

DECENT – Key recommendations

In the coming 20 years, decentralised generation (DG) is expected to play an increasingly important role in the European electricity infrastructure and market, as a consequence of the EU policies on renewables (RES), cogeneration (CHP) and greenhouse gas emissions. DG can be defined as small-scale generation connected to the distribution network or on the customer side of the meter. The application of DG is often highly location specific and depends on such diverse issues as the possibilities of technical implementation, resource availability, environmental aspects, social embedding of the project, regulation and market conditions. These factors vary considerably between technologies and the EU Member States. The DECENT project sought to identify the main barriers and success factors to the implementation of DG projects within the EU and has derived a number of recommendations to EU and Member State policy makers to enhance the feasibility of DG projects within the internal energy market. The main policy recommendations are listed below; recommendations aiming at specific EU policies are described in the report to be published by ECN in September 2002.

Most of the barriers identified are due to the fact that the current electricity market framework and network regulation hardly recognise the values of DG, in particular those related to environmental benefits, to electrical or grid services and to security of supply in the EU. It is therefore essential that future policy acknowledges and values the qualities of DG. Considering the ongoing trend of liberalisation and the increased use of market mechanisms as policy instruments it is recommended to take a market conform approach to policy development. The ultimate goal should be to design markets that provide a level playing field for centralised and distributed generation. Markets must be open and transparent, and should give fair chances to different types of actors. Finally, in the long run, the environmental values of DG should be acknowledged in a market conform manner while energy prices reflect external costs.

Tackling DG connection and system integration barriers

DG connection and system integration can be improved by enhancing the transparency on the terms, conditions, and procedures for connection. Particularly important in this regard is the standardisation of the technical interface between DG and the grid, and the existence of clear non-discriminatory cost allocation rules. These cost allocation rules should take into account the benefits of DG to the network, such as avoided grid investments and grid losses. However, these recommendations do not prevent that network companies may have incentives not to connect DG due to the economic regulation that they are subject to. Economic regulation of network companies should therefore be neutral to the integration of DG into the network. Furthermore, strict unbundling of network operations and ownership from generation and supply of electricity is a prerequisite to prevent such incentives on the part of network companies. Finally, the regulation of the distribution grid is currently left to the Member States, but will become increasingly important for the EU electricity market when the share of installations connected to the distribution network increases, in line with the current policy intentions.

Improving DG planning and authorisation procedures

Acquiring planning consent and authorisation for the establishment of DG is a major barrier to many projects, due to non-transparent and time consuming procedures, and local opposition. Furthermore, network planning and spatial planning and RES planning currently take place in a non-co-ordinated manner, thus raising the cost of DG integration. Means to overcome this barrier are streamlining planning and authorisation procedures for small-scale RES and CHP, involvement of local actors, proactive designation of areas for DG development in spatial plans

for RES and heat planning for CHP, co-ordination of spatial planning, network planning and integration of RES.

Enhancing the financing of DG

Due to the lack of a level playing field in current electricity markets, and because the external cost of electricity production are not reflected in the prices, many DG technologies need financial support to be viable under current market conditions. In the long run, internalising the environmental benefits of DG should diminish the need for support. However, in the mean time, support mechanisms should be market conform and in line with the trend of liberalisation. To reduce the uncertainty to investors, support policies should take into account and anticipate the future harmonisation of support frameworks across the EU. With a view to providing a more stable long-term policy framework it is desirable that at the EU level long-term policy targets for the integration of renewables and cogeneration are fixed. As many DG projects are set up by small-scale players, it is important to reduce the transaction cost in using support mechanisms and in operating on the electricity market.

Recommendations for further research

There are many subjects that are important to the integration of DG in EU electricity systems and could not be studied within the DECENT project, but which deserve further attention in future research projects. First, given the expected growth of the market share of intermittent renewables and heat-based CHP, the costs of imbalances will become increasingly important, and priority dispatch will no longer be a feasible measure. Therefore, further research on technical and market solutions to balancing problems is crucial. Secondly, it is recommended that further research on the role of information and communication technology (ICT) in co-ordinating market and network operations is conducted.

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