The role of building renovation in the EU investment strategy

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1 The key approach: mobilising private investment for growth

The EU Commission has proposed an ambitious investment plan[1] motivated by the co-existence of two major economic problems in the EU: the severity of the economic crisis, most notably expressed as low investments, *and* the huge stock of viable investments being held back by a number of factors. Hence, the EU Commission has proposed an investment plan based on three key principles: (1) mobilising (new sources of) finance for investments, (2) making sure this finance reaches the real economy in order to support growth and jobs, and (3) improving the investment environment.

To unlock private and public investment, the EU Commission and the European Investment Bank have more specifically launched a partnership to increase investment by € 315 billion over the period 2015-2017. Designated target areas are infrastructure (notably broadband and energy networks), transport infrastructure in industrial centres, education, research and innovation, and, last but not least, renewable energy and energy efficiency.

2 European Fund for Strategy Investments: key objectives

In order to implement this strategy, a European Fund for Strategic Investments (EFSI) has been proposed. Meanwhile, a joint Task Force (Member States, the Commission and the EIB) has identified projects worth € 1.3 trillion out of which € 500 billion could be carried out during the next three years.

The challenge now is to make sure that the EFSI initiative delivers in a balanced way on the three key objectives stated for the operation of the fund:

- Boost short and medium-term (investment) activity
- Give priority to projects with high returns to society
- Support broader EU policy objectives

[1] An overview of the objectives, targets and instruments is provided in factsheet 1 and 3 from the European Investment Bank (2014 a and b).

The simultaneous attainment of multiple objectives calls for a balanced score-board approach in which the investment projects in the designated areas are scored according to these three criteria.

The main conclusion in this note is that investments in deep energy efficiency improvements in the existing building stock will be able to score high on all three counts and, in particular, on the second objective, thereby providing the quickest boost to the economy with a high ability to frontload activity. In the last part of this note, we have proposed two approaches, which could ensure that this latter perspective is reflected in the way the selection of investment projects to obtain support from the EFSI could be organised.

3 Scoring on the three objectives

3.1 Boost short and medium-term activity

The key parameters deciding the speed and force with which projects can be turned into activity are complexity, bang-for-buck factor (or leverage factors), and lead times (which are only partially linked to complexity).

We argue that investments in energy renovation of buildings score high on all three counts, i.e. low complexity relatively speaking, high bang-for-buck and short lead times.

The *low complexity* argument rests on three main arguments. First, we have strong and increasingly well-established models[2] for using a variety of financing instruments to promote both small and large scale investments in energy efficiency in the existing building stock. Second, the models typically require the involvement of relatively few stakeholders per project undertaken. These are mostly private sector actors with a limited need for public planning and permission prior to the investment taking place. This is very much linked to the fact that the nature of the building is not being changed in a radical way. As a result, there is only a limited negative impact on the area in which the activity takes place. Third, the mobilisation of EFSI as well as pension funds etc. is to be mobilised not on project-by-project basis, but, most often, via specialised institutions capable of managing a portfolio of energy renovation projects. This is the same kind of model which is used when e.g. pension funds invest in smaller firms through partnerships with private equity and venture capital providers.

Complexity is much higher in the other priority areas. For example, investments in energy or transport infrastructure often involve substantial changes in spatial use with resulting needs for environmental and other assessments as well as subsequent politi-

[2] EEFIG (2015) provides an overview of such models.

cal uncertainty. Furthermore, an assessment of the benefits of these investments is often related to their impact on a wide set of *potential* not *actual* users, thus requiring more substantial cost-benefit analysis. For projects based on cross-border benefits, the complexity is further compounded by the need to define relative burden sharing of different regional and national budgets.

Deep-renovation projects also have a *high bang-for-buck* factor: each committed unit of spending from the EFSI could be followed by a larger sum of private investment thus giving a larger stimulus to the economy. Essentially, this is a result of the underlying strong economics of deep renovation projects. While e.g. deployment of new alternative energy sources, like renewable energy requires public subsidies to compensate for higher production costs than conventional fossil based production, the gains to public and private owners of improving the energy performance of existing buildings may well exceed their costs.[3] In essence, building renovation is really a low costs option to reduce CO_2 emissions with a very large cost-effective potential. Thus, when focusing on the overall draw on public resources – both from the EFSI and complimentary need for co-funding from national public budgets – energy efficiency investments are attractive. Indeed, we would suggest that EFSI funding could be a trigger for a massive and privately financed roll-out of renovation of buildings across the EU through learning effects from an EFSI programme and by breaking down regulatory as well as non-regulatory barriers to investment.[4] The IEA has estimated that it could be cost-effective to double investments in building renovation from current levels if ambitious climate policy goals are to be attained.[5]

Lastly, deep renovation projects also have a short lead time. This final point relates to the speed of the roll-out of investments. Large infrastructure projects take a long time to plan and implement due to the complexity of such projects. Estimates from the Netherlands suggest that large public transportation projects take on average 14 years from inception to completion.[6] Large lead times are furthermore highlighted in a study for the European Parliament.[7] The long completion time after approval of projects that have taken place is also evident in the preliminary review of investment plans, which the Task Force, referred to above, has drawn up. Even for shovel ready infrastructure projects in the energy and transport area, for which investments could start quickly i.e. 2015, the share of total activity finished by end 2017 is mostly between 1/3 and 2/3. By contrast, investments in energy efficiency in existing buildings commenced in 2015

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3 This factor has been highlighted in a number of studies including the much quoted McKinsey studies of Marginal Abatement Cost Curves and a number of other studies (McKinsey (2009) and Ecofys (2009). At the very least, the empirical evidence suggests that, in a short to medium term horizon, energy efficiency investments are across the world one of the least expensive options to reduce emissions of greenhouse gases.

4 Key regulatory barriers were identified in Copenhagen Economics (2012), including rent regulation, public government procurement practices and taxation of energy use.

5 IEA(2014b)

6 Press announcement from the Dutch government in the context of plans to speed up the framework for transport infrastructure investments (see link in literature list)

7 The European Parliament (2011)

would be finished by 2017. In fact, one study of deep energy retrofits in the US showed that 9 out of 11 projects were finished within a year.[8]

Table 1 Projects started in 2015: share of activity finished by 2017

	Investments 2015-17 / Total investments in per cent	
	Transportation	Energy infrastructure
Estonia	33%	65%
Germany	34%	60%
Italy	17%	40%
Portugal	55%	66%

Source: European Commission (2014a and b), the special task force (Member States, the Commission, and the EIB) on investment in the EU

3.2 High returns to society

The operationalization of the concept of high returns to society is not straightforward, but some key issues are central. First, for any given instrument chosen to pursue a given policy objective, preference should be given to the most cost-effective instrument. Hence, we should prioritise instruments for which gains to society can be achieved with the lowest cost to tax payers e.g. in terms of required subsidies.

We have already noted above that in the short to medium-term perspective, renovating buildings is an attractive and low cost option to reduce CO2 emissions and dependency on imported energy for heating purposes. These are two central EU policy goals, as recently underlined in the Energy Union package.

Additional benefits include better indoor climate and less air pollution, both of which improve welfare and health.[9] Estimations show that health benefits may reach € 40 to 80 billion per year by 2020 if the EU has fully implemented its potential for cost-effective building renovations.[10]

A cost-benefit analysis should be carried out by discounting the future costs and benefits back to the present time by way of a discount rate to calculate a net present value of projects to society. The chosen discount rate should represent the true costs for society in terms of giving up benefits today for benefits tomorrow.

It is important that this discount rate is chosen appropriately. In particular it is paramount that it makes a non-biased comparison between possible alternative investment opportunities.

8 http://www.rmi.org/Content/Files/RMI_Retrofit_Guide_BuildingTheCase_1.1.pdf

9 A large survey of such benefits are contained in IEA (2014c)

10 Copenhagen Economics (2012).

We have noted in this context that the EU Impact Assessment on the 2030 Framework Communication uses a much higher discount rate for energy efficiency investments than for investments in renewable energy.[11] The stated argument is that investments in energy efficiency are held back by the myopia of consumers unable to recognise the benefits of future energy savings. However, myopia is not an argument for lowering the present value of future gains to society. It is an argument addressing the factors, which hold back otherwise valuable investments. Indeed, we suggest that the largest barrier to deep renovation in the existing building stock, often owned by larger private or public entities, is not only lack of willingness or understanding of the benefits of energy renovation, but also regulatory and institutional barriers that can be addressed if the will to do so is present.[12]

3.3 Support to broader EU objectives

Energy renovation investments in particular as well as investments in energy infrastructure are a priori well aligned with long term established EU objectives predating the current investment strategy and recently confirmed in the context of the proposal for an Energy Union Package.[13] For energy renovation investments, the important factors are once more the very large bang-for-buck factor in boosting employment and growth as well as the EU's long term agenda in the areas of climate policy and energy security.[14] For infrastructure, there is also a clear need for a better functioning internal market. This is not least in order to deal with the increasing penetration of wind power, which requires the ability to transport power over a long distance in order to connect producers and consumers of electricity much better than today.

Joint funding at the EU level can help such projects come into place quicker and with a larger scale compared to a scenario using national measures only.

4 Conclusions: organisation of project approval and funding

We suggest that the procedures for vetting and approving funding for individual projects should reflect the very diverse nature of the objectives pursued as well as the nature of the underlying projects. In particular, we suggest that it is important to ensure a selection process of funding for investments whereby a distinction is made between relatively "shovel ready" investments as opposed to projects with a substantial long term merit - for example for the functioning of the EU energy markets - *but* which require more substantial vetting before funding can be achieved, and where activity is spread out over many years.

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11 EU Commission (2014b)

12 This point is also recognised in the IA, namely that barriers to energy efficiency investments can be reduced, which will make sure that more of such investments are doable. We also note that the UK Treasury also favours a flat discount rate of 3½ per cent for all CO_2 mitigation projects.

13 European Commission(2015)

14 According to research from Ecofys, 61% of the gas imported by the EU is used in buildings, and this import could be reduced by 2/3 within one year, and by 100% in 2050 if ambitious building renovation programmes were put in place (Ecofys.2014)

In our case, this suggestion leads to two possible approaches:

- The ranking of projects could be based upon both a ranking of net benefits with a minimum required rate of return for society *and* ability for quick roll-out with large leverage of private investments
- A possible grouping of investment projects with a separate evaluation process for investment projects with high/low complexity and high/low roll out speed

Such a procedure would have at least two types of benefits:

- Approval of "shovel ready" projects are not held back by the need to assess projects with much more complexity
- It would allow for a more explicit role in setting political priorities for the overall package for example by designating a minimum of funds to be reserved for projects where activities can be finished by, for example, 2017.

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