Policy instruments for Sustainable Development

From Research to Policy
=> New measures, better solutions

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Objectives:

1. Learn about **Policy instruments for Sustainable Development**

2. Improve understanding of **Research-Policy Linkages**
Rapid increase in Yields 1961-2012

The graph illustrates the rapid increase in wheat yields from 1961 to 2012. The yields are shown for India (blue line), Mexico (red line), and Pakistan (green line). The yields have significantly increased over the years, with Mexico consistently leading in yield, followed by India and then Pakistan.
Rapid Economic growth 1980-2015
Global poverty reduction 1981-2010
# 10 fastest-growing economies 2011-2015

<table>
<thead>
<tr>
<th>Country</th>
<th>Average real GDP growth p.a., percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>9.5%</td>
</tr>
<tr>
<td>India</td>
<td>8.2%</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>8.1%</td>
</tr>
<tr>
<td>Mozambique</td>
<td>7.7%</td>
</tr>
<tr>
<td>Tanzania</td>
<td>7.2%</td>
</tr>
<tr>
<td>Vietnam</td>
<td>7.2%</td>
</tr>
<tr>
<td>Congo</td>
<td>7.0%</td>
</tr>
<tr>
<td>Ghana</td>
<td>7.0%</td>
</tr>
<tr>
<td>Zambia</td>
<td>6.9%</td>
</tr>
<tr>
<td>Nigeria</td>
<td>6.8%</td>
</tr>
</tbody>
</table>

Source: IMF, The Economist
Global Pollution: e.g. Nitrogen

Source: Galloway et al. 2004
Global warming 1850-2015
Accelerating environmental pressures & urgencies

Pollution: CO₂, N₂O, CH₄ concentrations
Overfishing
Land degradation
Loss of Biodiversity
Water Depletion
Unsustainable consumption

1900 1950 2000

2015-2030
Sustainable Dev. Goals (SDGs) 2030

1. NO POVERTY
2. NO HUNGER
3. GOOD HEALTH
4. QUALITY EDUCATION
5. GENDER EQUALITY
6. CLEAN WATER AND SANITATION
7. RENEWABLE ENERGY
8. GOOD JOBS AND ECONOMIC GROWTH
9. INNOVATION AND INFRASTRUCTURE
10. REDUCED INEQUALITIES
11. SUSTAINABLE CITIES AND COMMUNITIES
12. RESPONSIBLE CONSUMPTION
13. CLIMATE ACTION
14. LIFE BELOW WATER
15. LIFE ON LAND
16. PEACE AND JUSTICE
17. PARTNERSHIPS FOR THE GOALS
But HOW do we get there?!
“There are Planetary Boundaries but also Planetary opportunities” (DeFries et al 2012)

Analysis and Wise use of Policy instruments at the right scale offer Planetary Opportunities!
### Policy instruments

**Incomes from pollution, emissions & NR depletion**

<table>
<thead>
<tr>
<th>Regulatory instruments</th>
<th>Economic instruments</th>
<th>Public engagement, knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Using markets</strong></td>
<td><strong>Creating markets</strong></td>
<td></td>
</tr>
<tr>
<td>• Regulations</td>
<td>• Taxes, Levies</td>
<td>• Information</td>
</tr>
<tr>
<td>• Emission standards</td>
<td>• Fees, fines</td>
<td>• Extension advice</td>
</tr>
<tr>
<td>• Bans, penalties</td>
<td>• Royalties</td>
<td>• Env certification</td>
</tr>
<tr>
<td>• Licenses, permits</td>
<td>• Subsidies</td>
<td>• Eco-labeling</td>
</tr>
<tr>
<td>• Quotas, norms</td>
<td>• Emission charges</td>
<td>• Codes of conduct</td>
</tr>
<tr>
<td>• Certification</td>
<td>• Product charges</td>
<td>• Info disclosure</td>
</tr>
<tr>
<td>• Zoning</td>
<td>• User fees etc.</td>
<td>• Research</td>
</tr>
<tr>
<td>• Public procurement</td>
<td>• Green bonds</td>
<td></td>
</tr>
</tbody>
</table>

...implementation requires political will, institutional reforms & capacity development

Ref: Coria and Sterner 2011; Natural Resource Management: Challenges and Policy Options
Industries impose costs on others, but have little incentives to reduce their pollution.
Tax on pollution

Price (p)

Produced Quantity, q

Too high Pollution level

q* (w tax)
Price & Demand for Petrol in selected countries.

Ref: Thomas Sterner, (2007); Fuel taxes: An important instrument for climate policy
Applications of Green economic instruments: Water Tariffs

1. No Charge

Advantages
- no meter, no administration to collect charges needed
- Simple (for consumers)
- consumers love it

Disadvantages
- no awareness on value of water
- no incentive to conserve water => water is used unsustainably
- No revenues; Cost recovery impossible => deteriorating services

Price ($)

Water is free

P=0

Litres, m³
2. Fixed price (uniform charge) -
Monthly water bill independent of water volume consumed

**Advantages**
- No metering system needed
- Easy to administer
- Provides stable cash flow if set at appropriate level
- Advantageous for big consumers

**Disadvantages**
- No awareness on value of water
- No incentive to conserve water
- Cost recovery difficult
- Water might be sold at higher prices by street vendors to households with no access
Increasing Block Tariff - price on water increases as consumption volume increases

**Advantages**
- Ensures cost recovery by well designed blocks
- Poor households connected to the network provided with affordable water
- Promotes water conservation

**Disadvantages**
- Tariff design is complex
- Difficult to implement, especially if metering system not in place
- Consumers do not pay full cost of water supply
- Penalises large poor families and/or shared connections
4. Lifeline tariffs - Increasing Block Tariffs, Income-adjusted price

Price ($)

Non-qualified users

Qualified users

Near free basic service

litre
Renewables: Accumulated global wind & solar capacity
Energy reforms in E. Europe & Balkan
Increasing price per kWh in real terms

Graph showing the average price per kWh in US cents from 2000 to 2010 for different countries, including Turkey, Croatia, Montenegro, Albania, Kazakhstan, Serbia, Bosnia and Herzegovina, and Macedonia, FYR.
...still, the prices are too low
Key factors for Successful Implementation of Policy instruments

- **Property rights** – ownership rights, users right, title deeds, access to credits, insurance etc.
- **Governance** – Govt. accountability, political buy-in, ownership, transparency, enforcement
- **Information** – access, who knows what?
- **Distribution** – of costs and benefits of green reforms

Ref: E. Somanathan and Thomas Sterner, 2006; Environmental Policy Instruments and Institutions in Developing Countries; in Lopez and toman (ed.)
Sterner:
Fuel taxes an important, cost-effective & powerful economic instrument for environment & climate policy
– BUT political economy issues matter greatly for successful implementation!”

Ref: Thomas Sterner, (2007); Fuel taxes: An important instrument for climate policy
NIGERIA LABOUR CONGREGATION REJECTS FUEL SUBSIDY REMOVAL.
HOW to get there?!

How to attain the SDGs?
**One** way to get there is to improve Research-Policy engagement

=> strengthen the "Research-Policy Interface"
Research to Policy – but HOW?

• Develop **detailed understanding** of **key policy processes**
  – Key influencing factors? Entry points?
  – Key stakeholders/actors/messengers?

• Develop a **strategy** for linking research to policy
  – build long term programs of credible research
  – ensure evidence is credible & practically useful
  – keep an eye out for/react to policy windows

• Be **entrepreneurial**
  – get to know & work with policymakers,
  – identify political supporters & opponents
  – communicate effectively, build networks
Conclusions

- Informing policy is not influencing policy
- Govts receptive to new info, especially during policy reforms
- Timing is key => sequencing knowledge inputs & timely advice most effective
- Researchers can be “knowledge brokers”
- If you want to make a difference you need: the will, a goal, a plan, skills
Conclusions (2)

• Persistence in research essential (10-20 yrs) => builds own skills, reputation, relations

• Communication: Focus on results, & practical use (not data, theory, methods etc.)

• Focus: High-level civil servants larger impact in the long-run. Politicians come & go

• Govt’s adaptive capacity often insufficient => offer to build analytical capacity