

Germany	Nicolaus Dahmen
----------------	------------------------

<i>Institution</i>	Karlsruhe Institute of Technology (KIT)
<i>Position</i>	Leading Scientist
<i>Field of work</i>	Conversion technologies for renewable feedstocks

Experience

<i>About the feedstock, processing & conversion</i>	<p>We have made positive experience with biomass from landscape and maintenance work. The infrastructure for harvesting and supply is available and there is interest in conversion technologies on regional and communal level.</p> <p>Problems lay in the diversity of feedstocks, they require dedicated technical processes or multi-feed processes.</p> <p>The variety of materials requires more complex treatment (e.g. feedstock pre-treatment or gas cleaning particularly with ash rich feedstocks). They usually can be better treated in large scale plants (lower specific conversion costs due to economy of scale). On the other hand, logistics become more complex.</p> <p>In our scope of activity we see feedstocks like forest residues, roadside vegetation, green from public area for heat & power generation by decentralized conversion and use or the conversion to chemical fuels (large scale central conversion and distribution).</p> <p>It has to be taken into account that residues usually contain higher ash contents and provide a broader range in chemical composition. This is reflected by varying emissions in combustion and mismatch to existing emission regulations.</p> <p>A Pre-treatment for ash reduction is useful, but increases the conversion costs. However, nutrient recovery could be possible in this case adding value to the overall process.</p>
<i>Good practices of cooperation & participation</i>	<p>Conversion of greens by hydrothermal gasification to produce a hydrogen rich gas for fuel cell applications (CHP) on a communal level is good practices example.</p>
<i>Public acceptance regarding harvesting, processing & conversion</i>	<p>Good PR work is very important to facilitate public acceptance. In our case the general acceptance was positive (good PR work by the public partner: e.g. publications in regional newspaper and good project presentations). Although conversion costs were decisive and too high to be accepted by the consortium for project realization.</p>
<i>Public support & good governance</i>	<p>Community-based initiatives for value chain development seem to be an important part to foster the energetic use of landscaping material. Acceptance mechanisms and public participation need still better understanding and further development.</p>



Good governance mechanisms Often, new processes compete to already (longer time) existing solutions long after depreciation. Therefore, support in investment would be helpful, if the conversions cost are promising to compete with existing routes.

Contact information

nicolaus.dahmen@kit.edu

Interlink

[BioBoost](#)