Evaluating Environmental Policies and Programs in the Context of Multi-Level Governance

Per Mickwitz

The Finnish Environment Institute (SYKE)

Environmental Evaluator's Networking Forum

June 22, 2006

How will I use my 20 minutes?

- Some conceptual slides
  - 7 minutes
- Case study examples
  - 12 minutes
- Summary of the main points
  - 1 minute

What do I mean with multi-level?

Global level

Policies & Programs

The Economy

Knowledge

The Environment

Local level

SYKE

What do I mean with multi-level?

Global level

Policies
&
Programs

- International (UN, Kyoto, …)
- Federal (EU, USA)
- Country – State (Finland, Alaska,…)
- Region (Kymenlaakso,…)
- Municipal (Helsinki, Boston,…)

Local level

SYKE

Policies and programs at which level should be evaluated?

Global level

Policies & Programs

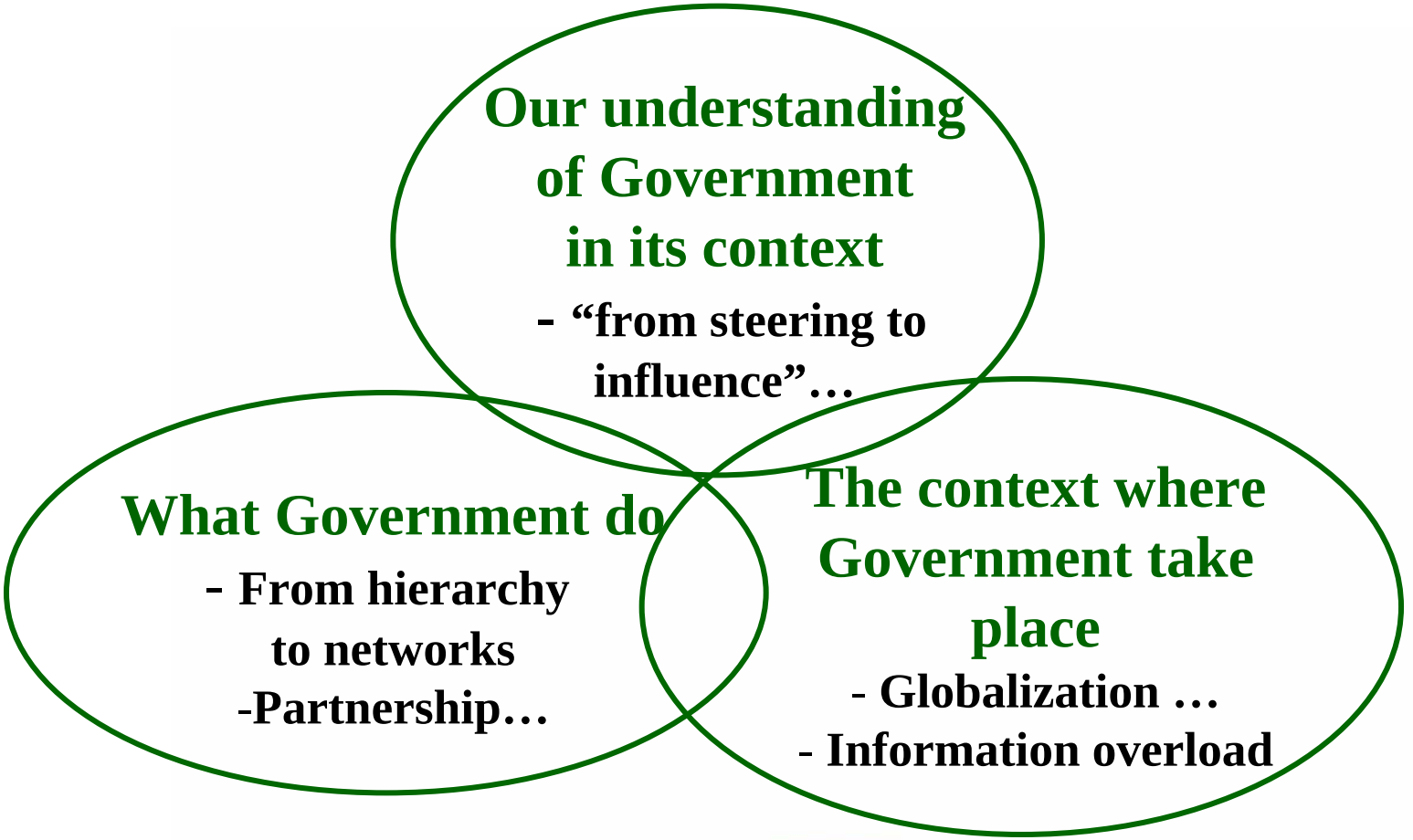
- International (UN, Kyoto, …)
- Federal (EU, USA)
- Country – State (Finland, Alaska,…)
- Region (Kymenlaakso,…)
- Municipal (Helsinki, Franklin,…)

Local level

At all levels and the interaction with the other levels should be considered.

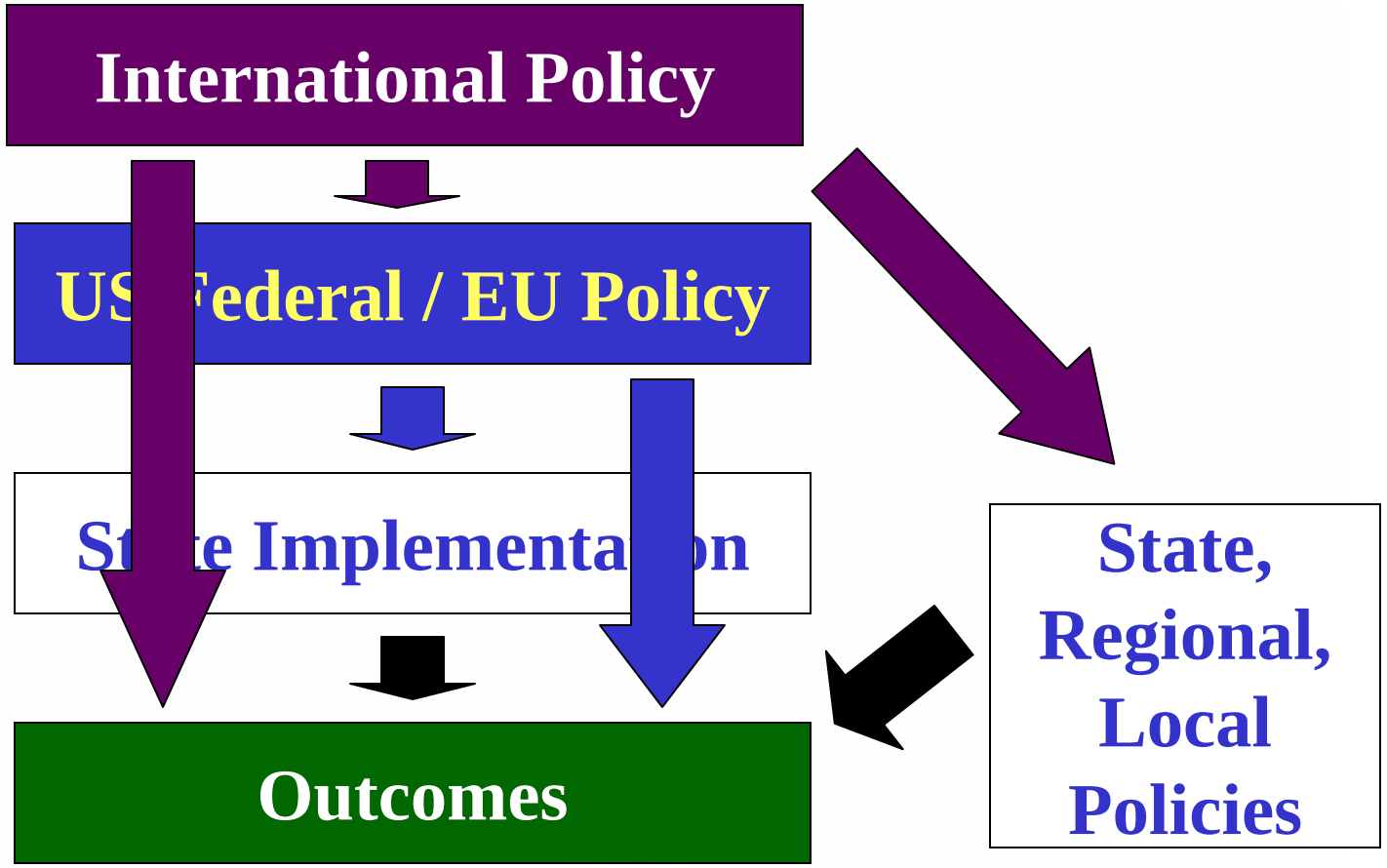
What do I mean with Governance?

"*From Government to Governance*"



SYKE

The top-down implementation model



SYKE

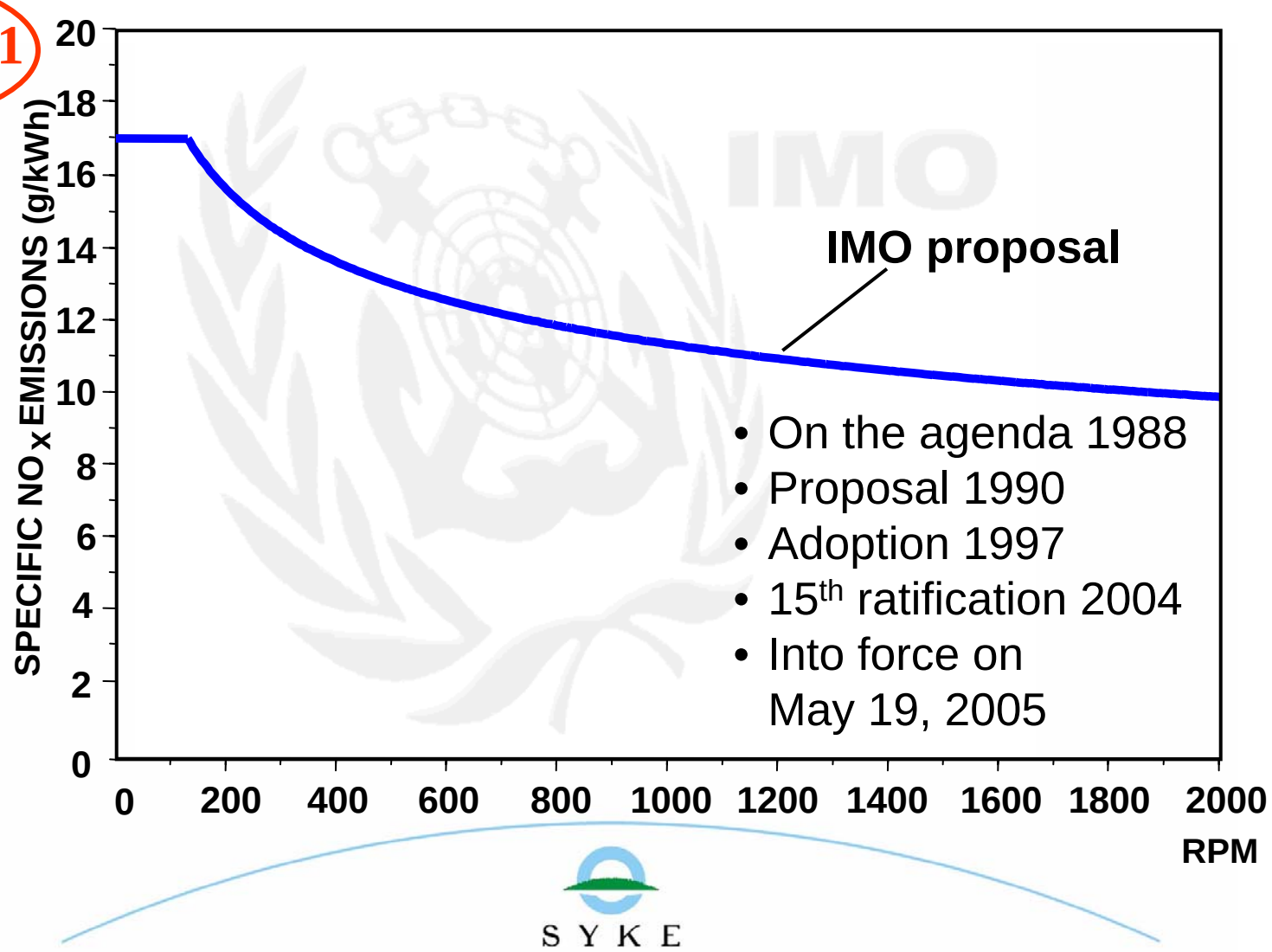
Example: Marine NO_x emissions

International Policy 1

EU Policy

National Implementation

Outcomes



SYKE

Example: Marine NO_x emissions

International Policy

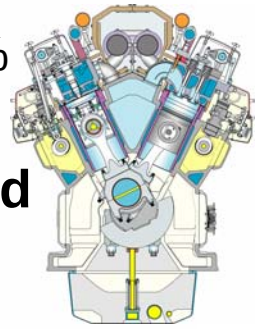
EU Policy

National Implementation

Outcomes

2

- **Low NOx Combustion** (25 - 35% reduced NOx)
  - Today standard in all Wärtsilä engines
- **Direct Water Injection** (50 - 60% reduced NOx)
  - **Development started 1990**
  - **First engine in use in January 1999**
  - **In February 2003: 53 delivered & ordered**
- **Selective Catalytic Reduction** (85-95% reduced NOx)
  - **In February 2003: 60 delivered & ordered**



WÄRTSILÄ

SYKE

Example: Marine NO_x emissions

International Policy

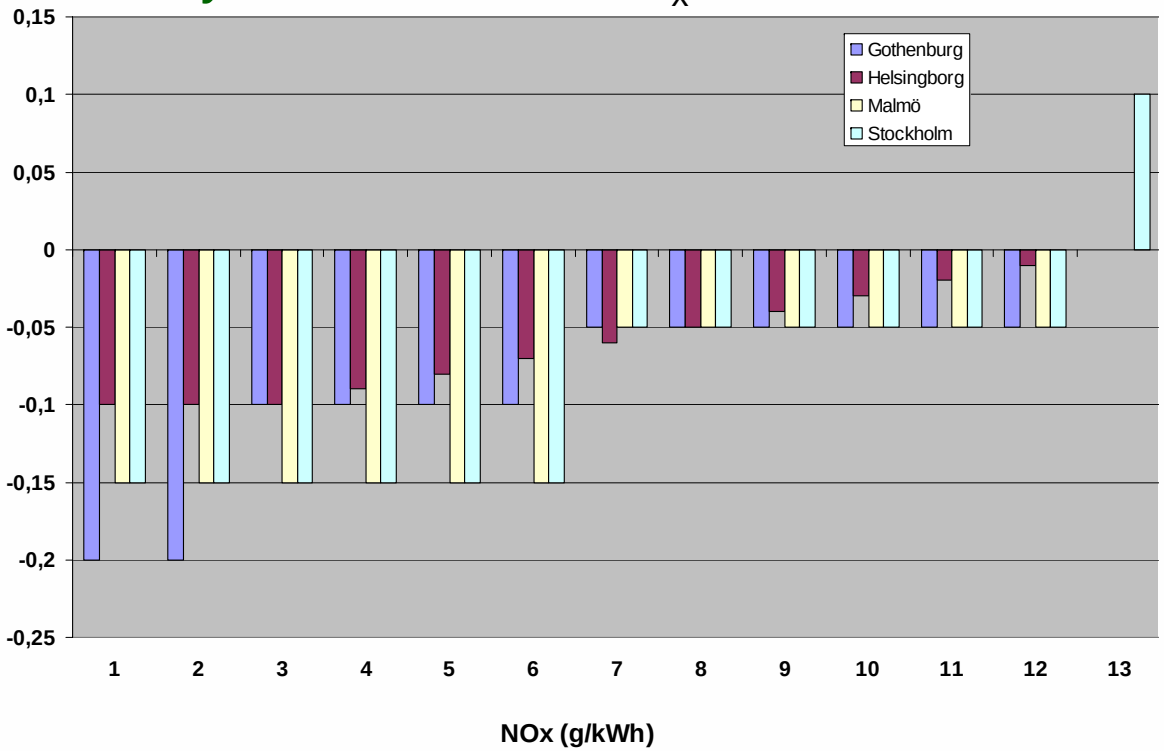
EU Policy

National Implementation

3

Outcomes

- Swedish ports have differentiated harbour & fairway fees based on NO_x emissions



SYKE

Example: Marine NO_x emissions

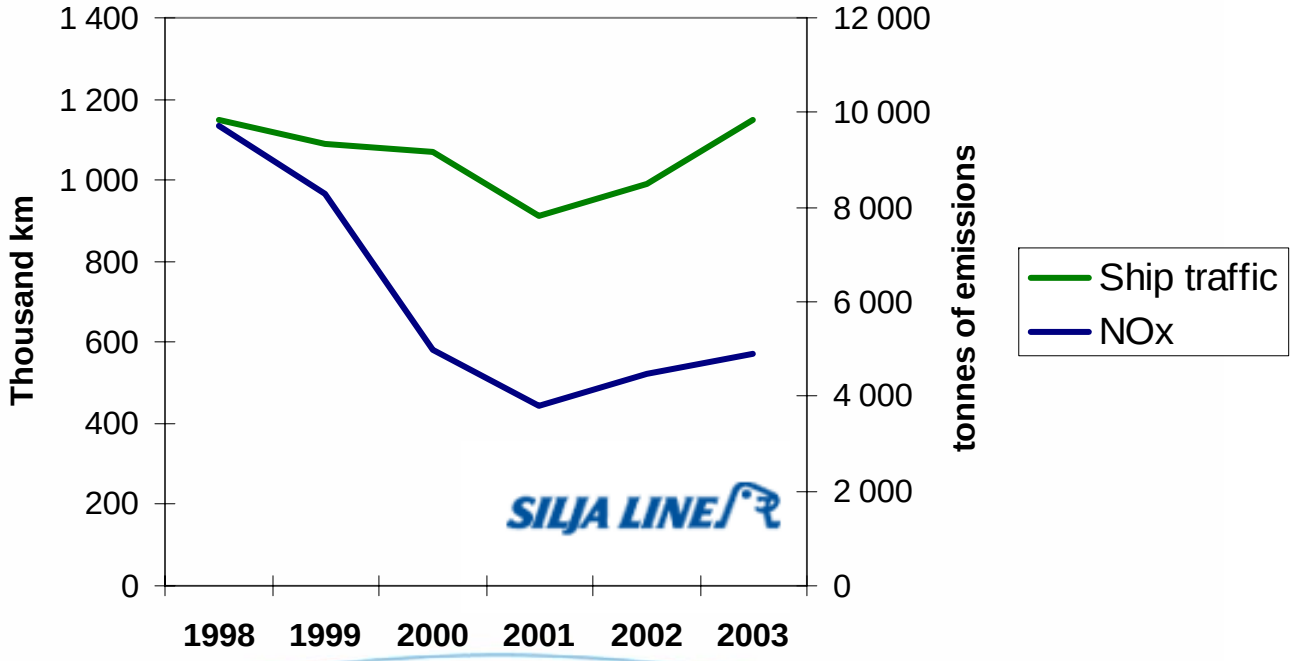
International Policy

EU Policy

National Implementation

Outcomes

4



SYKE

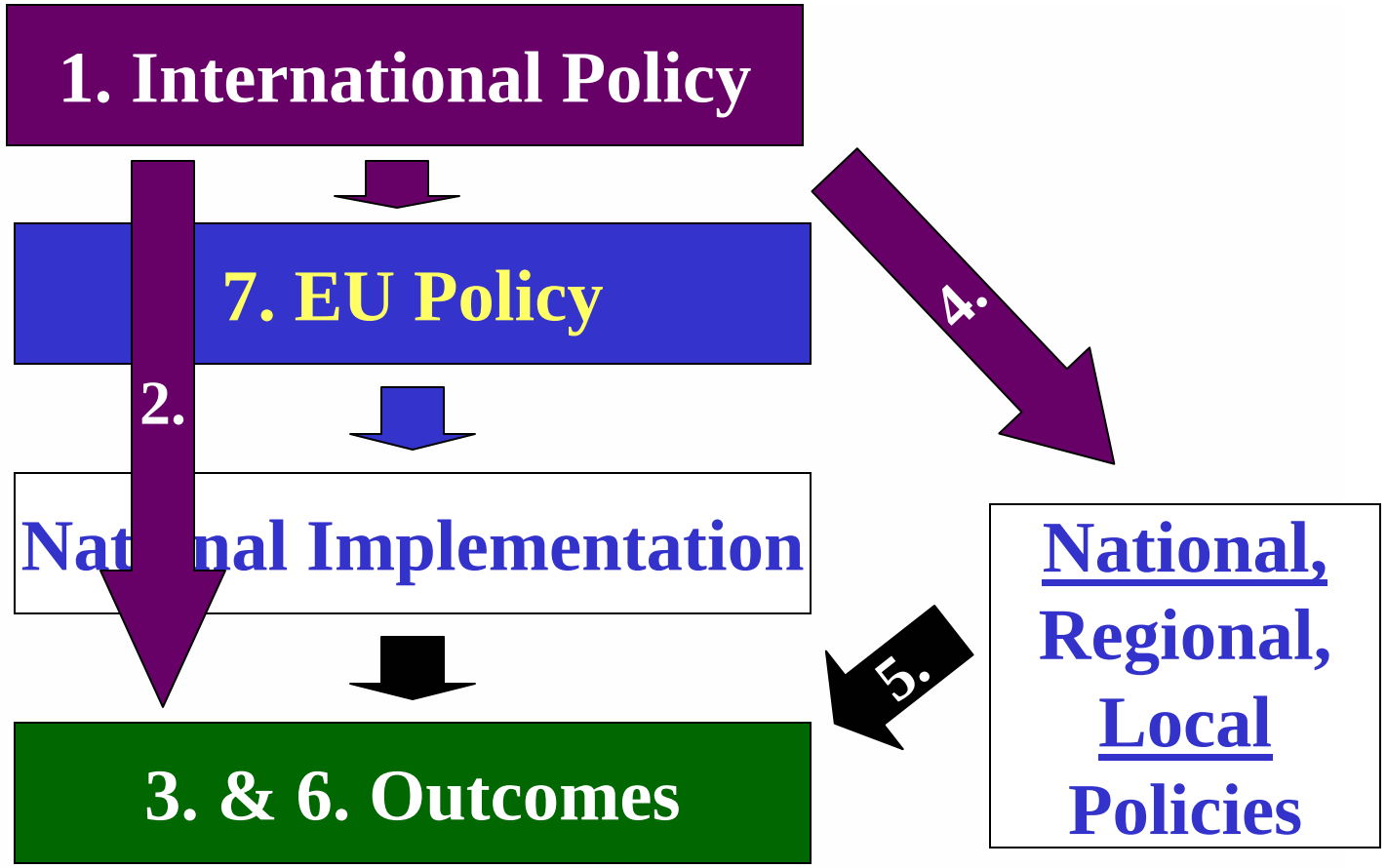
Example: Marine NO_x emissions

- EU is preparing action:
  - Commission of the European Communities. A European Union strategy to reduce atmospheric emissions from seagoing ships. Communication from the Commission to the European Parliament and the Council. COM(2002) 595 final, Brussels, 20 November 2002.

SYKE

The top-down implementation model

Marine NO_x emissions

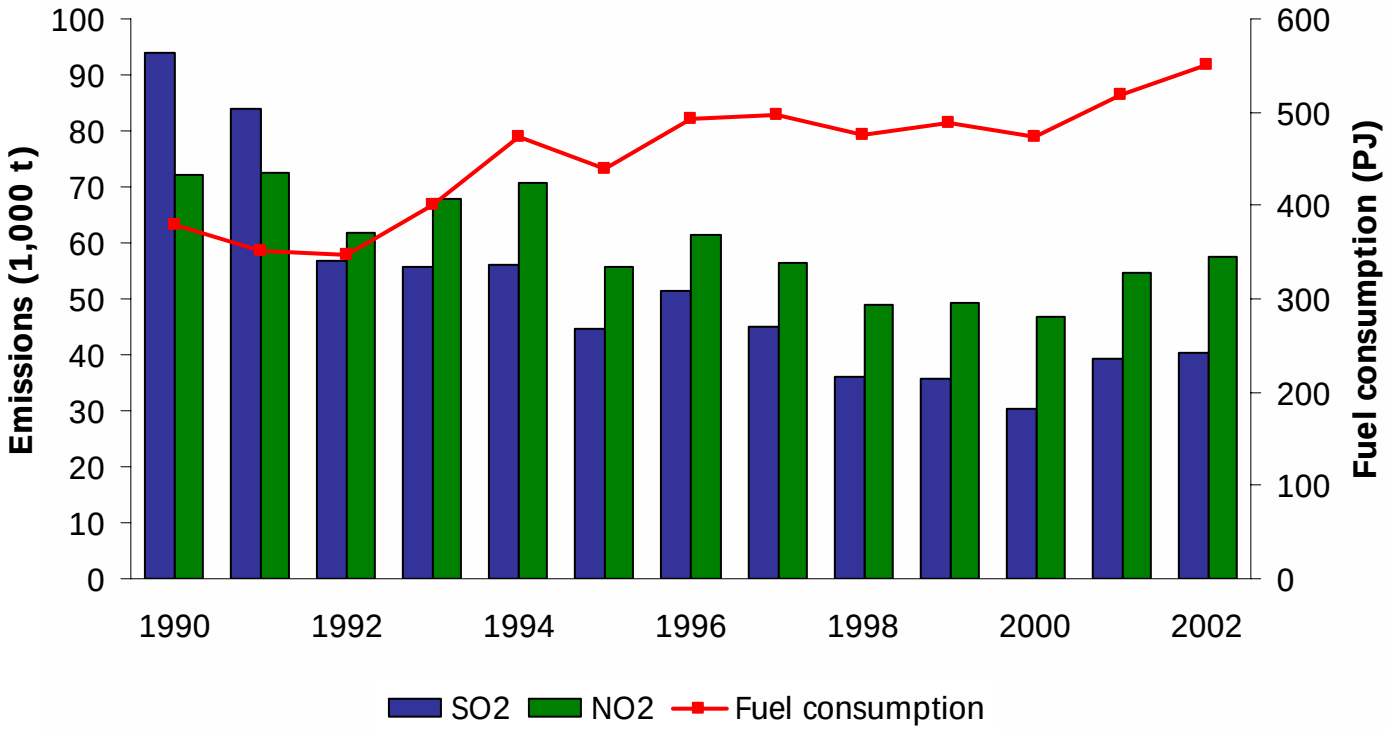


SYKE

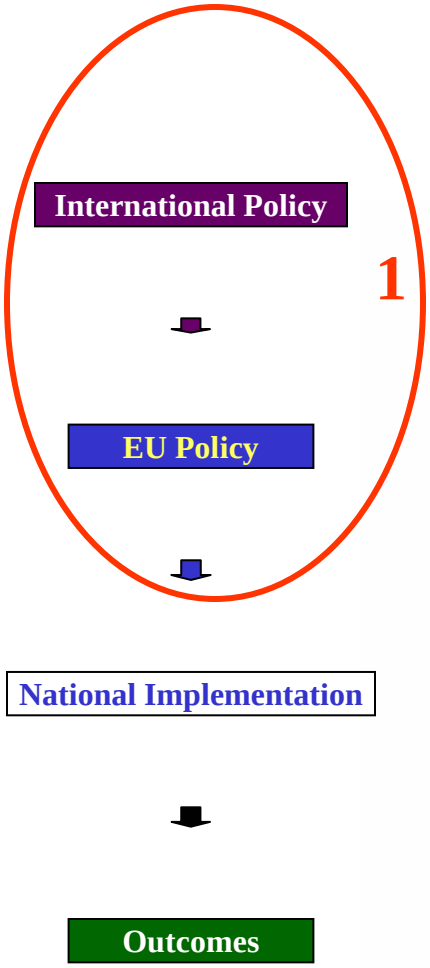
Three important point for Evaluation in the context of multi-level governance

- The effects were not linear top down
- Policies at different levels supported each other
- The international agreement had effects 15 years before it entered into force

De-coupling of emissions from energy production



SYKE



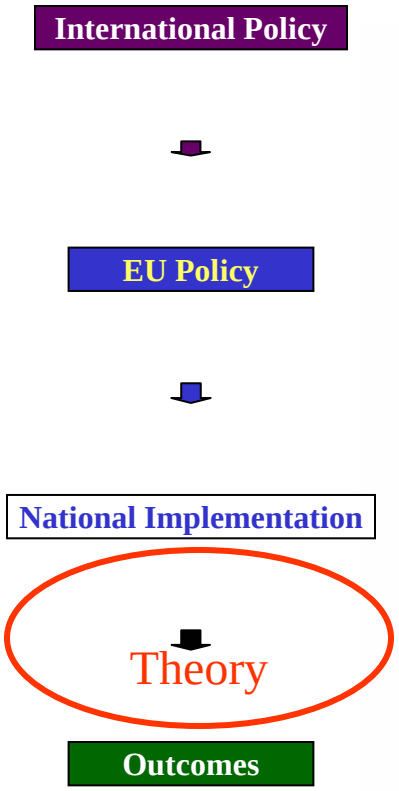
Example:

Energy SO_2 & NO_x emissions

- The Geneva Convention on Long-Range Transboundary Air Pollution, adopted in 1979 and entered into force in 1983
  - *The Helsinki Protocol - 30% SO_2* was signed in 1985 and entered into force in 1987.
  - *The Sofia Protocol* to freeze NO_x or reduce the emissions to the 1987 levels by the end of 1994 was signed in 1988 and entered into force in 1991.
  - *The Oslo Protocol* was signed in 1994 and it entered into force in 1998.
- The Large Combustion Plant Directive 88/609/EEC

SYKE

Key elements in the Finnish intervention theory (program theory) for SO_2 and NO_x ELVs



a. Technological potentials & costs assessed.

b. Based on these assessments ELVs are defined. (SO_2 140 – 230; NO_2 50 - 290 mg/MJ).

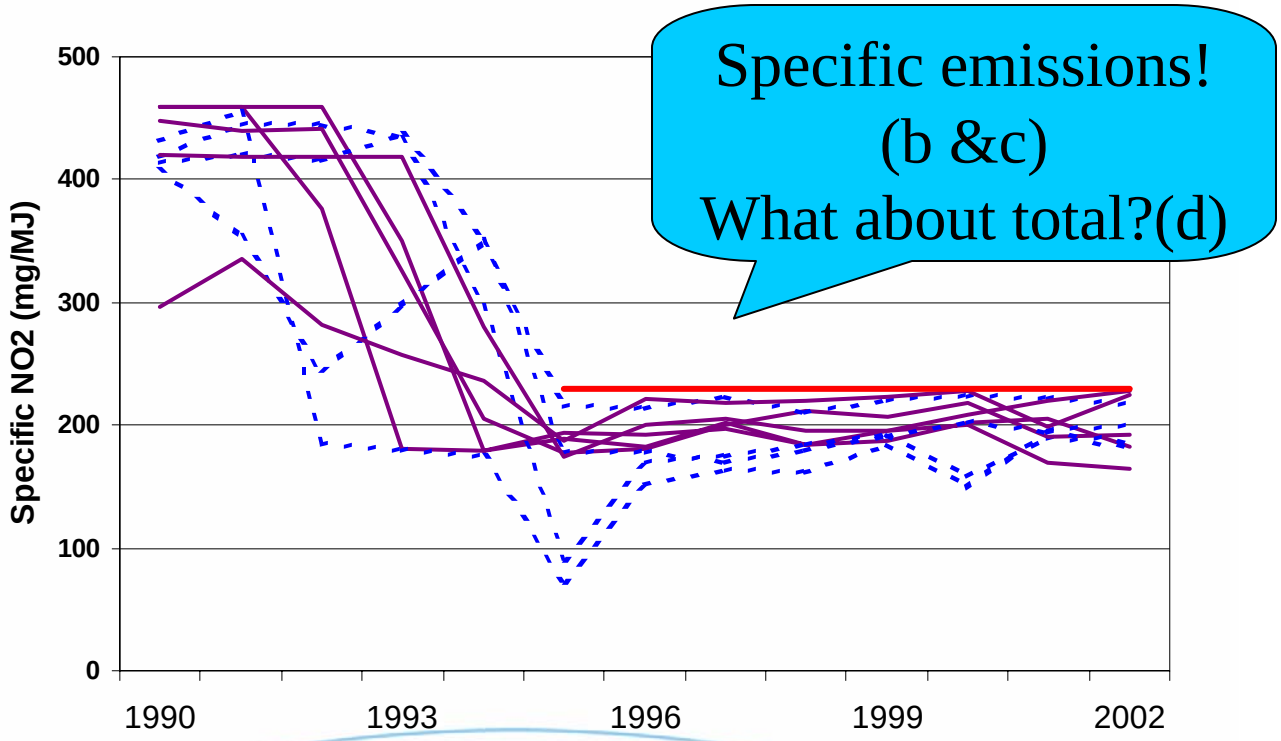
c. Boilers with originally higher specific emissions **have to undertake action** in order to bring down their specific emissions. Those boilers already below their ELV would not necessary have to reduce their emissions, but to make sure they will not increase.

d. Although the ELVs are determined for specific emissions, they are also expected to be reflected in the level of total emissions. *If, however, the total production level is increased…*

SYKE

Example: NO_x emissions

- Case: Decree (257/1991),
  - NO_2 annual average 230 mg/MJ

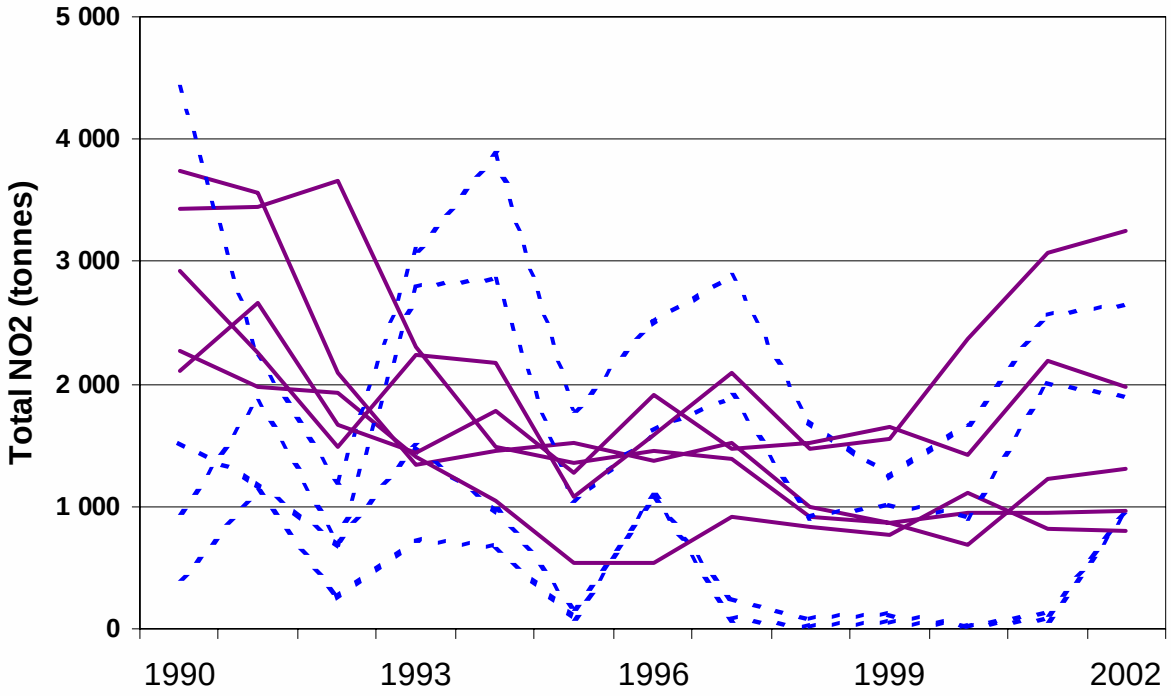


SYKE

by Mickwitz, Kivimaa & Attila

Example: NO_x emissions

- Case: Decree (257/1991),
  - NO_2 annual average 230 mg/MJ



SYKE

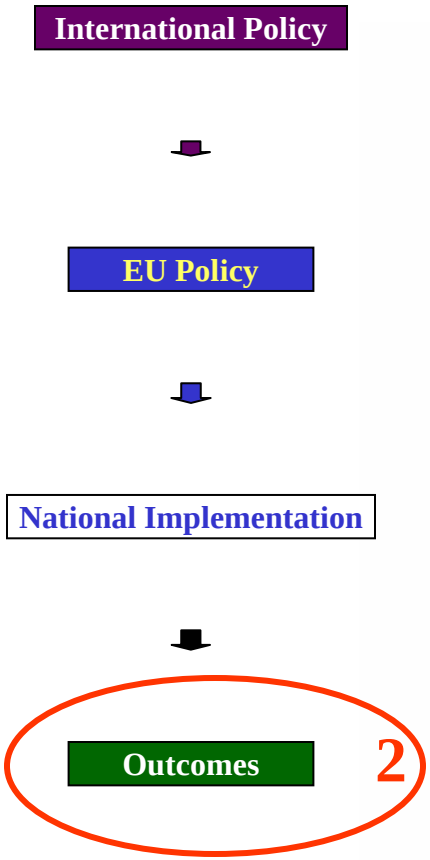
by Mickwitz, Kivimaa & Attila

One important point for Evaluation in the context of multi-level governance

- There were linear top down effects

- But…

Example: Energy SO_2 emissions



- Case Helsinki Energy
  - As a response to the international debates/commitments
  - **Local politicians** decided to build a Natural gas plant instead of a coal plant as proposed by the company
- Direct effect of international policy without National level policies

SYKE

Example: Energy SO_2 emissions

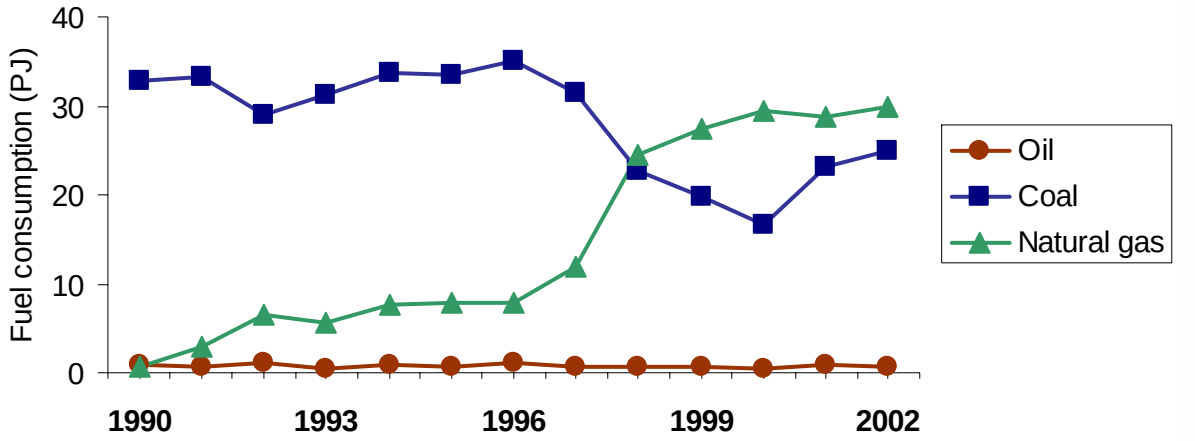
- Case Helsinki Energy 26 boilers and gas turbines (Pth=2,940 MW)

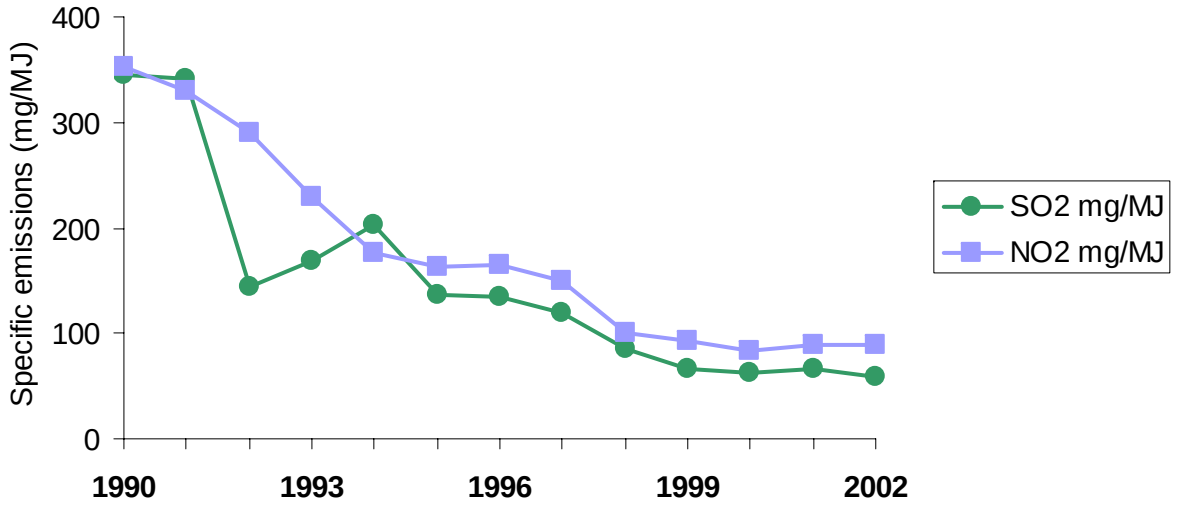
International Policy

EU Policy

National Implementation

Outcomes 2





One important point for Evaluation in the context of multi-level governance

- There were linear top down effects
- and effects that are not top down
- at the same time.

So far al the examples have been of policies at different levels complementing each other that is not always the case

- *"EU has never managed to make a policy so complicated that the Finnish Ministry of the Environment has not been able to make it more complicated through domestic decisions"* Leena Saviranta June 16, 2006

The intervention theory (program theory) or the target group may change when policies at different levels interacts

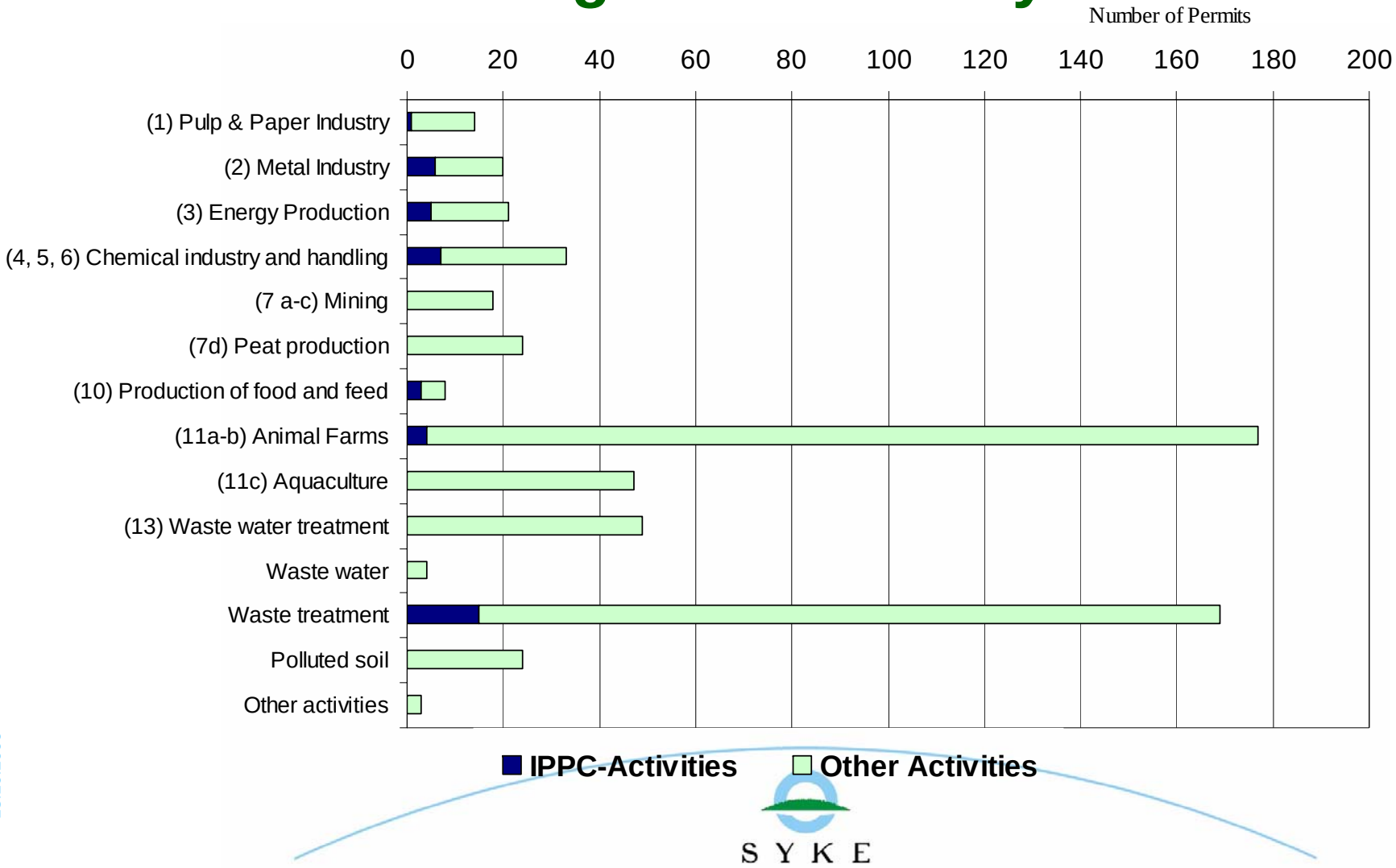
- The EU Directive concerning Integrated Pollution Prevention and Control (96/61).
  - Based on the assumption that the main target group is large scale industrial factories.

SYKE

The intervention theory (program theory) or the target group may change when policies at different levels interacts

- The EU IPPC Directive was implemented in Finland through the new Environmental Protection Act (entered into force March 1st 2000)
  - Still based on the assumption that the main target group is large scale industrial factories.
  - But incorporated the target groups of all previous Finnish permit legislation, such as waste permits, water permits, air permits, etc.

Our evaluation, however, showed that during the two first years:



SYKE

Conclusions:

a. Policies & Programs do not only influence local activities top-down through all intermediate levels, they can have direct effects
b. But, Policies & Programs may work top-down
c. Policy processes may be very slow, but if predictable & credible they can have effects before formally in force
d. Policies & Programs at different levels may complement each other, but they may also be in conflict
e. There is newer only implementation at national/regional/local level of international/federal policies, there are always political goals involved
f. Program theories & target groups may be different at different levels