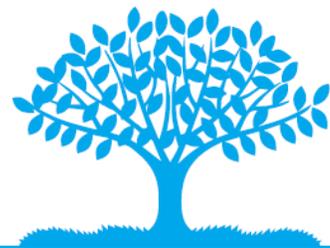


# Fixing the EU's building stock – the lunch we are paid to eat but for which we need money to get into the restaurant

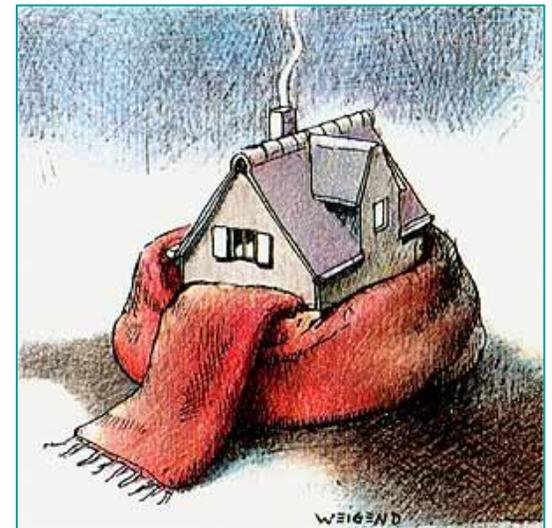
CENTER FOR CLIMATE CHANGE  
AND SUSTAINABLE ENERGY POLICY



CENTRAL EUROPEAN UNIVERSITY

Diana Ürge-Vorsatz

Director

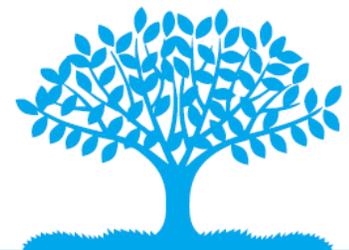


Presented at the workshop “The future of the EU budget and financing climate action in Europe”  
EP, Brussels, November 3 2009



# Outline

- ❖ Buildings: the EU's free lunch in climate change mitigation...
- ❖ ...that we are paid to eat...
- ❖ ...and get many extra bonuses
- ❖ The major risk with our present approach to buildings
- ❖ Thus: we need financing to get into the restaurant
- ❖ Lessons for policy and financing



# Buildings: the EU's free lunch in climate change mitigation

- ❖ IPCC: CO2 reduction needs of at least 80% in the EU by 2050 (if not negative...)
- ❖ Extremely challenging, but doable
- ❖ The building sector can deliver the magnitude of the reduction needed
  - ❑ It accounts for app. 33 – 50% of CO2 emissions in MSs
  - ❑ Both newbuild and renovation can deliver the 80% savings needed



# The Solanova renovation: -84% energy input reduction

kWh/m<sup>2</sup>a

300

250

200

150

100

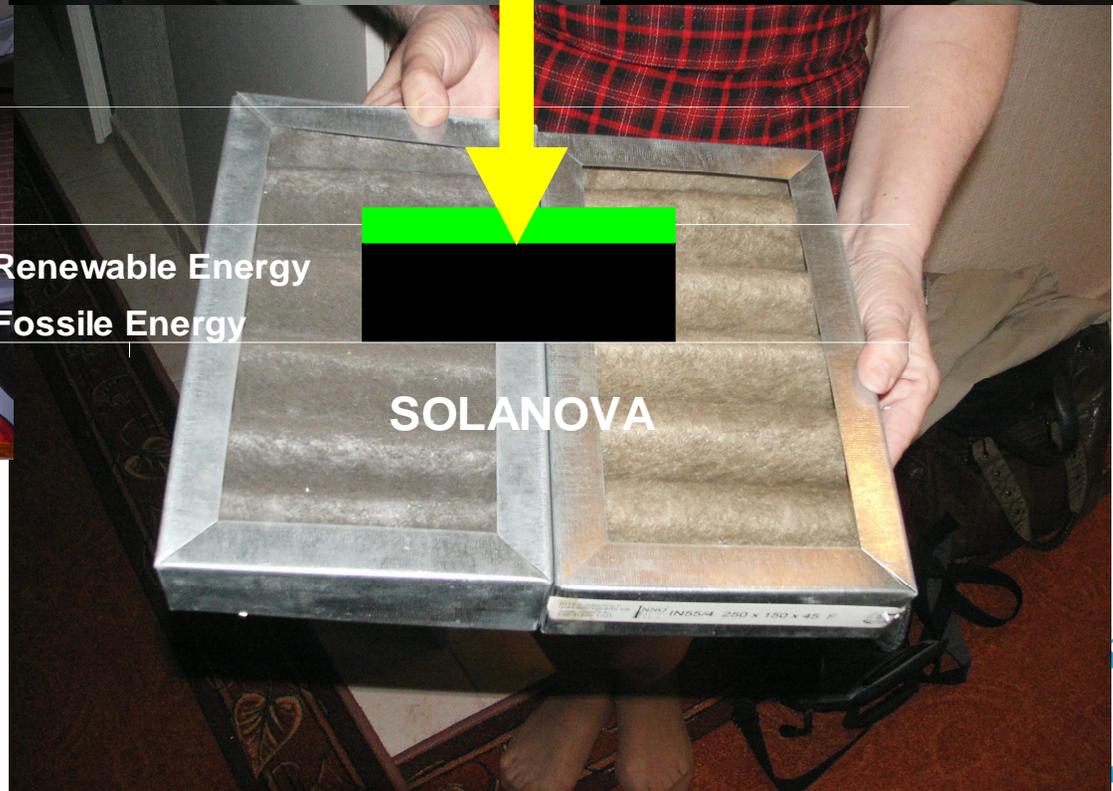
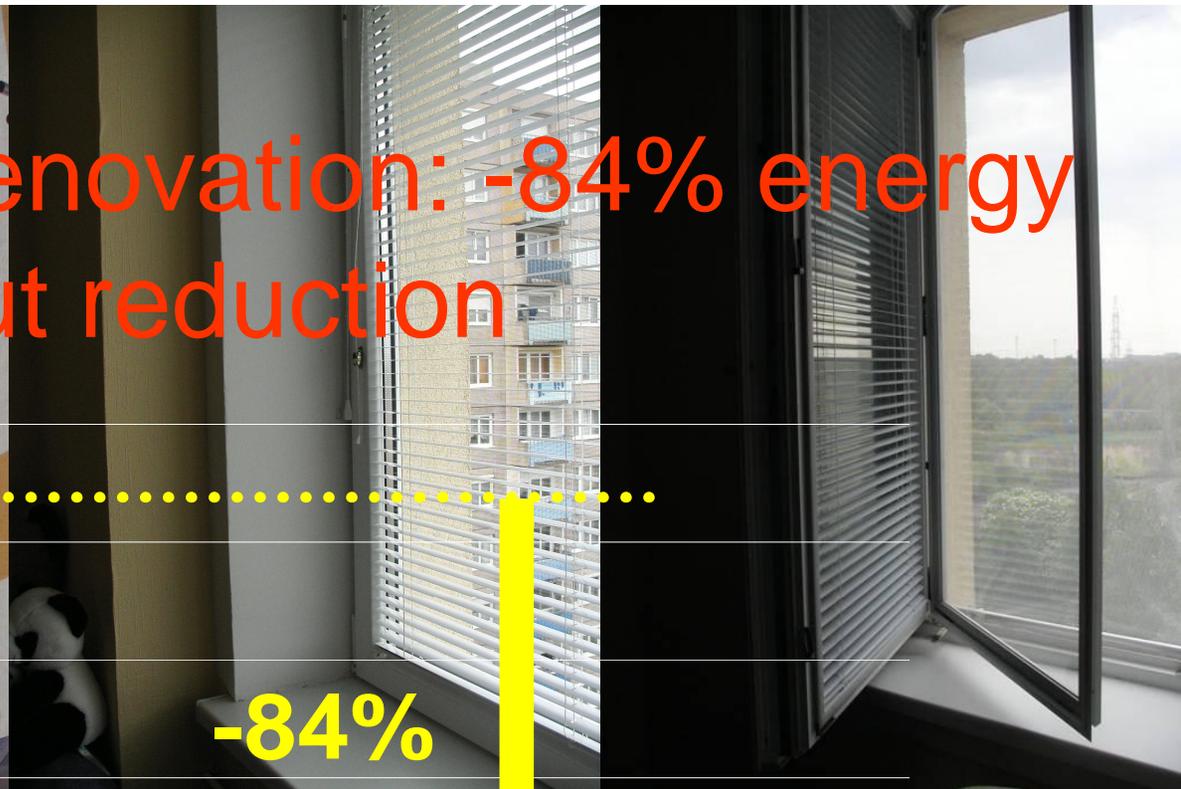
50

0



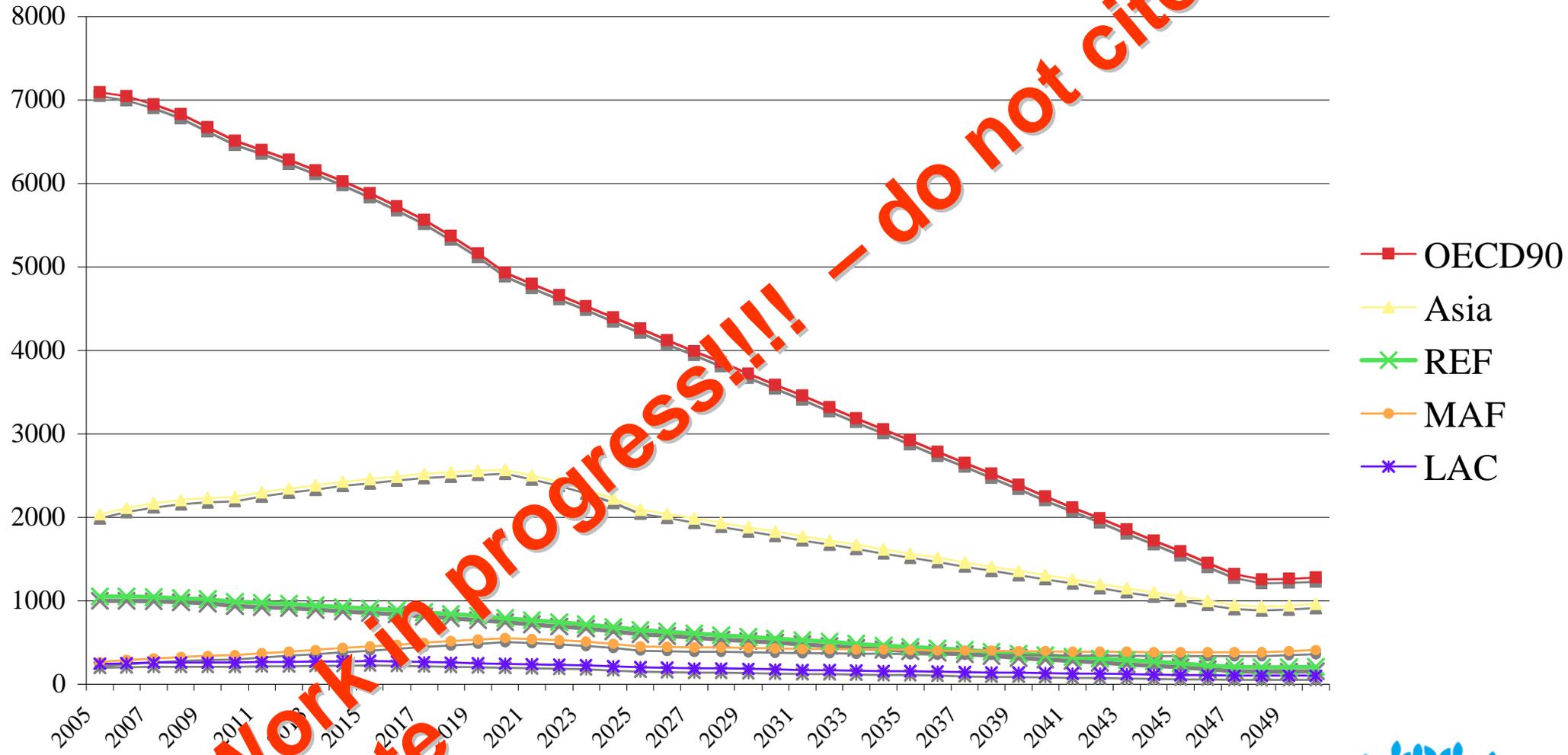
■ Renewable Energy

■ Fossil Energy

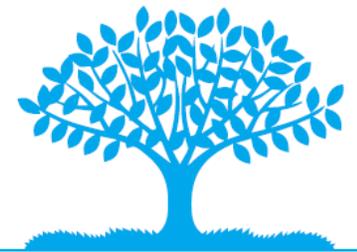


# Space heating and cooling final energy consumption in the world regions, 2005-2050. High retrofit rate (approx. 2%)

TWh

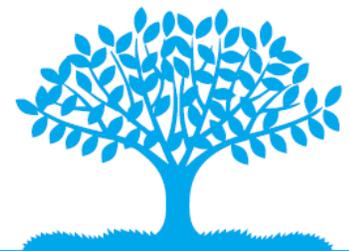


Work in progress!!! do not cite of

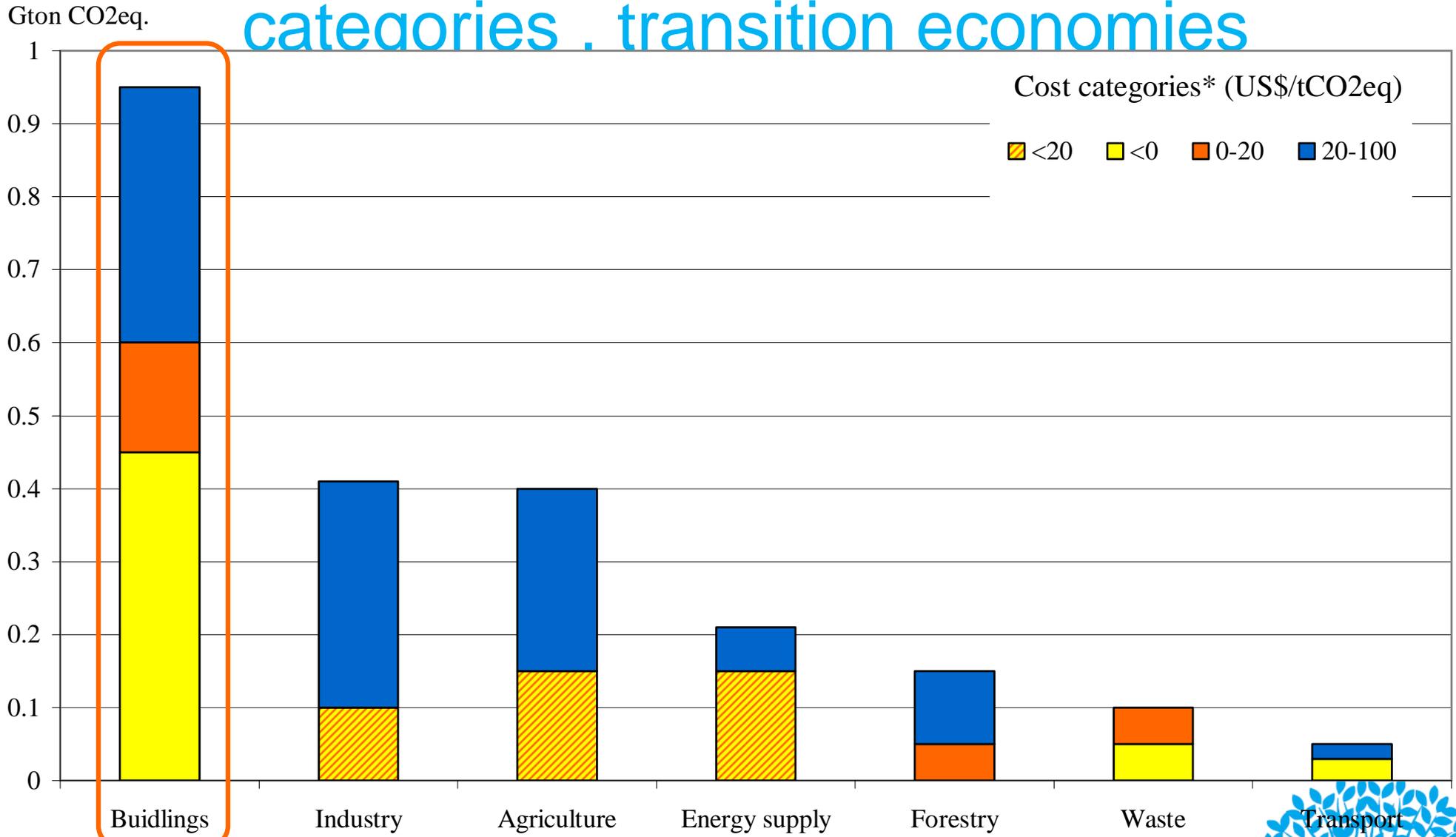


# Buildings: the EU's free lunch in climate change mitigation

- ❖ IPCC: CO2 reduction needs of at least 80% in the EU by 2050 (if not negative...)
- ❖ Extremely challenging, but doable
- ❖ The building sector can deliver the magnitude of the reduction needed
- ❖ ...at a net profit – i.e. we are paid to eat the free lunch



# Estimated potential for GHG mitigation at a sectoral level in 2030 in different cost categories . transition economies



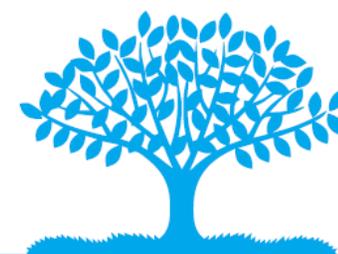
\* For the buildings, forestry, waste and transport sectors, the potential is split into three cost categories: at net negative costs, at 0-20 US\$/tCO<sub>2</sub>, and 20-100 US\$/tCO<sub>2</sub>. For the industrial, forestry, and energy supply sectors, the potential is split into two categories: at costs below 20 US\$/tCO<sub>2</sub> and at 20-100 US\$/tCO<sub>2</sub>.



# Investment needs vs. energy savings, realising mitigation potentials in the Hungarian residential sector

CO <sub>2</sub> mitigation cost category, EUR/tCO <sub>2</sub>	Cumulative CO <sub>2</sub> mitigation potential		Investment needs 2008 – 2025, billion EUR	Saved energy costs 2008 – 2025, billion EUR
	% compared to baseline scenario	million tCO <sub>2</sub> /yr		
< 0	29,4%	5,1	9,6	17,1
0 – 20	33,4%	5,8	13,6	19,0

Forrás: CEU – KVVM 2008, Novikova and Urge-Vorsatz,  
[http://www.kvvm.hu/cimg/documents/Klimapolitika\\_tanulmany.pdf](http://www.kvvm.hu/cimg/documents/Klimapolitika_tanulmany.pdf)



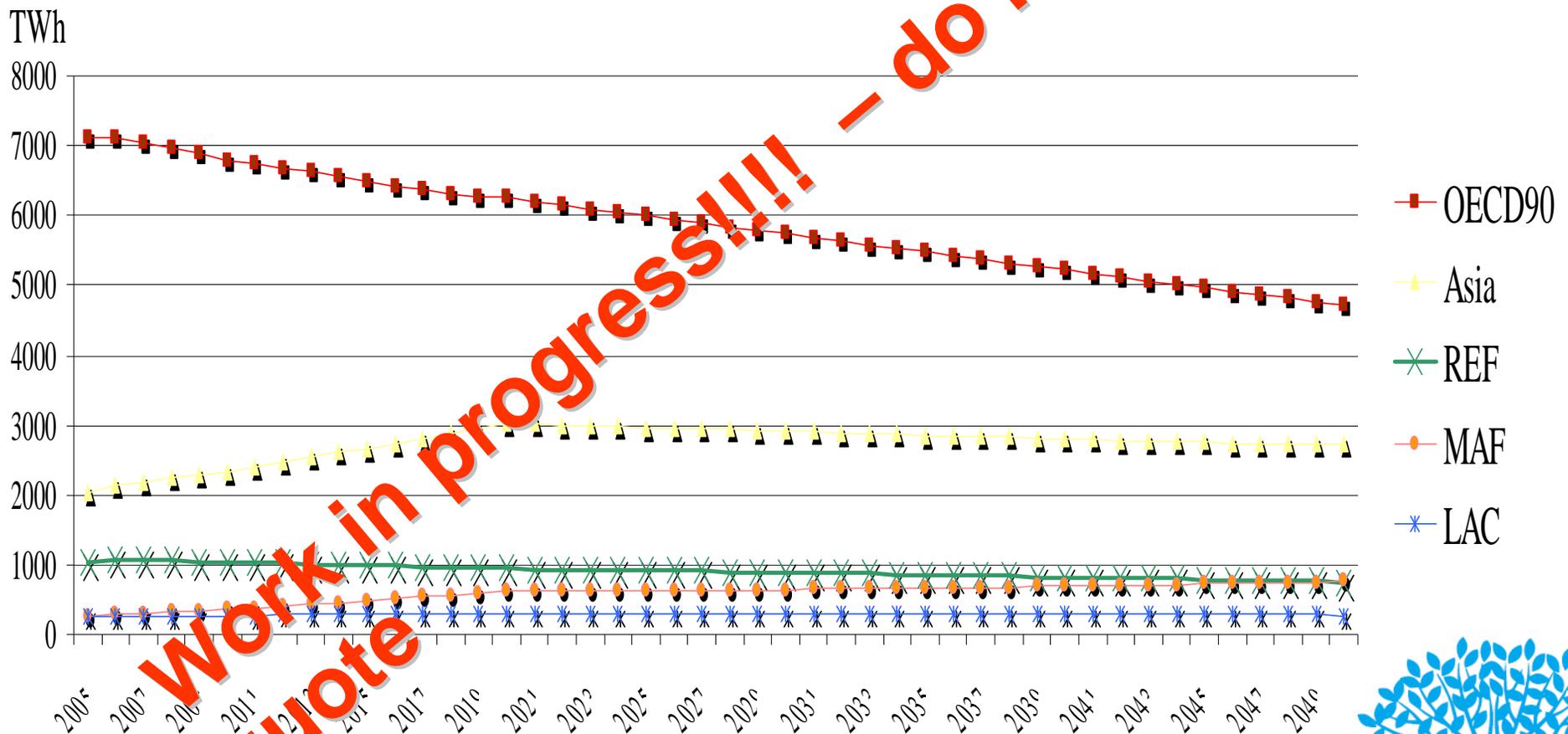
# Buildings: the EU's free lunch in climate change mitigation

- ❖ IPCC: CO2 reduction needs of at least 80% in the EU by 2050 (if not negative...)
- ❖ Extremely challenging, but doable
- ❖ The building sector can deliver the magnitude of the reduction needed
- ❖ ...at a net profit...
- ❖ ...with substantial bonuses to be paid for eating the free lunch
  - ❑ Improved energy security, competitiveness, substantial net increase in employment, significant health benefits, alleviation (eradication?) of fuel poverty, political dividends, quality of life, value of real estate, etc.

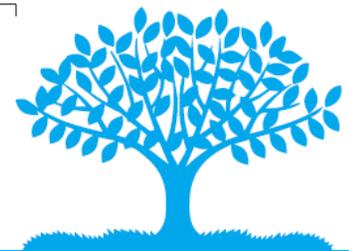


# Significant climate risk with the present path the EU is now taking

Space heating and cooling final energy consumption  
in the world regions, suboptimal retrofit levels, 2005-2050



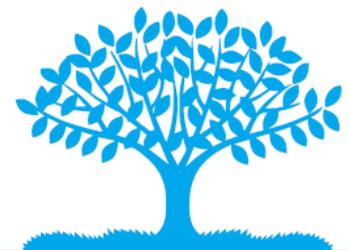
Work in progress!!! - do not cite or quote



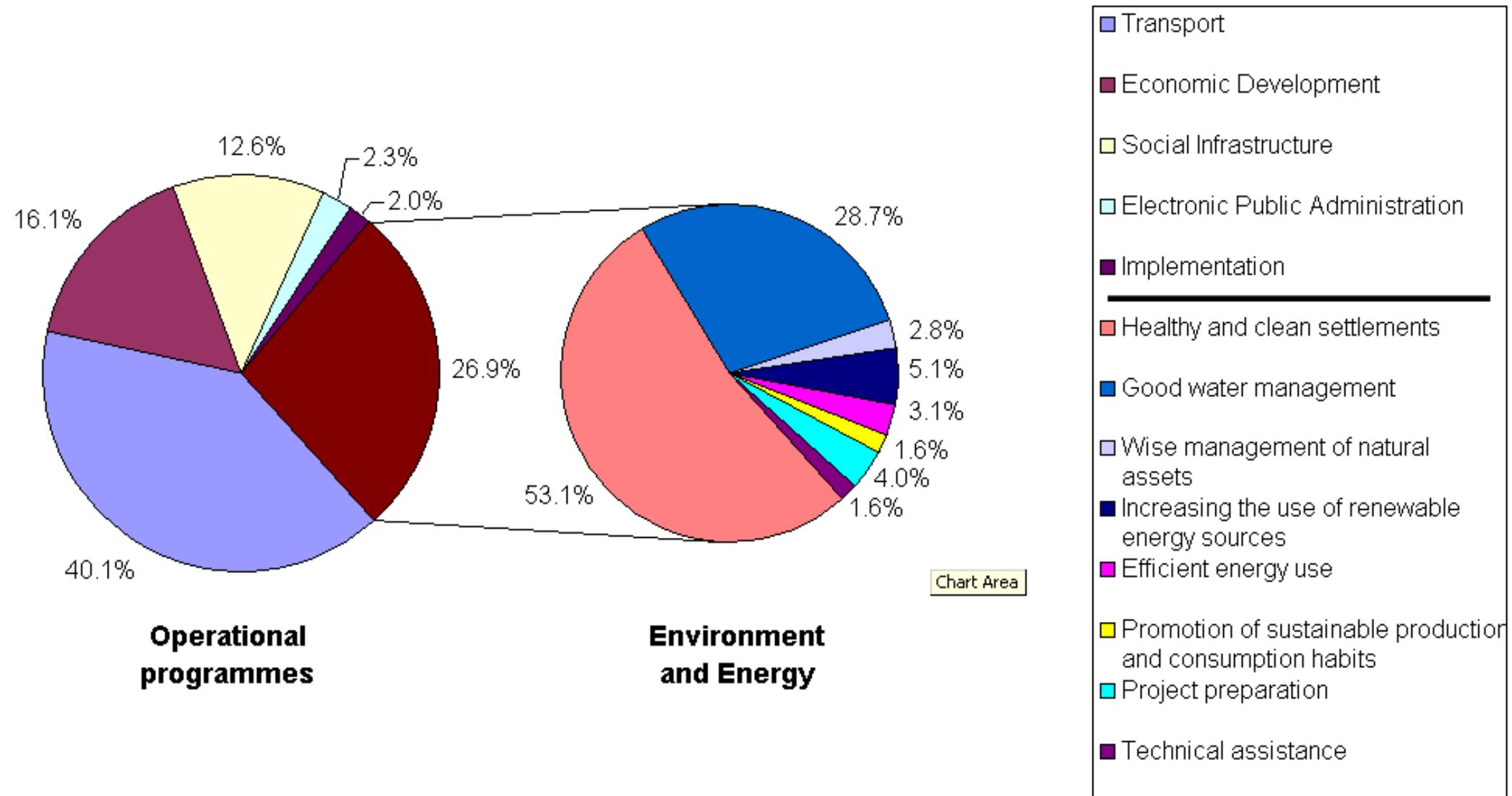


# Lessons for policy and financing

- ❖ Accessing the free lunch takes money (cover charge in the restaurant?)
- ❖ Significant investments are needed in the next few decades (could be as high as 1% GDP for 30 yrs)
  - but significant investments are planned on the supply side, too – is that the right target?
  - and the benefits outweigh the costs
- ❖ The payback/discount rate gap needs to be bridged by public money, esp. for the poor
- ❖ Are we spending EU money on the right thing?
  - Only 1.6% of EU Structural and Cohesion funds btwn 2000 – 2006 on efficiency



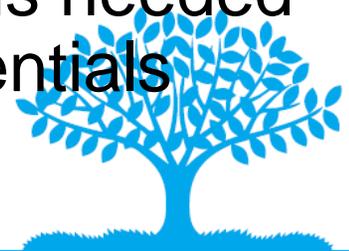
# Distribution of Funding among Operational Programmes and among priorities within “Environment and Energy”





# Lessons for policy and financing

- ❖ Accessing the free lunch takes money (cover charge in the restaurant?)
- ❖ Significant investments are needed in the next few decades (could be as high as 1% GDP for 30 yrs)
  - ❑ but significant investments are planned on the supply side, too – is that the right target?
  - ❑ and the benefits outweigh the costs
- ❖ The payback/discount rate gap needs to be bridged by public money, esp. for the poor
- ❖ Are we spending EU money on the right thing?
  - ❑ Only 1.6% of EU Structural and Cohesion funds btwn 2000 – 2006 on efficiency
  - ❑ Even in 2007 – 2013 it cannot exceed 4%
- ❖ One way or another, significantly more financing is needed to mobilise the major profits and unlock CO<sub>2</sub> potentials



# Thank you for your attention



*Trust me – they just keep promising this global warming; they just keep promising; but they won't keep this promise of theirs either...*

*With permission from HVG*

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**3CSEP**

