

# ENERGY EFFICIENCY AS INFRASTRUCTURE INVESTMENT PRIORITY

SPECIAL ATTENTION TO FUEL POVERTY



**ADA ÁMON**  
senior associate

# ENERGY EFFICIENCY AS INFRASTRUCTURE

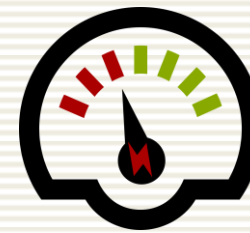
## INVESTMENT PRIORITY



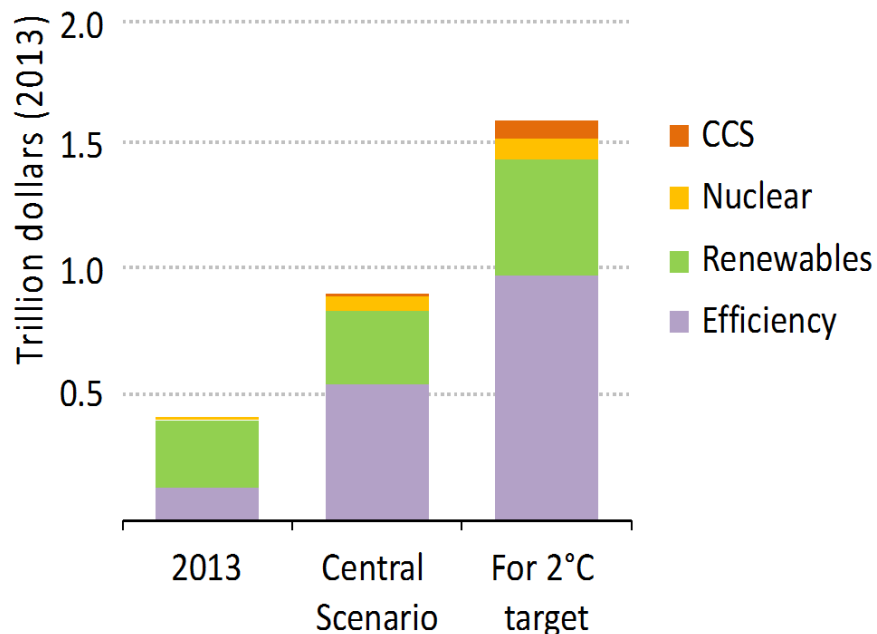
The **energy efficiency gap** doesn't exist because of the lack of effort or will, it exists because we have approached it from the wrong direction.



# \$90 TRILLION IN THE NEXT 25 YEARS



## Average annual low-carbon investment, 2014-2040

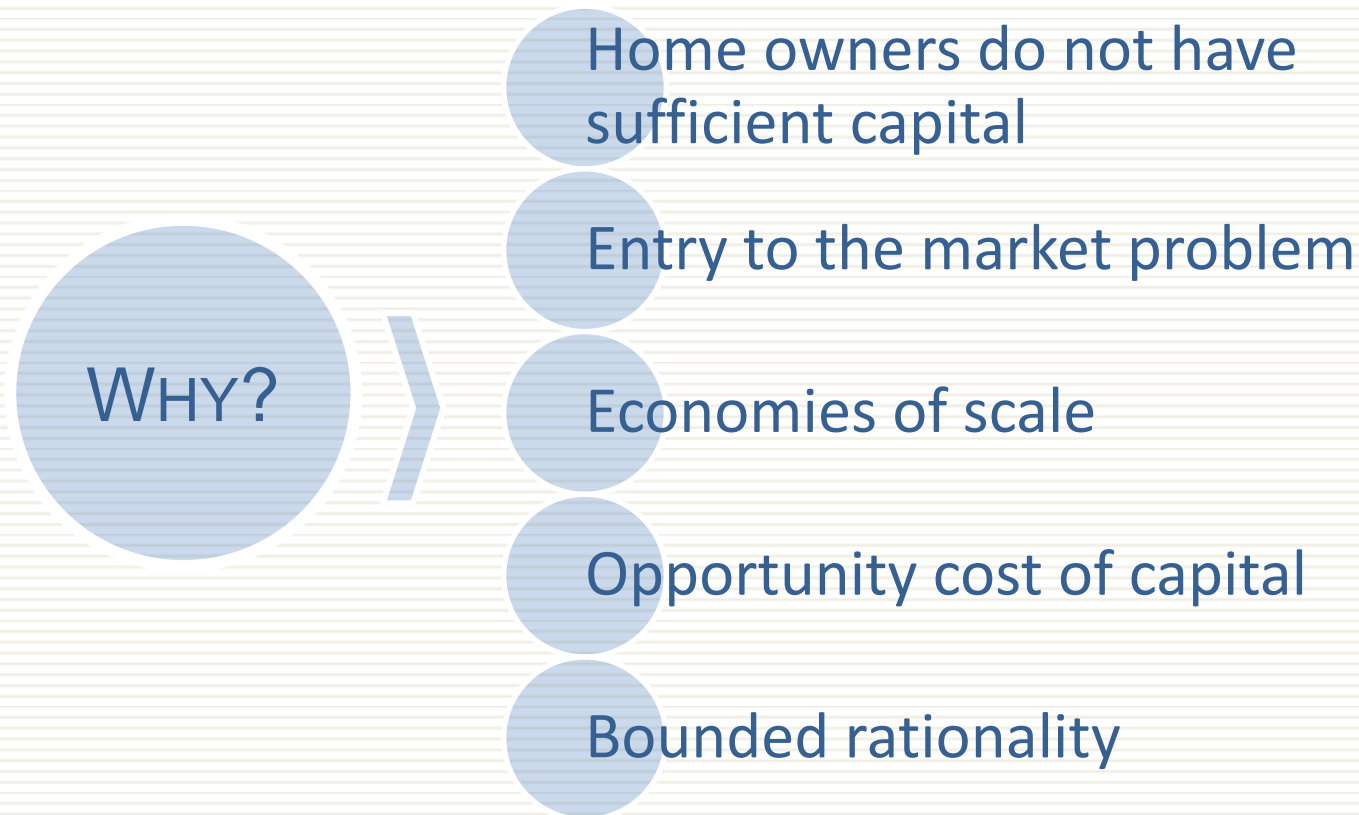


World Energy Outlook, 2014

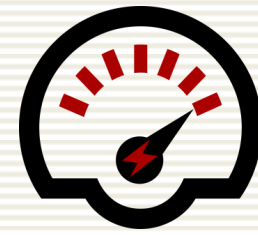
In order to keep global temperature increase below 2° C and avoid dangerous climate change, more than half of the global investment needed should be going into energy efficiency projects (IEA, 2014).

8-fold increase  
needed globally

# WHY IS PUBLIC SUPPORT NEEDED IF EE PAYS BACK?



# BOUNDED RATIONALITY AND THE LIMIT OF PRIVATE INTEREST



IS EE A  
PRIVATE  
MATTER?

30 years long perspective

Locked in capital

Short term priorities

Complex issue to understand

Or rather should  
be state  
responsibility?

# EFFICIENCY IS INFRASTRUCTURE



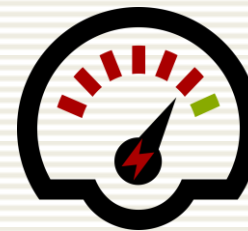
For three reasons:

1. DEFINITION

2. FUNCTION

3. LOGIC

# DEFINITION: ENERGY EFFICIENCY INVESTMENTS ARE INFRASTRUCTURE



This is the textbook  
definition of  
infrastructure

FRONTIER  
ECONOMICS'  
STUDY  
FINDINGS

Long term capital investment

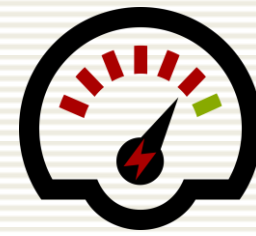
High up-front cost

Locked in physical structures

Fulfils basic social needs

Frees up resources for other  
use in the economy

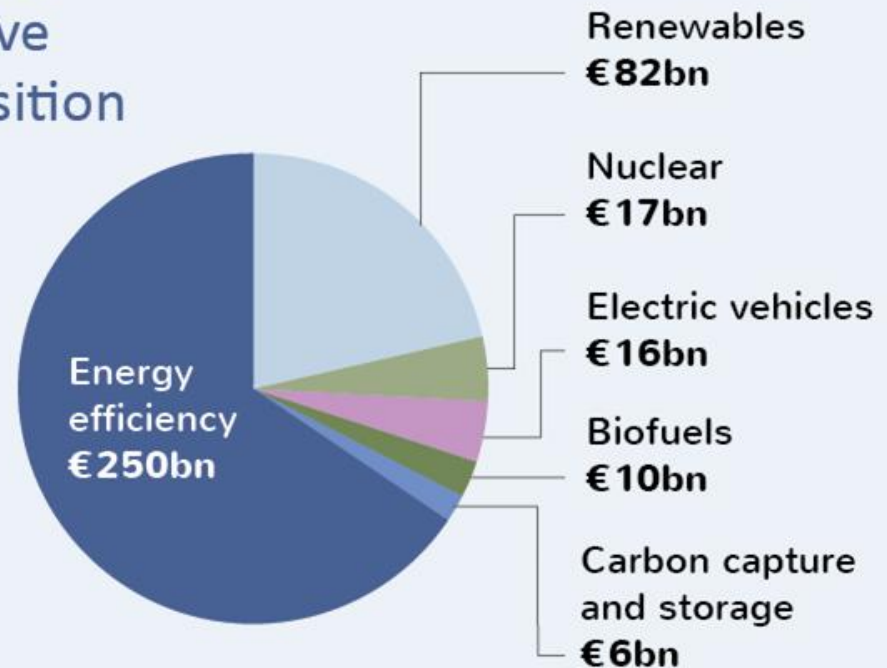
# FUNCTIONAL: LOW CARBON CAPITAL NEEDS IN EU



E3G

Energy efficiency is key to delivering a cost-effective and secure energy transition

Average annual EU low-carbon technology investment needed to meet a 2°C target



Source: IEA World Energy Investment Outlook





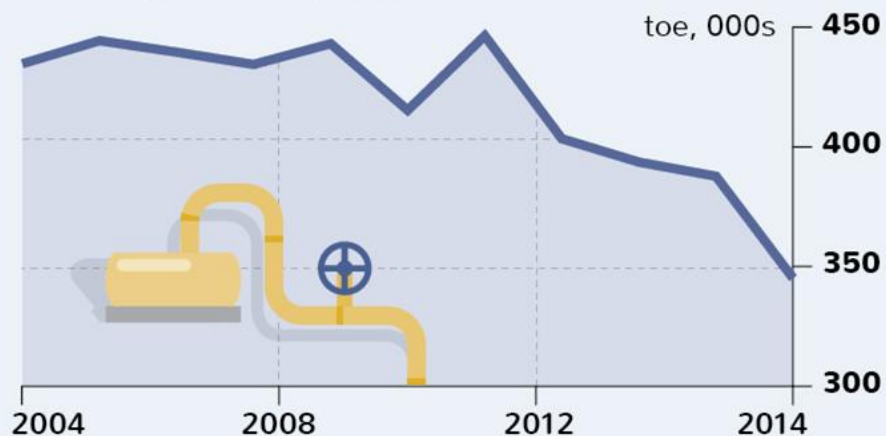
## Declining Gas Demand



E3G

Unlike new pipelines, efficiency is a low-risk investment as EU gas demand falls

Final EU gas consumption



Source: Eurostat

Avoidance of future  
stranded asset

Strengthens networks  
and resilience

# WHY IS EE CURRENTLY NOT PART OF THE INFRASTRUCTURE DEBATE?



POLITICAL  
ATTITUDE  
TOWARDS  
ENERGY  
EFFICIENCY IN  
G20 COUNTRIES



Everybody agrees it's important BUT

No strategic support and consideration around it

Infrastructure is a big issue, but...

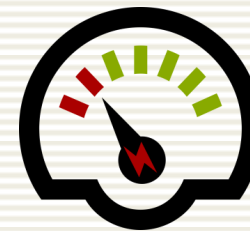
Energy efficiency is not part of this debate

EE is complicated and would take too long to deliver

Or worried it would not deliver

...so it doesn't get enough political support

# VALUE OF EE INVESTMENT COMPARED TO OTHER INFRASTRUCTURE PROJECTS



## Energy efficiency produces comparable economic return to other infrastructure

UK Infrastructure Investments: expected return on investment

		BCR*		
Building energy efficiency	€11.3bn	1.5	2.0	(assuming 50% of measures are privately funded)
HS2 (Phase 1)	€9.7bn	1.4	1.7	(including wider economic benefits)
Crossrail	€9.3bn	2.0	3.1	(including wider economic benefits)
Smart meter roll out	€8.4bn	1.6		

Source: Frontier Economics. \*BCR: Ratio of societal benefits to government costs. Not including wider economic benefits unless otherwise stated

Economic appraisal – level playing field

EUROSTAT accounting rules: debt versus asset

Better internal energy market

State Aid Treatment

# BUDGETARY IMPLICATIONS: OpEx TO CapEx



## Operational expenditure

Competing with socially sensitive state expenditure

Short-termist discussion

Add-on type programs

Victim of austerity policies

## Capital investments

Competing with hardcore infra projects where it performs well

Long term vision

Continuous, predictable support schemes

Visible benefits: job creation, competitiveness, energy security, foreign balance

# IMPLICATIONS ON FUEL POVERTY?



What if Energy Efficiency is considered part of the building infrastructure?

- Higher support will be given to EE investment?
- Higher quality social housing?
- ...???

# ENERGY EFFICIENCY IS INFRASTRUCTURE



Thank you for your  
attention!



[ada.amon@e3g.org](mailto:ada.amon@e3g.org)  
[www.e3g.org](http://www.e3g.org)

**Our latest briefing**

<https://www.e3g.org/library/energy-efficiency-as-infrastructure-leaping-the-investment-gap>