

## **Notes Martin Patel for session « How can energy efficiency uptake be accelerated ? »**

(‘Panellists will share experience of which measures to increase the uptake of energy efficiency have been successful and how to implement them. Reference will be made to the Energy Efficiency Market Report 2014, recently published by the International Energy Agency.’)

A) There are 3 basic mechanisms

- Communication mechanisms (e.g. energy labelling, Energy efficiency networks)
- Economic Mechanisms (e.g., tax or subsidy)
- Coercive mechanisms (= Normative mechanisms = Command & Control = Regulatory), e.g. standards = MEPS (under EU Ecodesign Directive)

### **All 3 are needed**

- Often combinations, e.g. negotiated agreements = Communication + Economic + Coercive
- My own opinion: Communication alone is not sufficient

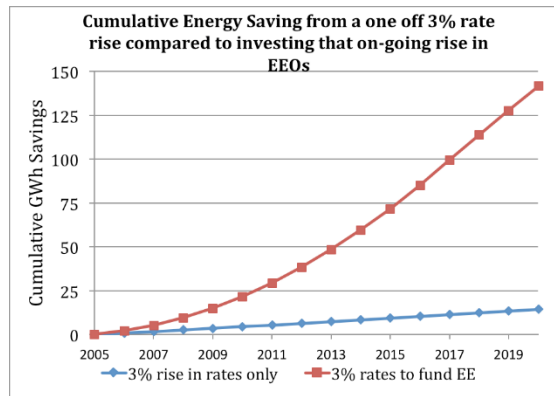
B) All domains of energy use need to be addressed

C) There is no silver bullet; usually policy mix

In the following I would like to point out 2 measures each for COERCIVE and ECONOMIC:

I.) COERCIVE

- Standards (H.-P. Siderius, Ph.D. thesis, Utrecht University):
  - MEPS for appliances: Very important role to play also in future
    - Preparation should be accelerated: 5 years (3.5 – 6.7) for preparing Ecodesign standard (Chap.2)
    - Number should be increased, i.e. product scope should be enlarged: Only 12 Ecodesign standard since 2012
  - Building codes – EU: Directive on the Energy Performance of Buildings (EPBD, 2010)
    - For all new buildings in the EU as end of 2020: nearly zero-energy (Art.9, §1) and this energy 'to a very large extent' from renewable sources (Art.2, §2).
    - New buildings occupied and owned by public authorities by end of 2018: nearly zero-energy buildings (Art.9, §1).
    - For existing buildings that undergo major renovation: energy performance must be upgraded (Art.7)
- Cornerstone of EU EEDir & 40 years of experience in USA:  
Energy Efficiency Obligations = ratepayer-funded EE mechanism
  - (Partial) Decoupling of sales from revenue
  - 10-fold more cost-effective
  - So far primarily for electricity but also applicable for heat



- Public sector: Exemplary and leading role e.g. for EPC = complementary to EEO

## II.) ECONOMIC

- Energy efficiency fund (to ease access to capital, overcome barrier of high upfront capital costs)
- EMS Energy Management Systems
  - could be Voluntary or Stand-alone (coercive)
  - I am referring here to economic measure: for example in CH and SWE: very successful to avoid CO2 tax (CH) or energy tax for industry (in SWE, 0.5 EUR/MWh)
  - Audit in combination with commitment to implement all economically viable measures (or with a payback of up to n years)
    - found to be more effective than a tax

## III.) FURTHER:

- ECONOMIC/Regulatory: Special support for CHP in liberalized market
- ECONOMIC/Regulatory: Roadmap for inclusion of externalities in prices
- ECONOMIC: Insurances (?) to overcome hidden costs and risk aversion
- OVERALL: Clear targets, reporting and penalties in the case of non-compliance



### Why not simply taxes?

#### CONs

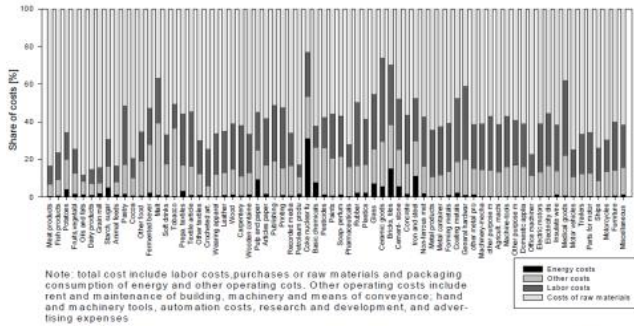
- Inelasticity of energy use
- Taxes have too many negative side effects (e.g. competitiveness and distributional)
- Taxes do not address the obstacles such as the principal-agent dilemma (→ *better: standards?*)
- (Or maybe...?:) Better go for other market-based instruments, e.g. emission trading

#### PROs

- Effectiveness is a matter of the tax level and depends on observed time period
- Energy prices are anyway too low today (consider external costs); taxes would be directional
- Negative side effects can be compensated
  - social measures
  - ecological tax reform
- Other market-based instruments have their own administrative problems

## Low share of energy cost as one of the barriers (2/2)

Share of costs in the Dutch manufacturing industry at 3-digit level, 1999





Ramírez et al., Energy 30 (2005), pp. 749-767

## Or maybe subsidies? (1/4)

### CONs


- High costs (subsidy + administration)
- Free riding
- Distorts market equilibrium
- Decision to discontinue subsidy scheme can have serious consequences for the respective companies

### PROs

- High acceptance 
- Allows to overcome information constraints (benefits of demonstration) 
- Adoption decisions are more sensitive to upfront costs than longer term benefits

## Experience with the Dutch Covenant Benchmarking Energy efficiency (3/3)

### Conclusions:

- More binding approach, e.g. increased energy tax for larger energy users
- Couple exemption of energy tax with goal achievement
- Evaluate effectiveness of the covenant according to broadly accepted evaluation methods
- Determine effective energy taxes in other European countries for comparison
- Consider changing law acc. to which mandatory energy efficiency goals nowadays cannot be requested in the context of environmental permits 

de Buck, A.; Blom, M. J.; Smit, M.; Wielders, L.: Covenant Benchmarking Energie-efficiency: resultaten en vrijstelling energiebelasting. CE Delft, 2010