines are clear, though:
  We need to rethink:
  - Aims – Focus on well being not growth
  - Strategies – Relating to technology, welfare policies
  - Instruments – More inclusion of civil society and local actors

- Open questions are, however, related to implementation of actual strategies in concrete (regional) contexts.

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Thank you for your attention

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