EuroACE

20 YEARS

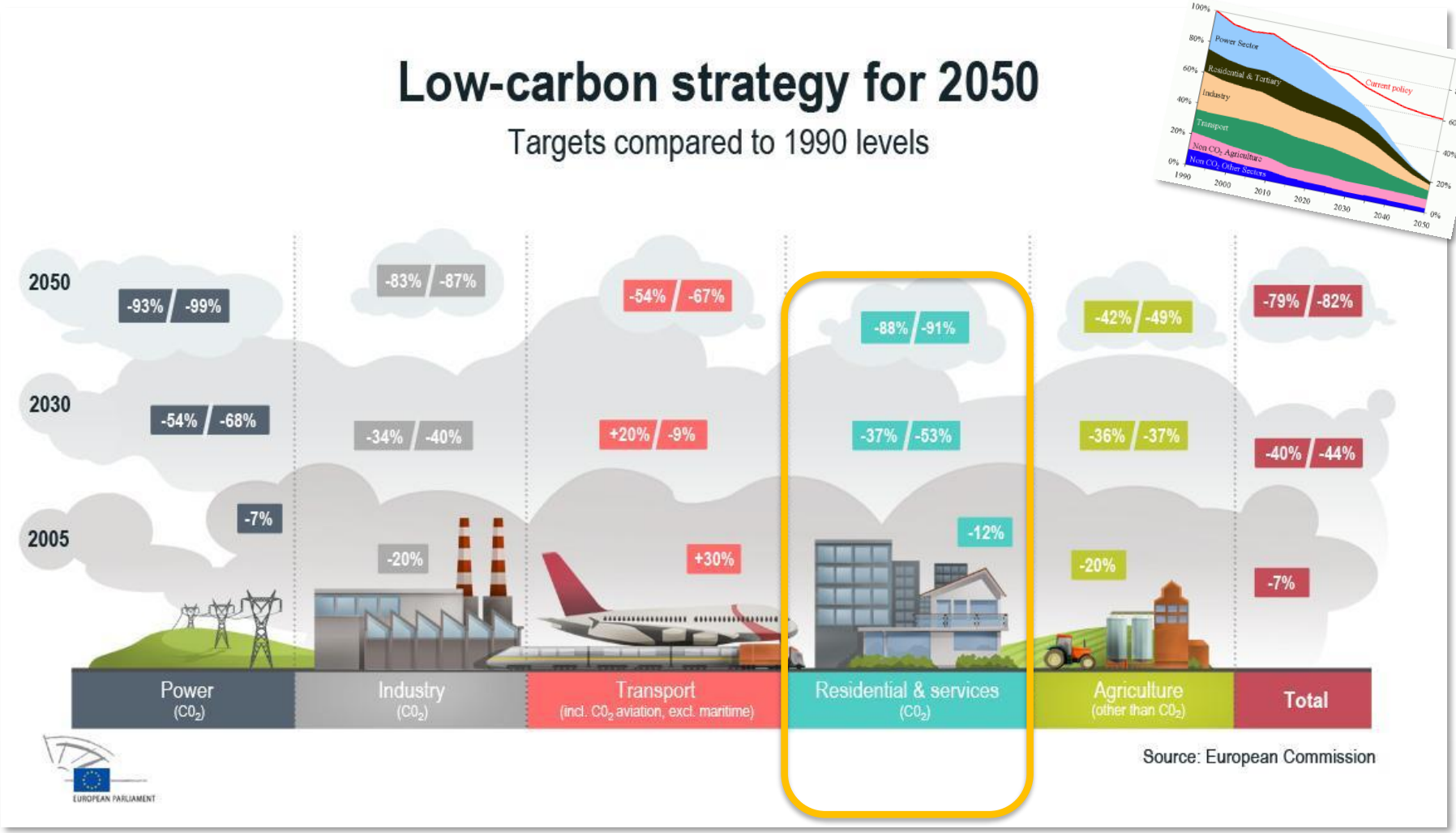
THE EUROPEAN ALLIANCE OF COMPANIES FOR ENERGY EFFICIENCY IN BUILDINGS

4th June 2018

EU Calc Workshop

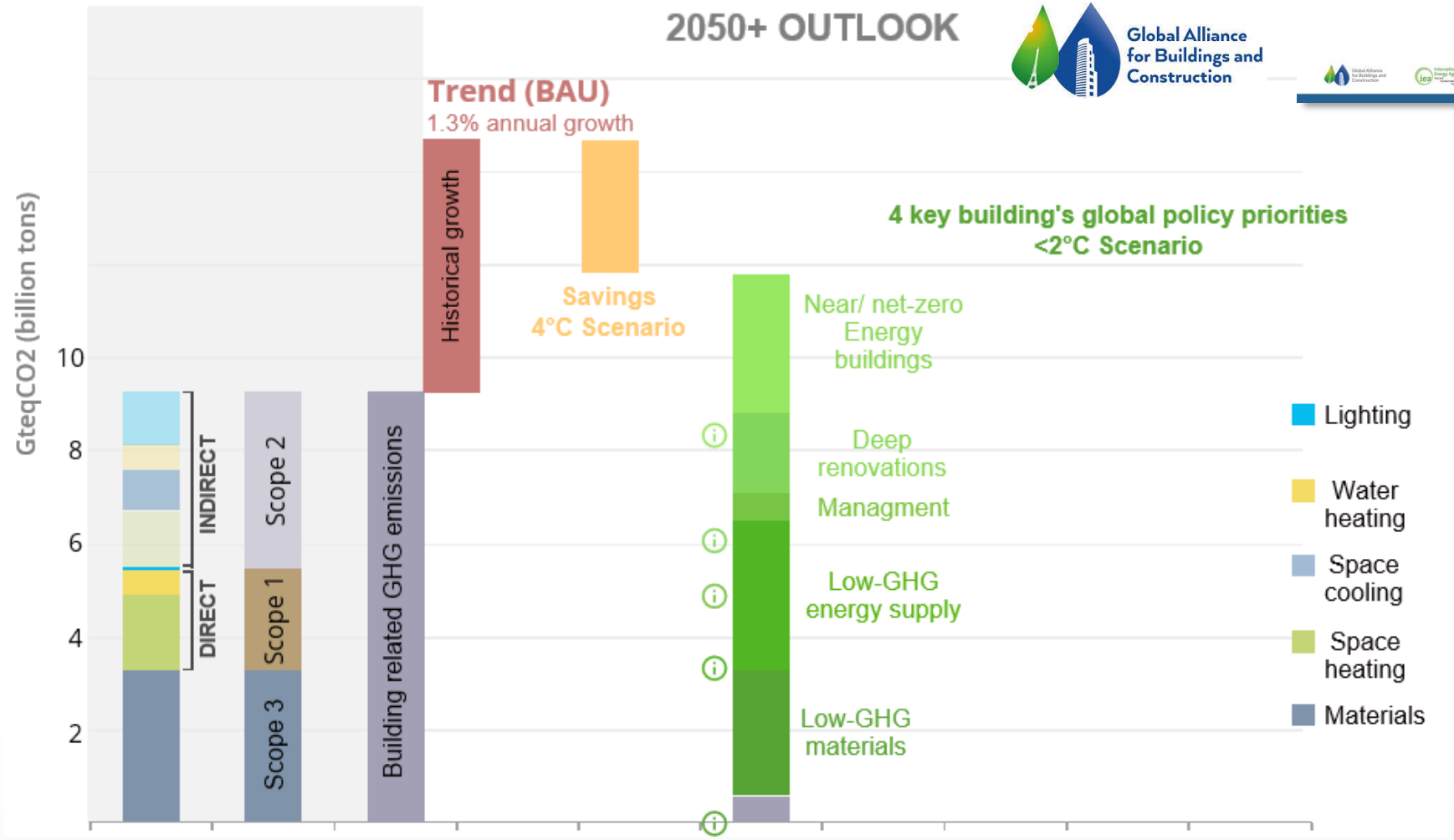
Céline Carré, President of EuroACE

Starting point for buildings (2011 roadmap)



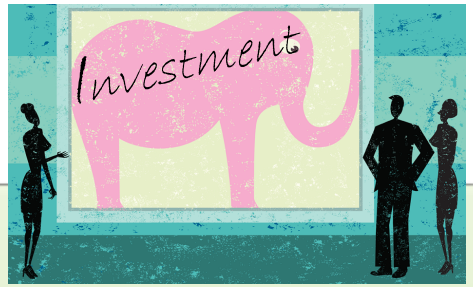
The reduction for buildings is -88% to 91% (37% - 53% around 2030)
Essential role for energy efficiency and renewables.

2018 - The new global landscape



Energy demand in buildings could increase globally by 50% in 2050.
But the sector offers the **largest cost-effective GHG mitigation #POTENTIAL**.

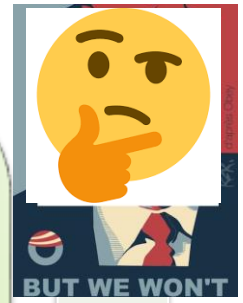
As an industry, can we make it ?



Yes we can …

- Technology is there
- Momentum & visibility (2050/2030)
- People want it! #jobs
- Digitalisation
- Finance steps in …
- New business models

- nZEB uptake too slow
- Renovation too slow
- Reluctance to renovate
- Floor space
- Consumer myopia
- Financing stays away
- Lack of pol. support…

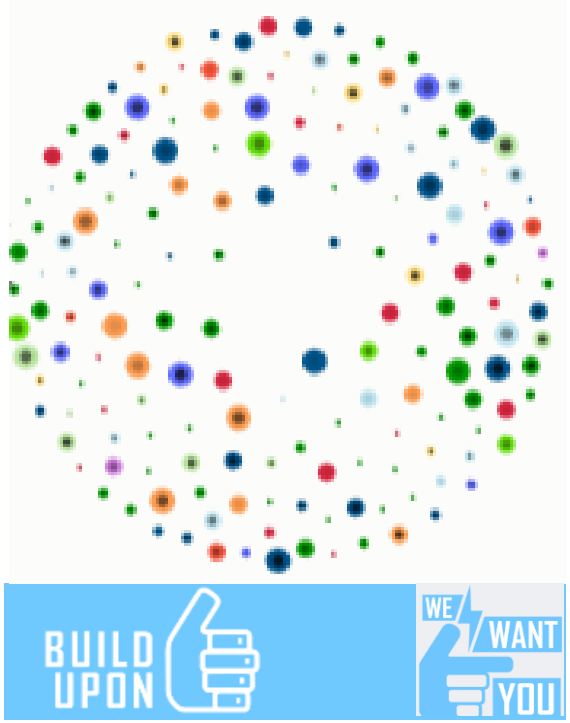


But we won't …

Industry CAN deliver, technically speaking.
Whether it WILL deliver depends on how quickly it can **#scale-up**.
#INVESTMENT today depends on the **visibility to 2030/2050**

Long-term planning essential for industry (and others)

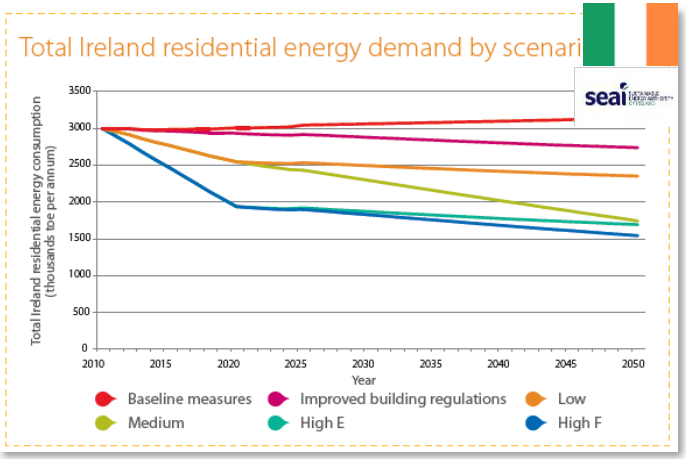
- Investing in new plants
- Modernising existing plants
- Developing new solutions / services
- Industrialisation / off-site / prefab
- Training / AI
- New ways of interacting w/ players :
  - Clustering / aggregating
  - Public / private
  - Financing / new instruments
  - Decision-making : multi-level

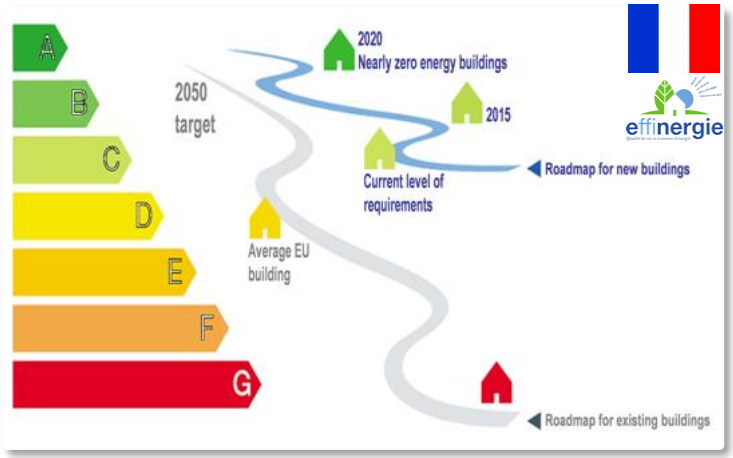


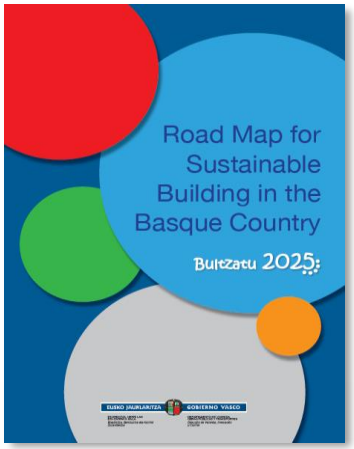
Long term-planning is key for **transforming** the sector.

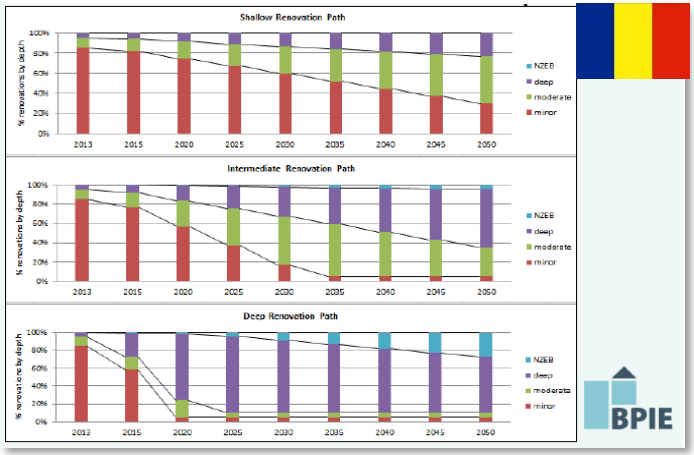
Also : It takes time to work differently ! **#collaborate**

Long-term planning starts with roadmapping









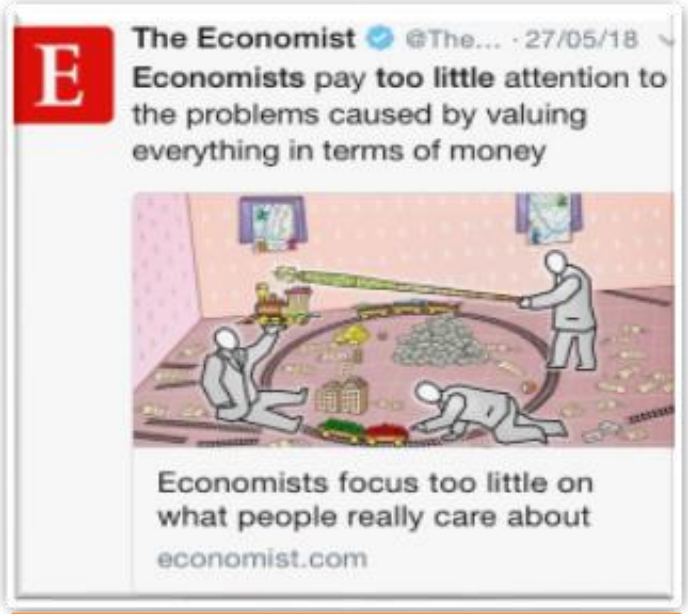
Some started early… but many more are catching up.
Roadmaps need good **#data** and good **#scenarios** (**#modelling**)

Modelling is about capturing trends

Besides climate and energy, **major trends** will **transform** the building sector. Modelling the decarbonisation requires to take a close look at them.

The many challenges of making choices in modelling

- Technological solutions
- Uptake & affordability
- (evolving) expectations
- Consumer behaviour
- Impact of policies
- Reduction of (perceived) risk
- … many " unknown" !



Beyond monetary value, how to capture the broader concerns and drivers of consumer choice, e.g. societal values, ecological impact…?

Modelling is important for how it describes the **present situation** and for how it can *realistically* represent the **drivers** for change. It helps reducing the future *unknown*. Making choices leads to **simplifying** - e.g. ignoring /magnifying trends…

Challenge #1 : Discount rates

Between a Rock and a hard place

How the cost of energy efficiency has been inflated

The European Parliament, Commission and Member States are currently discussing what the EU's 2030 energy efficiency target should be. And while the benefits of higher ambition are well known – climate action, jobs, better living standards, energy security – policymakers tend to focus most on investment costs.

This is why the discount rate which the Commission uses to estimate costs is so crucially important. A higher rate leads to calculations showing higher costs, making a more ambitious 2030 target look unattractive.

In climate and energy modelling, the discount rate is the value used to assess the costs of different scenarios. Put simply, the higher the rate, the higher the costs – and the less attractive the outcome. A very high discount rate in policy modelling is a disincentive, rather like a high interest rate on a house loan leading to punitive annual instalments.

So what discount rate is the Commission using in its modelling? For buildings, until two years ago, it was an astonishingly high 17.5%. This was higher than the rate used for oil companies operating in conflict zones. The Commission has since lowered the rate to 10%. But this is still much more than the discount rates used by the Member States. Already in 2015, the Member State average for buildings was a rate of 5.7% (see map).*

What does this mean? In 2016, using a 10% rate, the Commission recommended a 30% by 2030 target on cost-effective grounds. But if the same calculations were carried out using a Member State 5.7% rate, costs would be much lower, and the cost-effective potential significantly higher – in line with the Parliament's call for a 35% target, which several Member States are also backing.

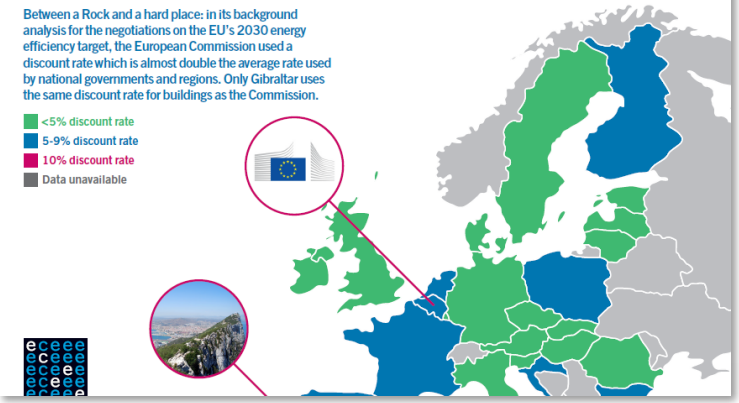
Policy decisions for the EU's 2030 efficiency target are being based on inflated cost estimates. If a more realistic discount rate was used, there would be a much stronger case for higher ambition. This in turn would have big, positive, socio-economic impacts, and help the EU to implement the Paris Climate Agreement.

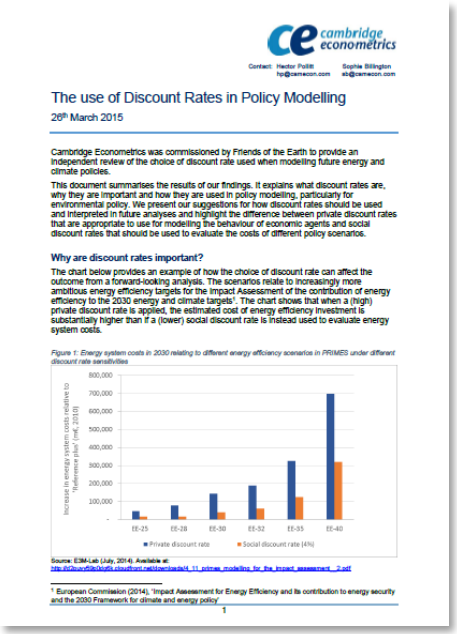
'The Commission […] assumes unrealistically high investment costs through the use of a […] 10% discount rate rather than a more realistic, nuanced cost and benefit analysis.'

Institutional Investors Group on Climate Change (IIGCC), a group of investment and pension funds representing over 21 trillion euros.

* eceee, Ecofys, November 2015, 'Evaluating our future. The crucial role of discount rates in European Commission energy system modelling'. www.eceee.org/policy-areas/discount-rates/

Between a Rock and a hard place: in its background analysis for the negotiations on the EU's 2030 energy efficiency target, the European Commission used a discount rate which is almost double the average rate used by national governments and regions. Only Gibraltar uses the same discount rate for buildings as the Commission.





cambridge econometrics

Contact: Hector Pollitt hp@camecon.com Sophie Billington sb@camecon.com

The use of Discount Rates in Policy Modelling

26th March 2015

Cambridge Econometrics was commissioned by Friends of the Earth to provide an independent review of the choice of discount rate used when modelling future energy and climate policies.

This document summarises the results of our findings. It explains what discount rates are, why they are important and how they are used in policy modelling, particularly for environmental policy. We present our suggestions for how discount rates should be used and interpreted in future analyses and highlight the difference between private discount rates that are appropriate to use for modelling the behaviour of economic agents and social discount rates that should be used to evaluate the costs of different policy scenarios.

Why are discount rates important?

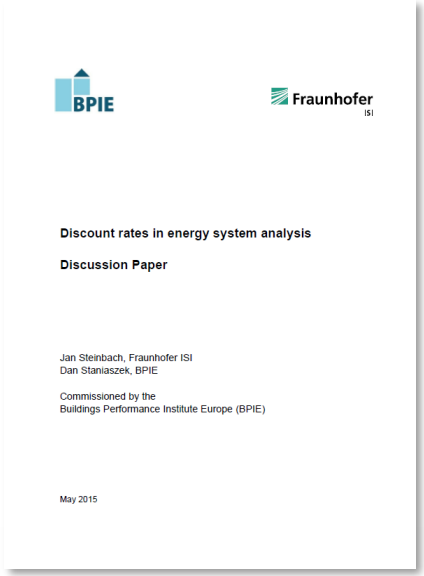
The chart below provides an example of how the choice of discount rate can affect the outcome from a forward-looking analysis. The scenarios relate to increasingly more ambitious energy efficiency targets for the Impact Assessment of the contribution of energy efficiency to the 2030 energy and climate targets[1]. The chart shows that when a (high) private discount rate is applied, the estimated cost of energy efficiency investment is substantially higher than if a (lower) social discount rate is instead used to evaluate energy system costs.

Figure 1: Energy system costs in 2030 relating to different energy efficiency scenarios in PRIMES under different discount rate sensitivities

Source: E3M-Lab (July, 2014) Available at:

[1] European Commission (2014), 'Impact Assessment for Energy Efficiency and its contribution to energy security and the 2030 Framework for climate and energy policy'

1



BPIE

Fraunhofer ISI

Discount rates in energy system analysis

Discussion Paper

Jan Steinbach, Fraunhofer ISI
Dan Staniaszek, BPIE

Commissioned by the
Buildings Performance Institute Europe (BPIE)

May 2015

Building renovation : How much can we (*do we want to*) reflect the **complexity** of decision-making?

How much can we (*do we want to*) account for the impact of policies?

Challenge #2 : Describing motivations

Example of a model that assumes :

- 20% « resisting»
- 60% « variable »
- 20% « frontrunners »

Contexte sociologique

- Les motivations de rénovation, la sobriété et la gestion de l'énergie sont sujettes à la structure familiale. 3 catégories sont distinguées :
  - **Résistants (20%)** : privilégient le confort, ne pratiquent pas la sobriété.
  - **Variables (60%)** : choisissent les postes sur lesquels faire des efforts selon leurs préférences.
  - **Moteurs (20%)** : Sobres par jeu et conviction climatique

Why do people want to renovate?

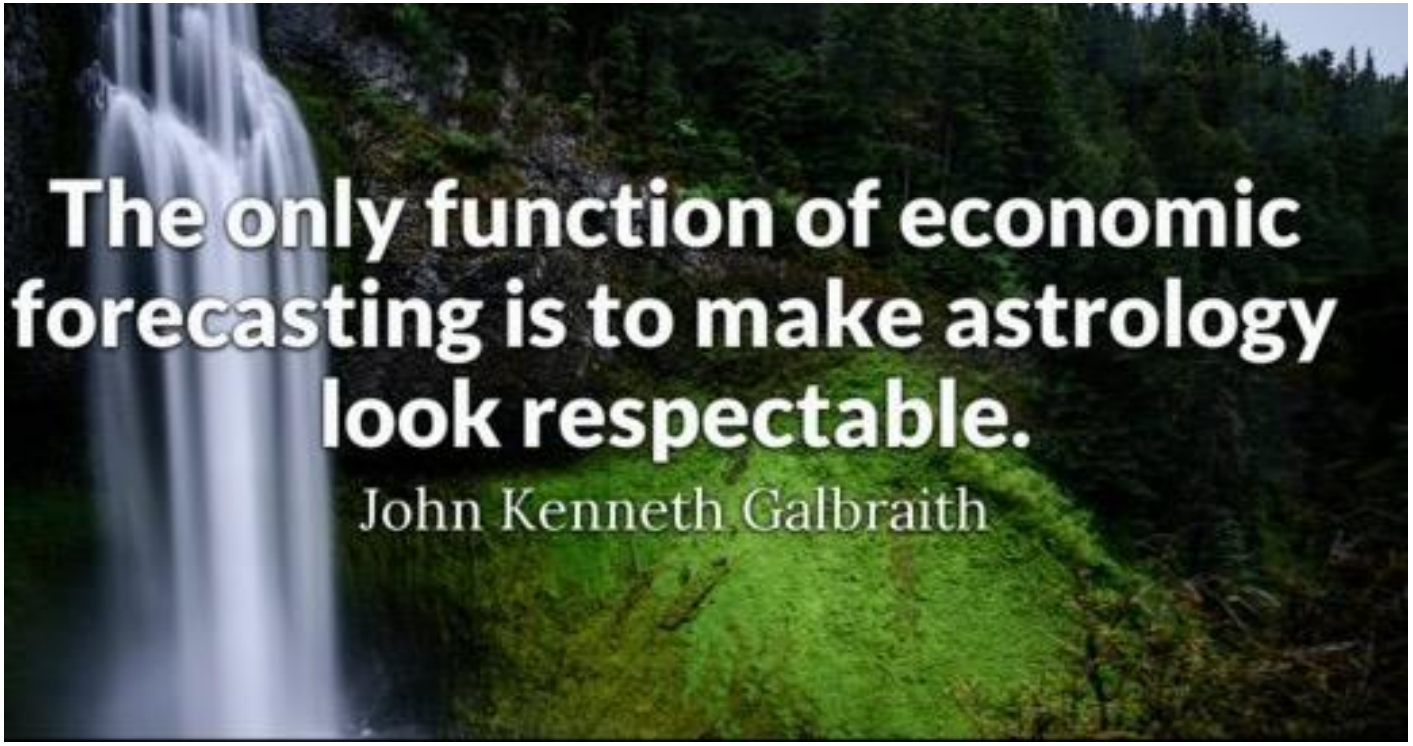
Can we still assume that "frontrunners" renovate their home with a view to restrain **comfort**, simply encouraged by their climate conviction ?

Conclusion: How can modelling best support decision-making ?

- ✓ Good data
- ✓ Make assumptions transparent
- ✓ Revisit assumptions, e.g. discount rates
- ✓ Capture trends, e.g. multiple benefits
- ✓ Envisage complexity
- ✓ Recognise changes, impact of policy

1) Ensuring **consistency** between modelling assumptions, societal & economic reality
2) Modelling cannot ignore **trends** incl. those pushed by policy
3) Openness in early stage as an essential success factor for designing policy

Thank you for your attention



Economics as one way of looking into the future, not the only one ☺

Back up slides

EuroACE Members (May 2018)

What is EuroACE?

- Europe's **leading companies** involved with the manufacture, distribution and installation of a variety of energy saving goods and services in buildings

- **Objective**
  To promote **energy efficiency in buildings** on the EU political and regulatory agenda, raise awareness, provide research data and communicate on available solutions and policies

- We believe that improving the energy efficiency of buildings is the most **cost-effective** method of
  - ✓ Creating employment and securing economic recovery
  - ✓ Achieving energy security
  - ✓ Meeting carbon reduction targets
  - ✓ Providing Europeans with comfortable & healthy homes