

CLIMATE CHANGE CHALLENGES URBAN PLANNING

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Reducing CO₂ emission by 80 % in 50 years

- Total rebuilding of industrial processes
 - ▣ Will happen in any case
 - ▣ A change will boost the economics
- Radical decrease of heating
- Radical reduction of traffic
 - ▣ Transportation of goods
 - ▣ Increased use of railways
 - Why only Via Baltica, where is the train?
 - ▣ City-traffic

City-planning and heating

- All energy use is bad – even if you use wind-power
 - ▣ The use of oil is 10 x energy content of the food eaten
- Economic incentives for energy-saving in apartment-houses
- Strict building standards
- District heating and co-generation
- Biomass - yes, but so far not in big cities
- Nuclear energy – not in large scale without fast breeders
- In the far future: hydrogen (or methane) made in solar plants
- In the near future: natural gas
- Heat pumps in district heating areas?

We know quite well what to do



- Problems are political and juridical
- Changing the rules means that some people loose
- Difficult in open democrasies
- A new type of economic engineering needed

City structure

- Factories are re-built every 30 years
- City-structure remains 500 years
 - ▣ Finland has a handicap here
- Building allowed only close to rails!
- Problems:
 - 1) Property-rights of off-rail landowners
 - ▣ The total value of land increases
 - ▣ Those who gain should pay to those who lose, but how
 - 2) Good land is too expensive
 - ▣ People move to Nurmijärvi, because there are not houses enough closer
 - ▣ Prices reveal preferences

Traffic and tariffs

- Private car > bus > tram > metro/train
> walking > bicycle > staying home
- Subsidising busses is in principle wrong
 - ▣ Driving with a bus has no positive externalities
 - ▣ Taking a car has big negative externalities
- Subsidising busses instead of taxing the cars
 - ▣ Expensive and increases traffic
- Train and metro: slow marginal costs
 - ▣ A theoretical reason to accept deficits

Optimal tariffs



- Intellectual road pricing
 - ▣ Price per kilometre depends on time and place
- Public traffic by marginal cost
 - ▣ Metro much cheaper than busses
- People living off-metro very unhappy
- Land close to metro more valuable
- Rice real estate tax on land close to metro
 - ▣ Pay the fixed cost by this tax

One day there will be a filing of crises



- Governments must show, they are capable to do painful decisions
 - ▣ Painfulness is a merit, effectiveness not that important
 - ▣ Oil-crises in the 1970's
 - ▣ Water crises in North Italy this year
- Experts should make roadplans ready to be used, when the time comes