

ROMÂNIA

Ministerul Dezvoltării Regionale și Administrației Publice

Strategia pentru mobilizarea investițiilor în
renovarea fondului de clădiri rezidențiale și
comerciale, atât publice cât și private,
existente la nivel național

– Versiunea 1/2014 –

30 APRILIE 2014

Estimating expected energy savings and wider benefits: Case Study – Romania

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Concerted Action EED
The Hague, Netherlands
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JRC Assessment of Romanian Renovation Strategy

- *Evidence-based estimate of expected energy savings and wider benefits*

Four renovation scenarios have been analysed in terms of energy savings, employment and emission reduction implications. **Individual and societal benefits have been identified as well.** Approximated value for some of the identified benefits has been provided, the total is indicated to be almost five times (multiplication value of 4.6) the value of the energy cost savings.



Results of scenario analysis

COSTS &
BENEFITS
NOT
PUBLISHED
IN RO
STRATEGY

SCENARIO		baseline	modest	intermediate	ambitious
Energy Saving					
Energy saving in 2050	TWh/a	8.5	31.1	44.8	63.2
Energy saving in 2050 compared to 2010	%	8.3%	30.4%	43.8%	61.8%
Lifetime Costs and Benefits					
Investment costs up to 2050	€ million (NPV)	2,084	5,486	9,224	16,540
Cumulative energy cost savings	€ million (NPV)	5,414	16,726	25,164	37,011
Net saving to consumers (@ 8% discount rate)	€ million (NPV)	3,333	11,248	15,954	20,496
Net saving to society (@ 4% discount rate)	€ million (NPV)	17,143	67,586	93,862	126,408
Internal Rate of Return	IRR	14.6%	14.4%	13.6%	11.4%
Carbon Emissions*					
Annual CO2 saving in 2050	MtCO2/a	3	22	24	25
2050 CO2 saved (% of 2010)	%	12%	79%	83%	89%
CO2 abatement cost	€/tCO2	-138	-40	-54	-70
Societal Benefits					
Employment generated	Average Jobs/year	4,403	15,854	24,888	39,736

RENOVATING ROMANIA
A STRATEGY FOR THE ENERGY RENOVATION OF ROMANIA'S BUILDING STOCK

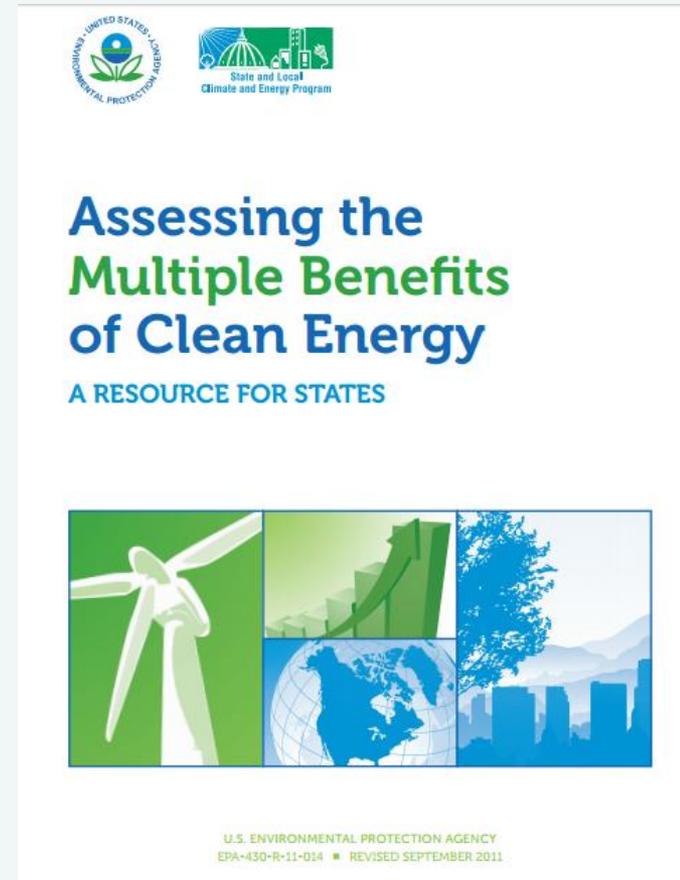


Valuing the Multiple Benefits

ITEM	MULTIPLIER
Energy Cost Saving	1.0
Economic Stimulus	1.5
Societal (health) Benefits	1.0
Environmental Benefits	0.1
Energy System Benefits	1.0
TOTAL	4.6

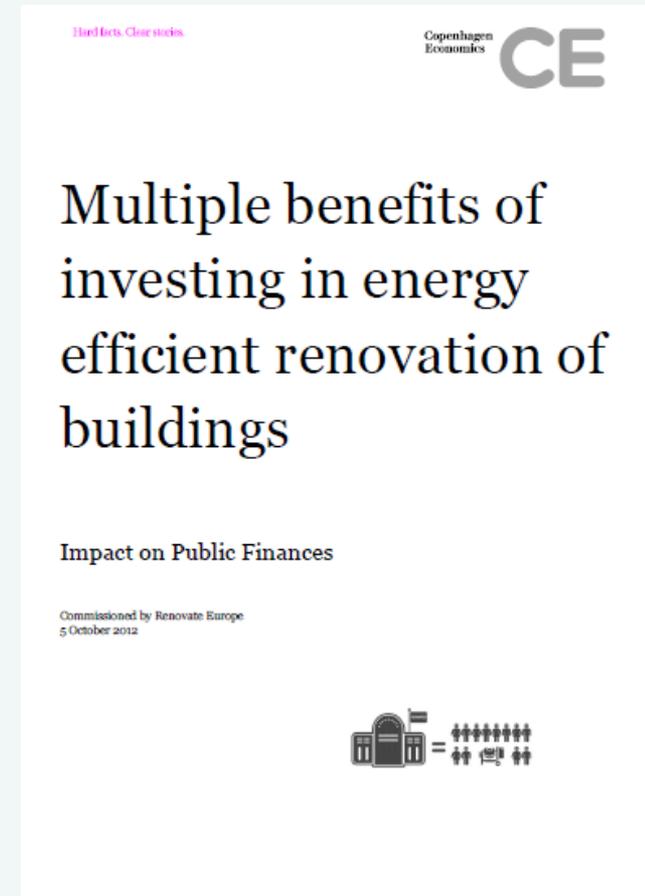
Economic Benefits

- Increased economic activity resulting from jobs created and investment stimulated has been estimated by the US Environmental Protection Agency to generate 1.5 times the value of energy cost savings in additional output.



Societal Benefits

Copenhagen Economics estimate that the health benefits from energy retrofits could be worth **around the same value as the saving in energy costs.**



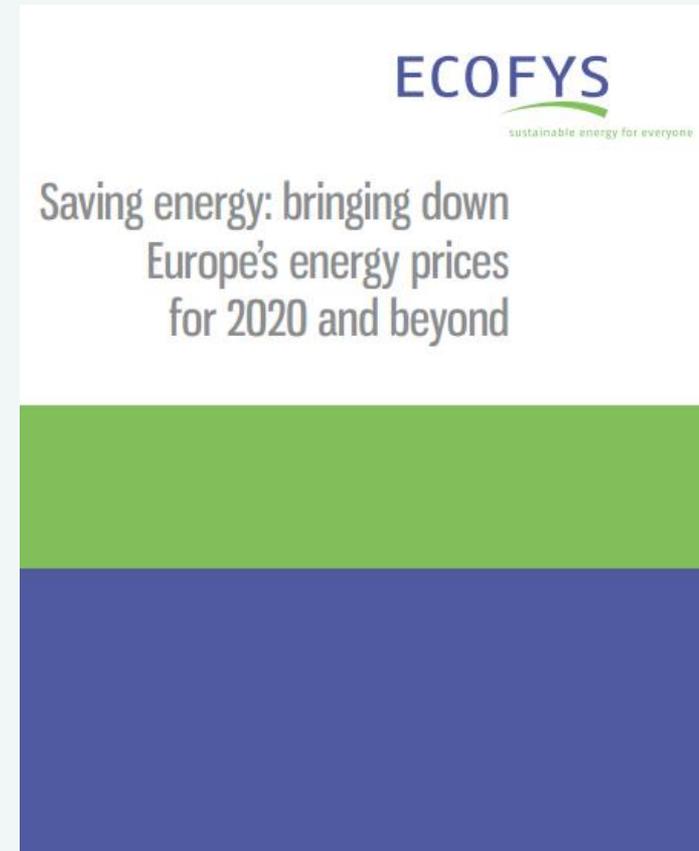
Environmental Benefits

Buildings are the biggest source of CO₂ emissions. The value of the environmental benefit from renovation could be worth of the order of 10% of energy cost savings (depending on valuation of carbon saving).

Energy System Benefits

Savings in peak loads through sustainable energy improvements in buildings, including self-generation, are worth approximately the same as the energy cost savings

SOURCE “Saving energy: bringing down Europe’s energy prices for 2020 and beyond”, Ecofys, 2013



Other benefits

Revival of the Construction Sector

Property values

R&D, Industrial Competitiveness & Export Growth

Impact on public finances

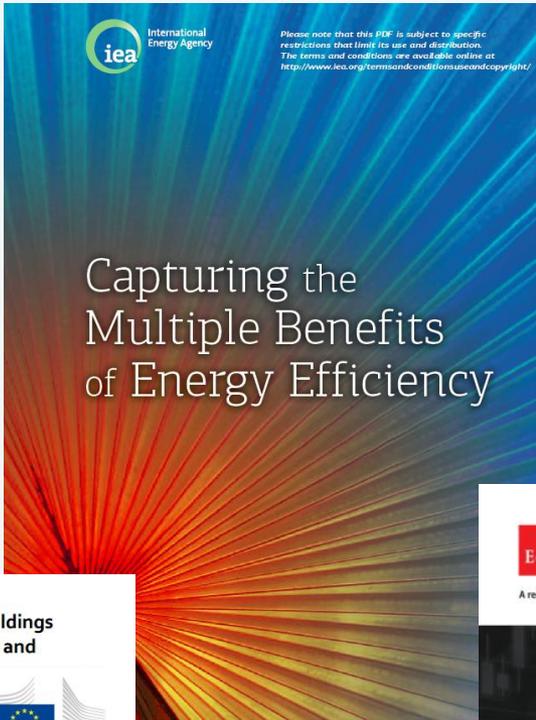
Reduced fuel poverty

Reduced Air Pollution

Increased comfort

Increased productivity

Avoided new generation capacity



IMF Working Paper

How Large Are Global Energy Subsidies?

by David Coady, Ian Parry, Louis Sears, and Baoping Shang

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INTERNATIONAL MONETARY FUND

Energy performance certificates in buildings and their impact on transaction prices and rents in selected EU countries

FINAL REPORT

European Commission (DG Energy)
19 April 2013



The Economist Intelligence Unit

A report from The Economist Intelligence Unit.



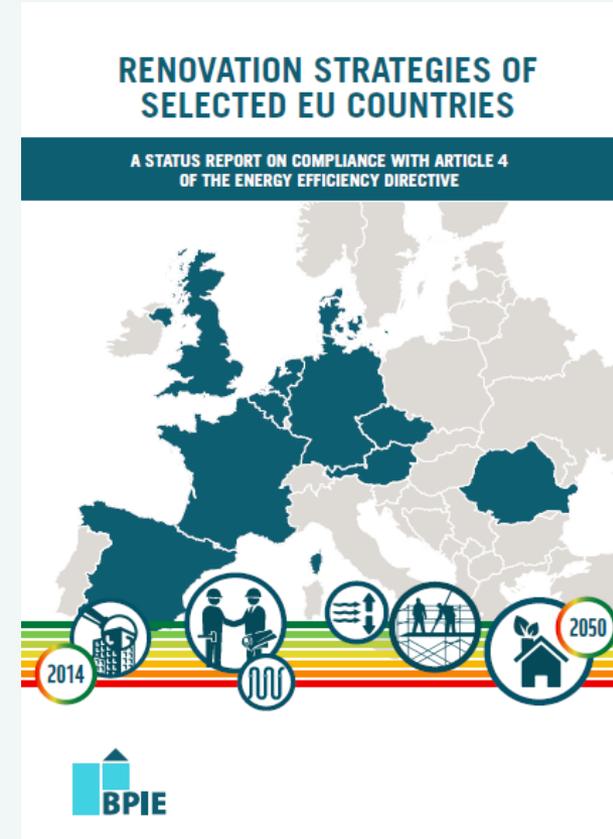
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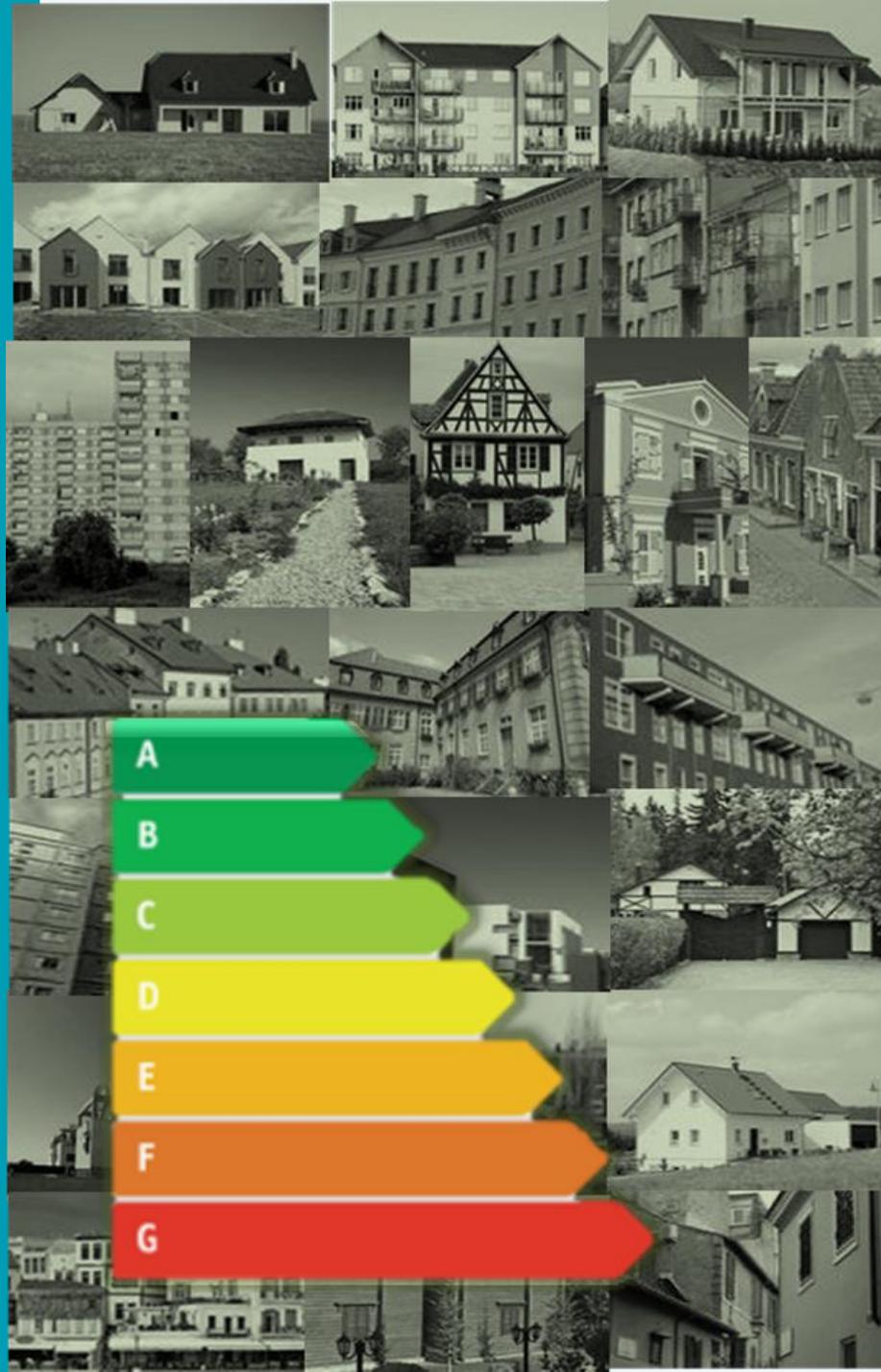
BPIE Assessment of Renovation Strategies

- BPIE undertook assessment of 10 renovation strategies (18 in eceee paper)
- Currently planning a status update later this year, in advance of the 2017 deadline for Version 2 strategies



Questionnaire (Sample Section)

No.	Question
1	What legislative measures have been enacted in order to implement the renovation strategy?
2	Please describe any new or amended financial support schemes
3	Please describe any actions taken or planned to remove barriers to renovation
4	Please describe any support measures (e.g. one stop shop, training, etc) implemented or planned to encourage or facilitate renovation
5	Please describe any stakeholder engagement activities in support of implementing the renovation strategy



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