

# Perspectives on behaviour in organizations

Mats Bladh

Swedish Energy Agency

# Overview of presentation

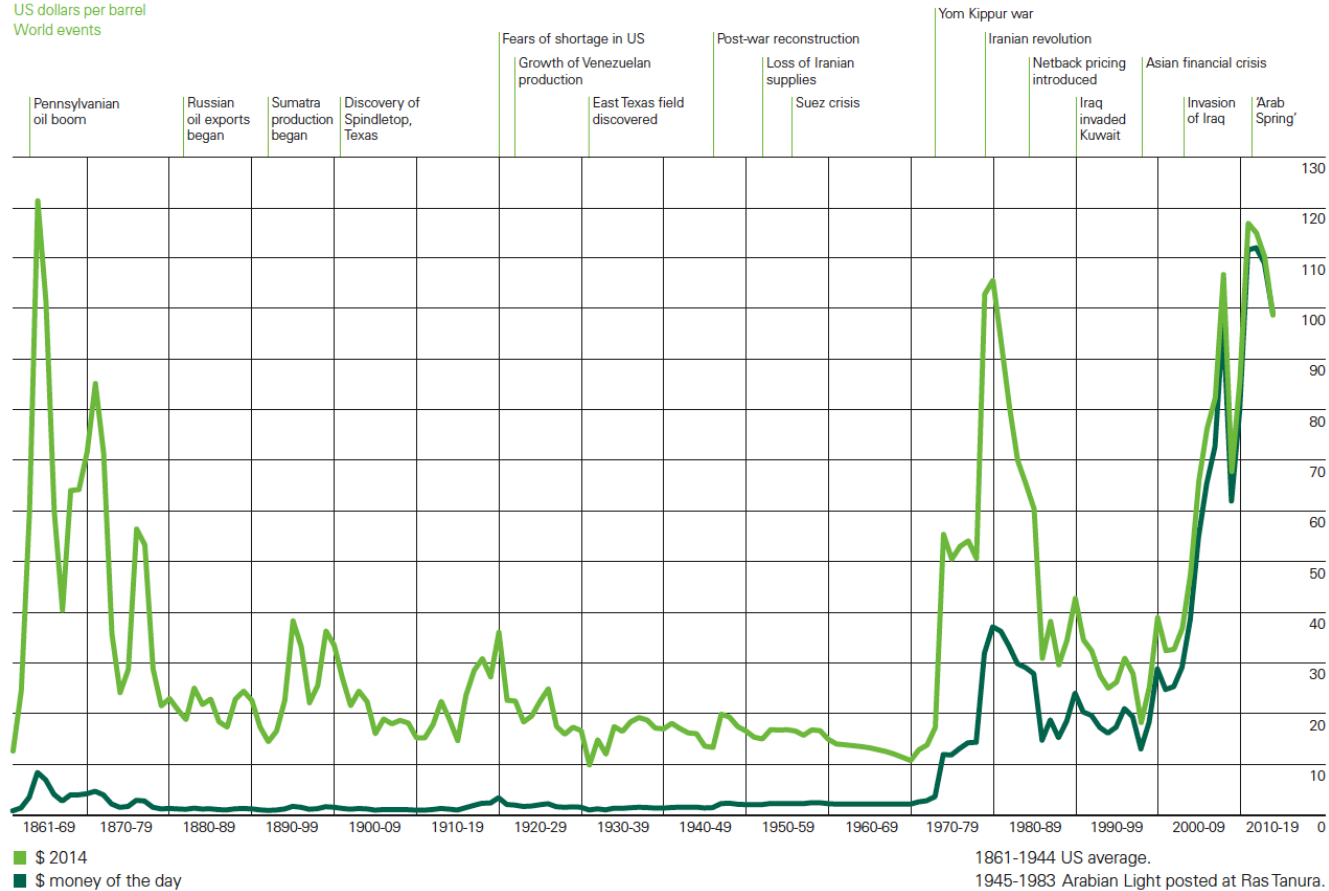
- Historical perspective
- “Energy efficiency gap”-debate of the 1990’s
- The market and the firm in economic theories

# Oil shock!

## Crude oil prices 1861-2014

US dollars per barrel

World events



# Energy conservation!

- USA:
  - Petrol rationing, speed limits, hatchbacks
  - Energy conservation programme 1977
- OECD: International Energy Agency 1974
  - Sharing information, reduce oil dependence, promote energy efficiency, coordinate oil storage
- OPEC in control, not multinational oil companies
  - Governments and firms became certain that the old times were gone

# Sweden: Oil, nuclear and ee

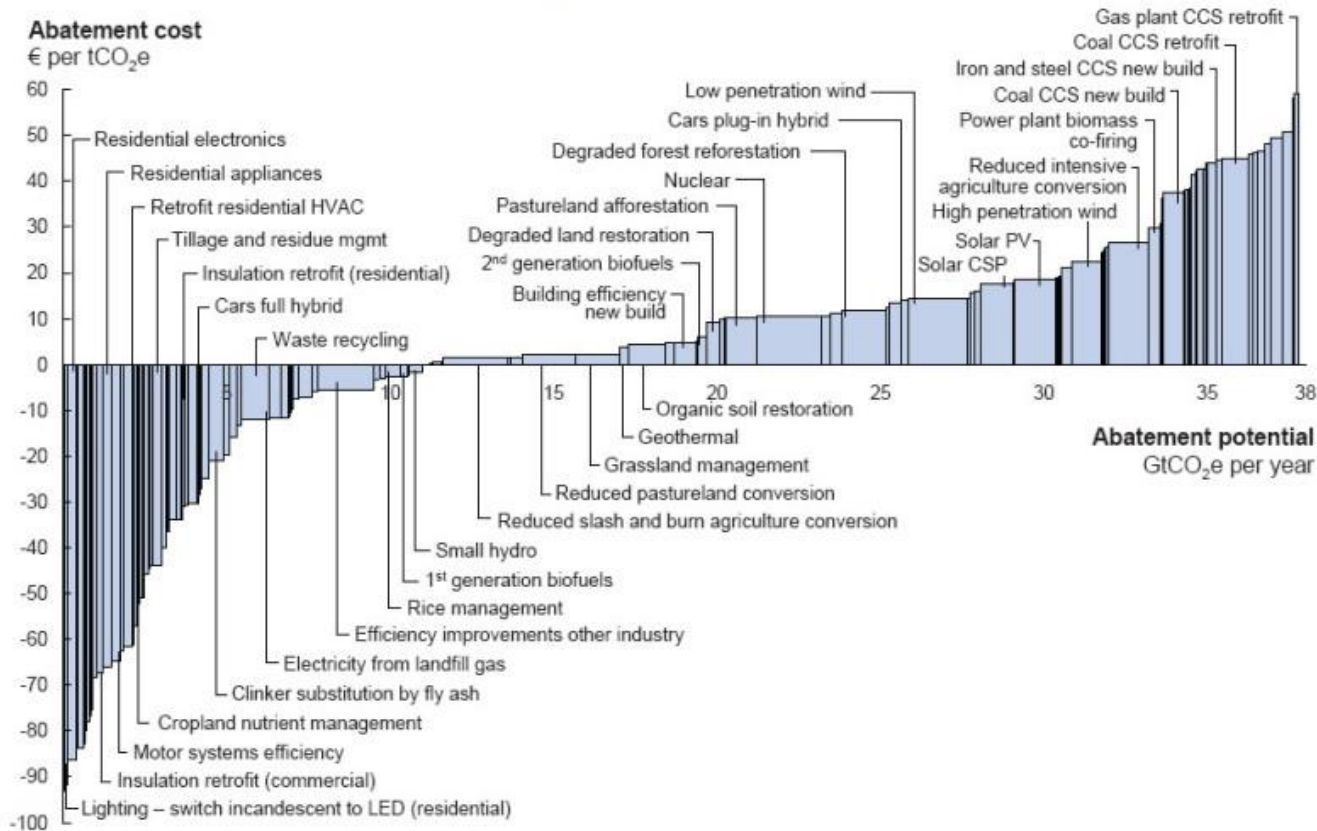
- In May 1973: Moratorium on nuclear (8 had permit to build, of which 1 had started)
- An explosion in public debate on energy matters 1973-1975
- Pulp and paper industry:
  - Collaboration between firms
  - 37 conservation projects, 14 biofuel projects
  - Gathered information from all firms, comparisons

# The energy efficiency gap

- A debate among researchers, technologists and economists
- Getting closer to organizations and behaviour
- “Bottom-up” methodology: Many efficient technologies available but not used!

# Economists doubted “win-win”

Global GHG abatement cost curve beyond business-as-usual – 2030



Note: The curve presents an estimate of the maximum potential of all technical GHG abatement measures below €60 per tCO<sub>2</sub>e if each lever was pursued aggressively. It is not a forecast of what role different abatement measures and technologies will play.  
Source: Global GHG Abatement Cost Curve v2.0

# The debate

## **Barriers (Sorrell 1999)**

- Heterogeneity
- Access to capital
- Imperfect information
- Adverse selection
- Split incentives
- Principle-agent problems
- Bounded rationality
- Inertia
- Power
- And six more

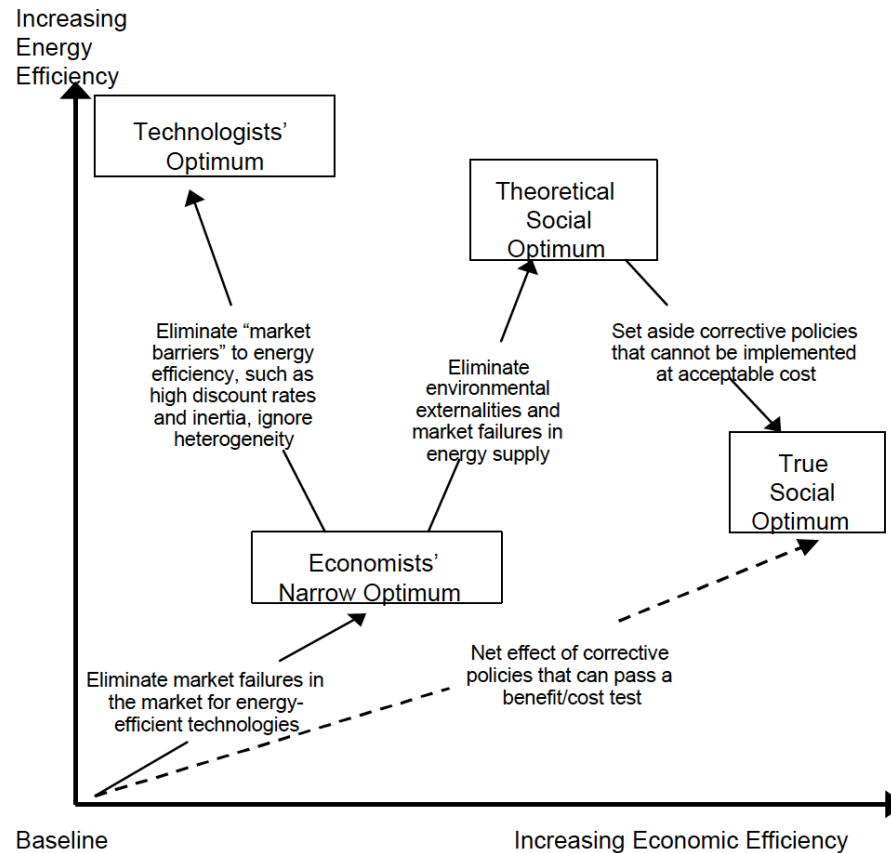
## **“Market failures”**

- Barriers exists but cannot be the base for policies, only market failures can. Some of the barriers are failures, but not all of them
- The market is a price system essentially
- The firm only combines factors of production according to their prices



# Jaffe & Stavins 1998

Figure 1. Alternative Notions of the Energy-Efficiency Gap



# What about the firm?

- Coase (1937) there is no price mechanism within the firm: “Why is there any organization?” A cost using the price mechanism (transaction costs)
- Keynes (1936) uncertainty about the future, abstaining from long-term investments, following (imitating)

# A biological metaphor

- Nelson & Winter (1982) *An Evolutionary Theory of Economic Change*
- Routines determine behaviour
  - heritable and selectable (genes)
- Search: irreversible, uncertainty, contingent
  - modifies routines (mutations)
- Firms selected in dynamic competition
  - some routines flourish and other disappear

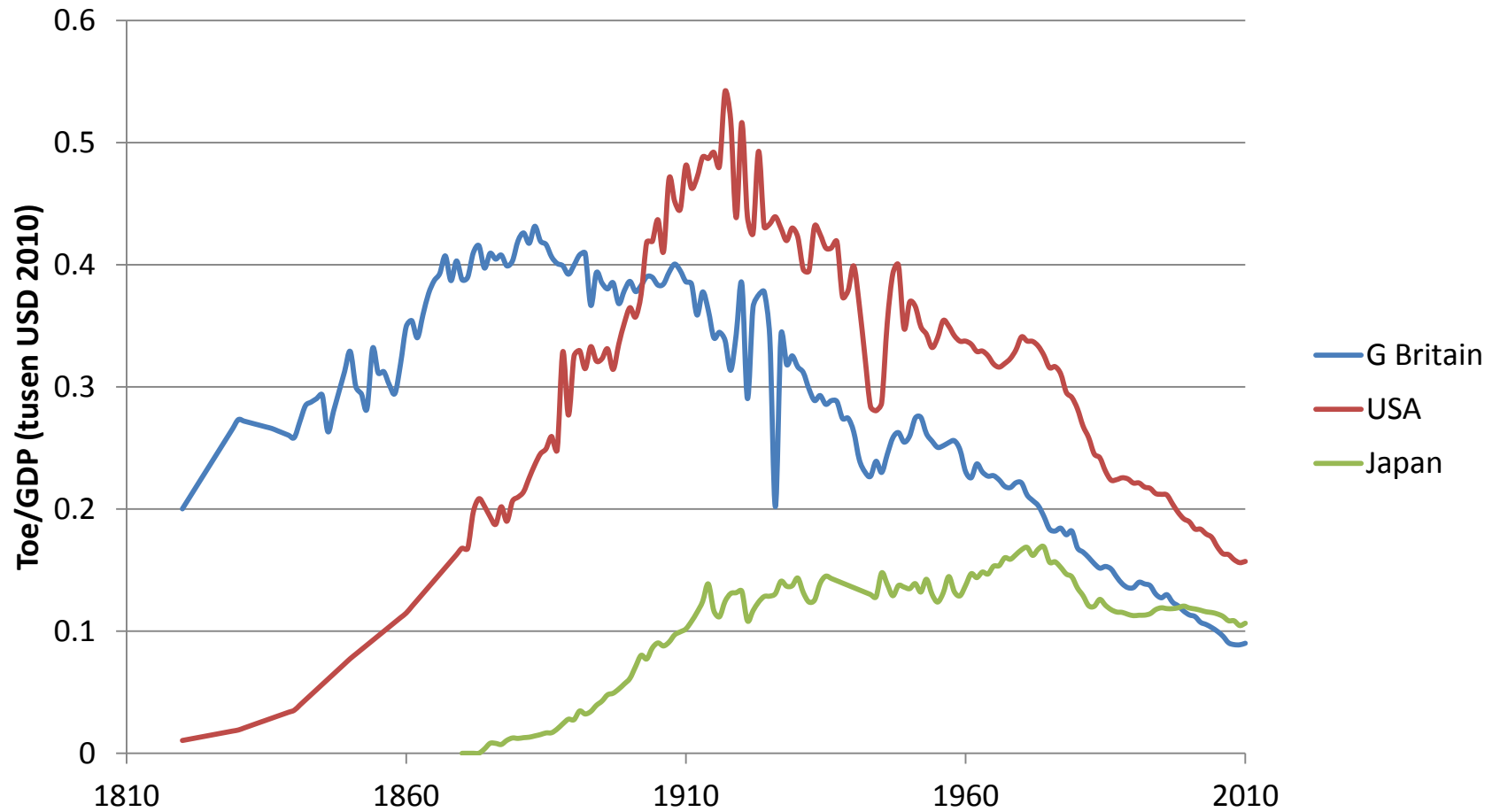
# Energy management routines

- Researchers have found a lack of attention on energy matters within organizations
- Stimulate the introduction of energy management systems
- Create an environment that selects firms with desired attention to energy efficiency

# Conclusion

- The firm (organizations) is neglected in dominant economic theory
- Theories about organizations are important for analyses and policies
- A broader set of theories is needed
- It seems as some price changes are more important than others

# The very long run



# “Market failure”

## **The perfect market**

- The market is a price system
- Everyone knows what is needed to know
- “The best information is an invoice”

## **Deviations**

- Monopolies, oligopolies
- Externalities
- Asymmetric information
- Etc ?