

## Regional renewable energy analysis: use of biomass as a local contribution to the national renewable heat target

### Summary

The Western Development Commission (WDC) has completed an analysis of biomass use in the WDC region (Donegal, Sligo, Leitrim, Roscommon, Mayo, Galway and Clare) and an assessment of its contribution to the national renewable heat target (RHT).

Ireland is expected to miss its renewable energy target, in particular the deployment of renewable heat which was only at 6.5% by 2015 and the 2020 target is 12%. To help address this issue the Government is introducing a Support Scheme for Renewable Heat (SSRH) which is designed to kick start growth in renewable heat deployment by offering payments for renewable heat outputs.



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For further information on this analysis, please contact the Western Development Commission ([www.wdc.ie](http://www.wdc.ie)) on 094 98 61881

## Biomass heat deployment in the WDC region

Between September and December 2017 a survey of biomass deployment in the WDC region was undertaken and this found 7 large industrial biomass schemes using 110,000 tonnes of wood fuels per annum. The installed capacity of these schemes ranges from 2,000kW to 22,000kW. The survey also found 43 smaller non-domestic biomass installations with installed capacities ranging from 50kW to 550kW. Only 24 of these are known to be operational, representing 6,600kW of installed capacity using 6,269 tonnes of wood fuel per annum. In summary:

The industrial biomass market is characterized by a small number of large investments totaling deployment equal to **31.2 Kilotonne of Oil Equivalent (ktoe)**.

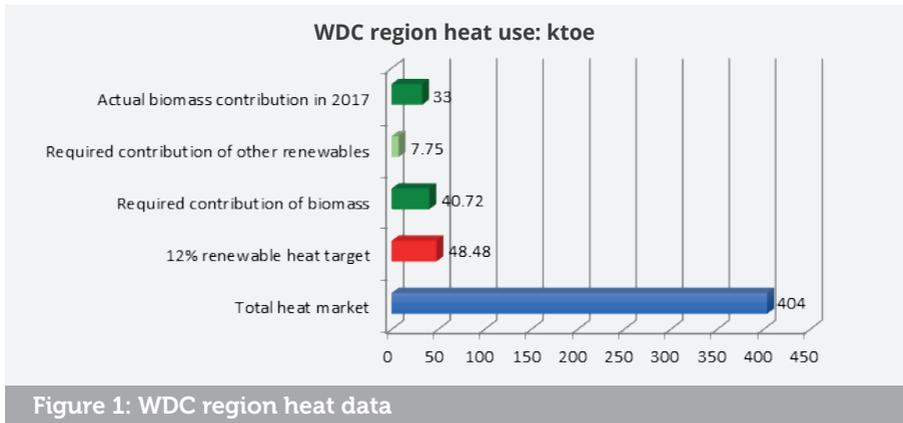
The non-domestic biomass market is characterized by a large number of small investments totaling deployment equal to 1.74 ktoe.

In the WDC region the total biomass deployment is equal to 32.94 ktoe – which is 8.1% of the WDC heat market.



## The potential role of biomass by 2020

Biomass heat needs to amount to 40.72 ktOE of the WDC regional heat use by 2020 if the national 12% RHT is to be met in the WDC region. These assumptions are illustrated in figure 1 below.



Taking into account the already installed biomass this means 7.78 ktOE of new biomass capacity must be added by 2020 to help deliver the 2020 RHT on a regional basis, meaning:

- The consumption of 27,901 tonnes of wood fuel per annum at 35% moisture content
- Delivering 90,000MWh of heat annually
- Building 35MW of newly installed biomass capacity

This requires €35m of capital investment and would create 70 new full time jobs, and would also save 28,000 tonnes of CO<sup>2</sup>.

The potential total market is estimated to be 275MW, suggesting that 35MW of new capacity is a viable aspiration. Furthermore, if the rates of growth experienced in Scotland following the introduction of its RHI were repeated in the WDC region for the next 2½ years, then 35MW of new capacity would be achievable. 35MW of biomass requires 46,290m<sup>3</sup> of wood fibre per year. The annual unused fibre resource in the WDC region is forecast to rise from 50,000m<sup>3</sup> to over 300,000m<sup>3</sup> in 2025. This rise is associated with trees maturing and becoming ready for thinning or felling. It is unlikely there will be constraints associated with availability of biomass fuel supply in meeting a 35MW target.

## Next steps

The SSRH offers a key incentive to make biomass a financially attractive option. However there are a range of other barriers that are associated with the relative complexity of a biomass investment, including the following:

- A lack of awareness about biomass and the SSRH
- Poor technical and commercial knowledge that prevent planning a project
- A lack of confidence in biomass due to previous poorly executed projects
- A focus 'on the day job', with limited resources to plan and deliver a biomass scheme
- Problems in finding technical help or good quality suppliers and installers
- An absence of impartial information and advice to help plan projects

To address some of these barriers, growth of biomass in the region could be supported by the following actions:

**Action 1:**

Raise immediate awareness of biomass and the SSRH in the target users by producing and issuing a short report about financial and other benefits of biomass investment

**Action 2:**

Draft and publish an Action Plan to frame the objectives and actions

**Action 3:**

Hold a series of regional biomass workshops to promote investment by the target users

**Action 4:**

Offer technical and commercial support selected 'early win projects' to kick start the market and support end users in making the right design choices

**Action 5:**

Fix underperforming, broken or off-line schemes as there are potentiality schemes that might secure SSRH income

**Action 6:**

Organise study tours for target end users so they can be exposed to best practice

**Action 7:**

Offer technical training to installers, specifiers and fuel suppliers

**Action 8:**

Publish standard procurement contracts for buying biomass fuels or installations

**Action 9:**

Publish case studies about exemplar projects

For further information on this analysis, please contact Pauline Leonard ([paulineleonard@wdc.ie](mailto:paulineleonard@wdc.ie)) of the Western Development Commission ([www.wdc.ie](http://www.wdc.ie)) on 094 98 61881.