

Battle of the Discount Rates

Why the European Commission needs to use a lower discount rate for energy efficiency



President Juncker, Vice-President Šefčovič and Commissioner Arias Cañete are very supportive of energy efficiency. They're calling for higher ambition and an 'efficiency first' approach to energy policy. But this is being undermined by modelling methodology which assumes renovating a building in Europe is riskier than drilling for oil in a war zone. It's the high discount rate issue – and it must be fixed as soon as possible.

What are discount rates?

In climate and energy modelling, the discount rate is the value used to assess the costs and benefits of different scenarios. Put simply, the higher the discount rate, the higher the estimated costs – and the less attractive the policy. It's like having a very high interest rate on a house loan.



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High discount rates are bad news!

The European Commission is using an extremely high discount rate of 17.5% for energy efficiency. The result: ambitious efficiency policies look horribly unattractive. And because scenarios for high efficiency and renewables tend to go hand in hand, wind, solar and other clean energy sources look just as uninviting.

This has very negative consequences for EU decisions about emissions cuts, security of supply, employment and energy costs. According to Commission analysis carried out last year, a 40%-by-2030 energy efficiency target would reduce gas imports by 40% and increase GDP by 4.45%. It would also allow almost 55% emissions cuts by 2030, according to research group Ecofys. But because efficiency scenarios were modelled with such a high discount rate, a 40% efficiency target was judged too expensive even to be considered.

So is a 17.5% rate justified? And if not, what would be a fair rate?

Is a 17.5% discount rate justified? It is, if you assume that renovating a house in Europe is a riskier enterprise than drilling for oil in Iraq on the edge of Islamic State territory. Here is a table comparing different discount rates.

Who	Activity	Discount Rate
UK Office of National Statistics	Calculating the monetary value of North Sea oil and gas reserves	4%
E.ON	Nord Stream pipeline	10-11%
BP	Oil and gas explorations	11%
Genel Energy, DNO, Keystone	Energy investments in Iraq	15%
European Commission	Energy efficiency in the EU	17.5%

Last month Friends of the Earth Europe asked Cambridge Econometrics – which has done a lot of analytical work for the Commission – for its opinion. Cambridge Econometrics explained that standard practice would be to use a rate of 4% or less (as the Commission originally recommended in its 2009 impact assessment guidelines).

You can read the Cambridge Econometrics report here: www.bit.ly/1P5vbAB

Key points from Cambridge Econometrics report

i) Maintaining a flat 17.5% rate out to 2030 assumes the Commission's policies to address barriers and stimulate efficiency over the next decades will not have any impact. In other words, the current approach is self-defeating: it assumes policy failure before new policies have even been trialled.

ii) A high discount rate places little emphasis on future costs and benefits. It therefore favours fossil-fuel based technologies, which have relatively low upfront costs, but high fuel and operational costs.

iii) Usual practice in modelling is to apply a higher 'stage one' discount rate to model the decision-making behaviour of economic agents, and a lower 'stage two' rate – typically a social rate – to evaluate costs and benefits. The Commission is currently doing the exact opposite, with the result that costs appear unacceptably high.

Battle of the discount rates in the Commission

There is a strong campaign already underway inside the Commission to lower the discount rate for efficiency.

Last year, the Commission's energy department modelled three scenarios for the 2030 efficiency target: a 4% discount rate, a decreasing rate (falling from 17.5% to 10%), and the 17.5% rate. The cost differences were staggering: €600 billion between the 4% and the 17.5% rates. These numbers helped convince Germany, France, Denmark and five other member states to write to the Commission in support of higher ambition.

But in the end, due to internal opposition, the cost assessments using lower rates were deleted from the Commission's final analysis. Only the results calculated with the 17.5% rate were retained. More than anything, this gave critical member states like the UK the justification they needed to force through the weak 27% energy efficiency target in the European Council last October.

A consensus is now emerging to use a 10-12% rate to calculate costs. This is a step in the right direction, but a social discount rate would be the best choice to assess the costs and benefits of efficiency policies. Otherwise the analysis would be one-sided.

What can be done to fix the discount rate issue?

Lots, fortunately. This year the Commission is updating its modelling projections for 2030 and beyond (the PRIMES reference scenario). It is also revising its impact assessment guidelines. These are perfect opportunities to lower the discount rate for efficiency.

Arguments for and against a lower discount rate for efficiency

Here is a summary of the top 'justifications' for keeping the 17.5% – and what we think are compelling arguments for rejecting them.

In favour of the status quo

It's important to keep 17.5% to be consistent with previous analysis.

The 17.5% rate has been used since at least 2003. It is out of date - a lot has changed in that time.

In favour of a lower rate

The 17.5% discount rate reflects the high cost of capital in Central and Eastern European countries.

17.5% was being used before CEE countries even joined the EU. Besides, many efficiency projects are being financed by EU funds. This lowers the cost of capital.

17.5% reflects the cost of capital + non-financial costs and barriers.

Keeping 17.5% for scenarios until 2030 assumes the Commission's policies to address barriers and stimulate efficiency will have zero impact. Hardly realistic.

If the Commission uses low discount rates, costs would fall so much that targets and measures are no longer needed.

Low rates are used for climate modelling (e.g. the Stern review) but nobody suggests climate action will happen by itself.

The Commission is already using lower rates for efficiency.

It is when modelling decision making behaviour of economic actors. But it is still using a flat 17.5% to calculate energy system costs.

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