

Environmental Benefits of Removing Restrictions to Energy Trade

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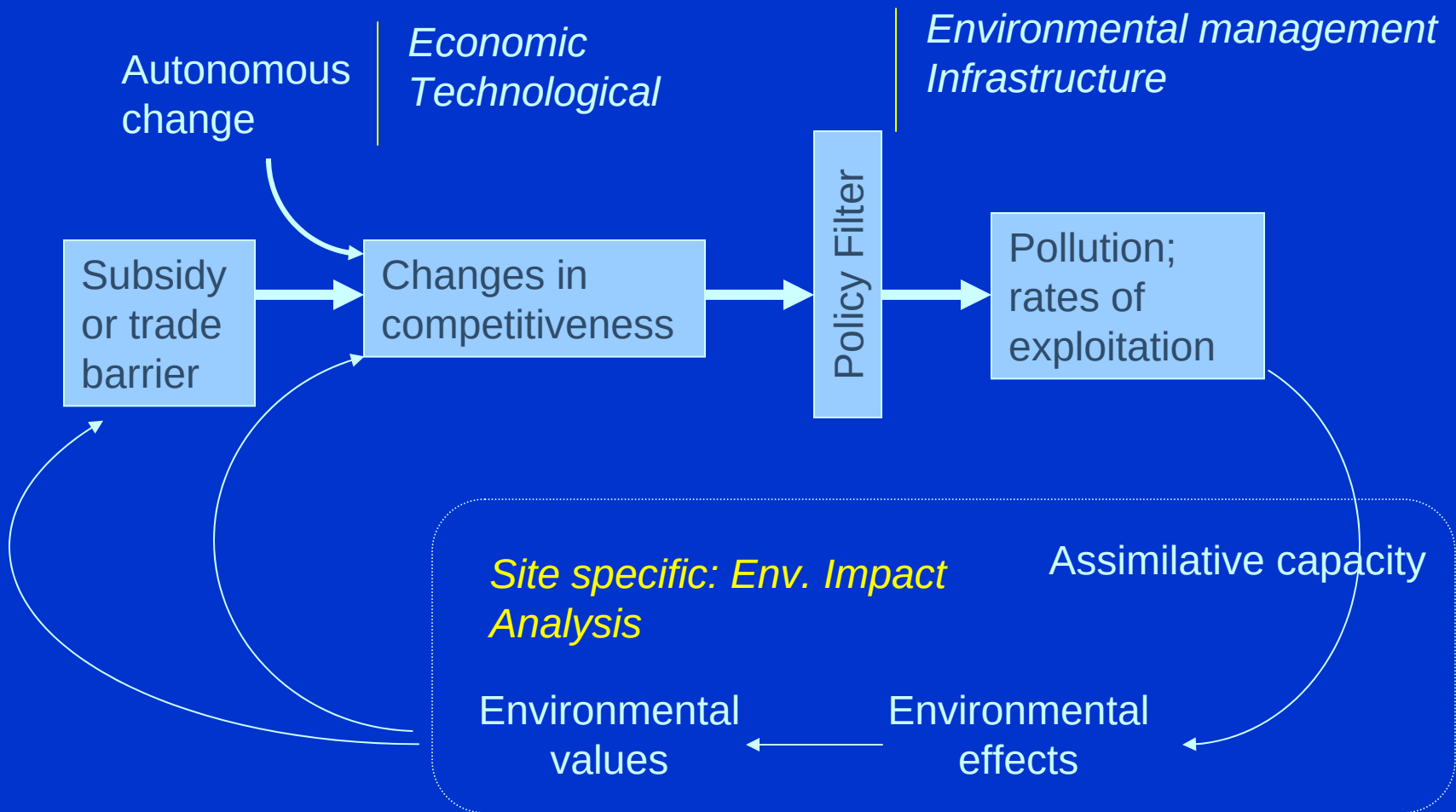
What do we mean by restrictions on trade?

$$\begin{aligned} &\text{Protection (tariffs, NTBs)} \\ &+ \text{Subsidies (cost to govt.)} \\ &= \text{Support} \end{aligned}$$

Environmental effects depend on:

- ✧ Changes in production
- ✧ Changes in factor inputs (land, labour, capital) and intermediate inputs (e.g., fuel)
- ✧ Regulations limiting environmental damage, particularly whether proportional to activity of regulated industry, or capped

Pathways between trade barriers and environmental effects



Source: Jan Pieters, "When Removing Subsidies Benefits the Environment", Presentation to OECD Workshop on EHS, 7 Nov. 2002.

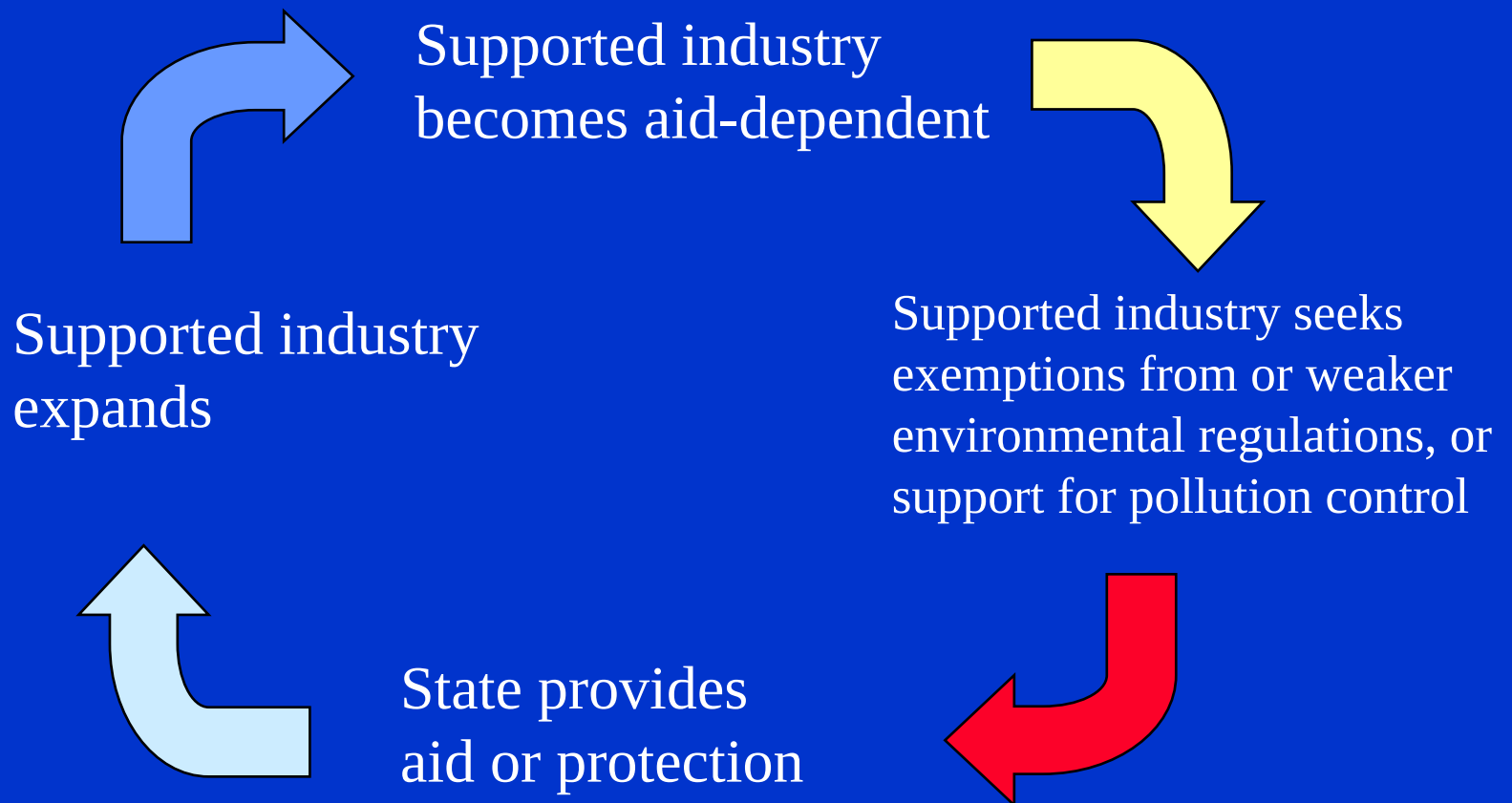
Partial effects of support (1)

- ✧ Stimulation of production of fossil fuels
 - Perhaps in environmentally sensitive area, using wrong technology
- ✧ Stimulation of consumption of fossil fuels
 - Thereby encouraging waste, discouraging fuel-saving investment
- ✧ Stimulation of production and consumption of electricity
 - Same as above, but even support for alternative energy sources can rebound

Partial effects of support (2)

- ✧ As production industry becomes less competitive, pollution-prevention costs mount
- ✧ Resources get diverted to pollution control, rather than pollution prevention
- ✧ Innovation and invention is stifled or dead-end innovation is pursued

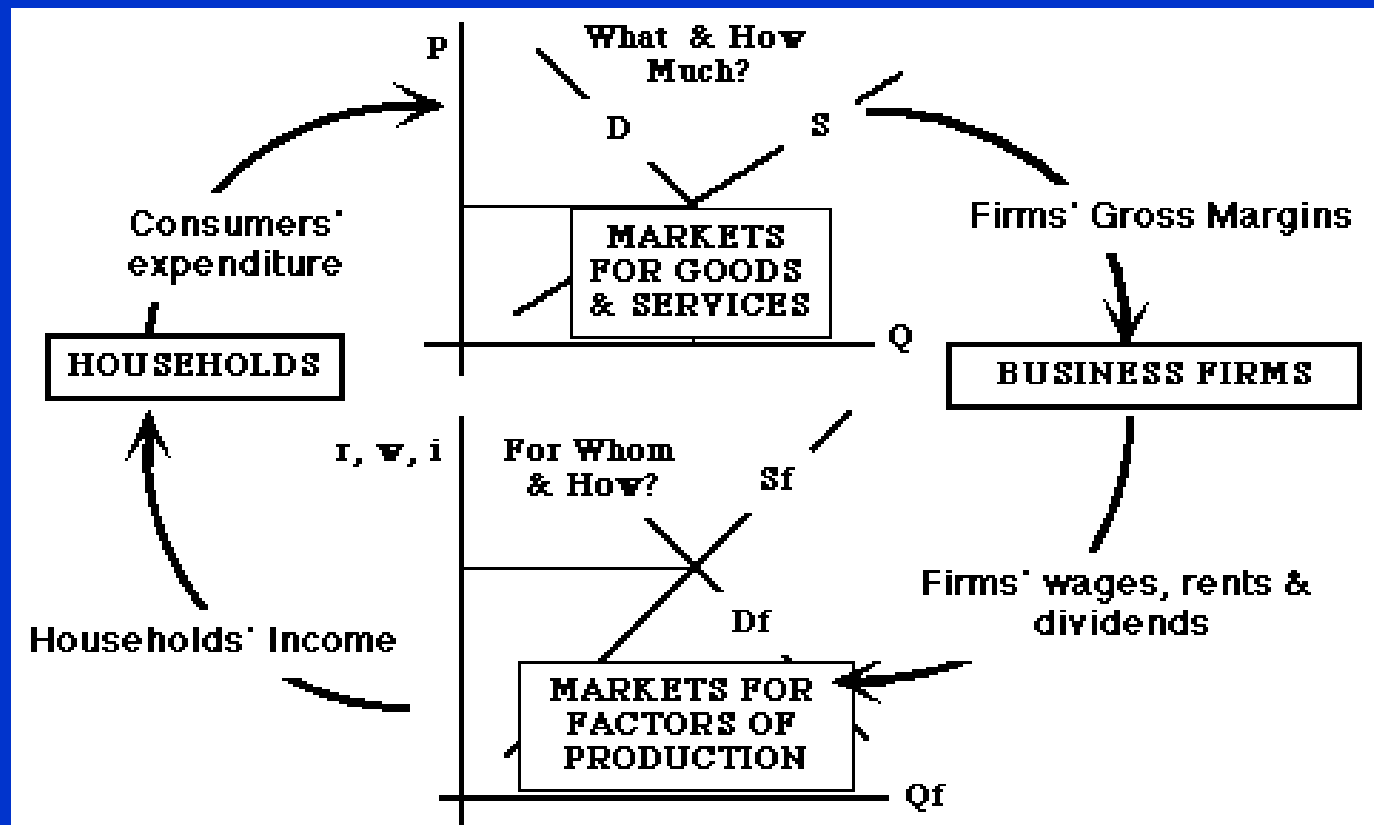
Political-economy perspective (simplified)



Examples: coal

- ✧ Many “demonstration” clean-coal plants in western Europe built to burn local coal
- ✧ Clean-coal technology programme in USA required coal for programme power plants be procured domestically
- ✧ Clean-coal and other programme funding extended well beyond initial sunset dates

General equilibrium perspective



Source: <http://www.staff.ncl.ac.uk/david.harvey/AEF116/REVISION/Rev1.html>

Environmental effects

Different perspectives

- ★ General equilibrium
- ★ Partial equilibrium
- ★ Political economy

General equilibrium

- ★ OECD (Burniaux *et al.*, 1992) — Real income of world increases 0.7% per annum
- ★ World Bank (Larson and Shah, 2002) — Non-OECD income gains of \$35 billion a year
- ★ OECD (2001) — Liberalisation reduces GHG emissions of most liberalising countries (Japan notable exception).

Partial equilibrium

- ★ Steenblik and Coroyannakis (1995) — Showed that, in Europe, even one-for-one substitution of foreign for domestic coal would reduce SO₂ emissions, methane emissions from mining, and yield many other + effects.
- ★ IEA (1999) — Studied effects of removing consumer subsidies (mainly for oil and natural gas) in selected developing and transition countries (including China, India, Indonesia, Russia). Economic efficiency gains (avg. 0.73% of GDP); energy intensity and carbon intensity of fall; net reduction of energy consumption (13%) and CO₂ emissions (16%)

Political economy (example coal)

- ✧ Desire to maintain production meant price was not the market-clearing mechanism (volumes pre-determined)
- ✧ To meet consumption targets electricity generation companies kept open old plants
- ✧ Industries lobbied against tighter SO₂ limits
- ✧ Reform led to closure of oldest plants, switch to cleaner fuels

Let's get specific

What do we mean by restrictions on trade?

- ✧ Import tariffs
 - High tariffs
 - Tariff peaks
- ✧ Export tariffs
- ✧ Non-tariff barriers on goods
- ✧ Barriers to trade in services

Tariffs on non-renewable energy products and electricity

- ✧ Most OECD countries apply low tariffs already (duty free or a few %)
- ✧ Developing-country tariffs are usually also low (5-10%), but some up to 30%
- ✧ Countries in transition apply low tariffs on coal, various tariffs on petroleum
- ✧ Tariff escalation applies mainly to highly refined products and lubricants

Tariffs on renewable energy products

- ✪ Several OECD countries that produce ethanol from farm products apply tariffs on ethanol used for fuel
 - *USA*: \$0.1427 per litre
 - *EU*: €0.192 per litre
- ✪ Tariffs applied by developing countries vary widely, and tend to be higher on goods that they produce than ones they do not
 - *Barbados*: 60% on solar water heaters; 5% on PV generators
 - *Kenya*: most technologies duty-free, except used solar-water heaters
 - *Thailand*: 20% on solar water heaters; most else 10% or less

Non-tariff barriers to trade in goods

- ✧ *Technical barriers to trade* (TBTs), such as certification and testing that are not required by, or that favour, domestic manufacturers
- ✧ Certain behaviours of State Trading Enterprises (STEs)
- ✧ *Subsidies* that favour domestic suppliers.
- ✧ Non-competitive *public procurement*, or worse (influence pedalling, bribery and corruption)

Barriers to trade in energy services

- ✧ *Barriers to Mode 3 (commercial presence)* — e.g., restrictions on forms of establishment (partnerships, sole proprietorship, and incorporation); repatriation of profits; etc.
- ✧ *Barriers to Mode 4 (movement of natural persons)* — e.g., burdensome administrative practices; restrictions on access to information; refusal to recognise qualifications
- ✧ *Subsidies that favour domestic suppliers*
- ✧ *Non-competitive public procurement*

Previous multilateral and bilateral attempts to reduce trade barriers had mixed results at best

- ✪ European Coal and Steel Community
- ✪ GATT Uruguay Round initiative on natural-resource-based products (1988-92).
- ✪ APEC voluntary sectoral liberalisation initiative (EVSL) to accelerate voluntary reductions in barriers to trade in energy products and energy-related services.

Level the playing field, but avoid renewable-energy fallacies

- ✧ *Protection always helps infant industries*
 - Can (wind power)
 - But not necessarily; can hinder tech transfer
- ✧ *Support for domestic industries increases jobs*
- ✧ *Renewable energy always equals clean environment*
 - Inputs to biofuel production
 - Hydro dams (if poorly designed and built)
 - Raw material inputs
 - Sites, too are scarce

Conclusions

- ✧ Environmental effects depend on many intervening factors; but most studies show benefits of removing trade barriers and subsidies
- ✧ First step to domestic reform requires understanding political economy of support
- ✧ Discussion of energy trade reform needs to get specific
- ✧ Good thing that countries are reviewing policies to ensure that renewable energy is promoted in a trade-friendly way

Thank you for your attention.

Questions?