

AgroBioHeat: Promoting modern agrobiomass heating solutions in rural Europe

Emmanouil Karampinis^{1,*}, Ioanna-Panagiota Kanaveli¹, Panagiotis Grammelis¹

¹ Centre for Research & Technology Hellas / Chemical Process & Energy Resources Institute (CERTH / CPERI) * Contact person : e-mail: karampinis@certh.gr

Why agrobiomass for heating?

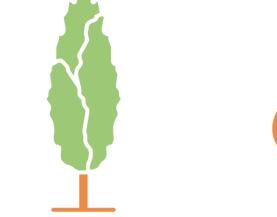
- ✓ Renewable and indigenous fuel source
- ✓ Available in large quantities in rural areas
- ✓ Cost effective compared to fossil fuels
- ✓ Carbon neutral; avoidance of uncontrolled emissions from open-field burning of residues
- ✓ Rural development and circular economy concepts
- ✓ Modern, market-ready technologies with low emissions and high efficiency





prunings







Short Rotation Coppice miscanthus nut shells

olive stones

Challenges and barriers

✓ Quality variations and "difficult" fuel properties

- ✓ Lack of awareness on appropriate heating systems and success cases
- ✓ Co-development of agrobiomass supply chains along with demand ("chicken-and-egg")
- ✓ Lack of a consistent and focused policy framework

The AgroBioHeat approach

Providing Support

Targeted actions for specific stakeholders and policy makers to assist early adopters and create a level playing field



Roadmap / vision for agrobiomass heating: inclusion in political agenda, business strategies, local and regional development priorities



Proof that agrobiomass heating works, that it is economically, environmentally, socially sustainable and that other adopters have succeeded



AgroBioHeat strategy for change

- Accompaniment of new initiatives
- ✓ Policy recommendations for revision of Ecodesign Regulation based on combustion tests
- ✓ Trainings to installers
- Policy roadmaps / recommendations & advocacy actions
- ✓ Increased sector visibility in fairs & expos
- ✓ Social surveys & local / regional workshops & community hearings
- ✓ Agrobiomass Heating Observatory
- ✓ Visualization and promotion of success cases
- ✓ Organization of site-visits
- ✓ Targeted dissemination actions
- ✓ Performance testing of modern agrobiomass heating devices (lab-scale & operating facilities)

Stakeholders involved



Key actors



measures & schemes

potential involvement



✓ Policy makers: level playing field, adoption of support





Target actors

- ✓ ESCOs and installers: wide deployment of agrobiomass heating solutions, specialized technical teams for handling peculiarities
- ✓ Public sector: emblematic adopters, potential to generate significant local demand
- ✓ Farms, greenhouses, agro-industries, agricultural cooperatives: heat consumers, own agrobiomass resources, intermediates for logistics
- ✓ Renewable Energy Cooperatives & Communities: citizen involvement, excellent local connections, first-hand witnesses to benefits

Geographical scope & Consortium

✓ Boiler manufacturers: technology providers

✓ Local community: acceptance of new projects &

- ✓ Sector associations, clusters, cooperatives and technical partners from six multiplication countries with diverse set of conditions on agricultural and heating sectors; 5 EU member states: Croatia, France, Greece, Romania, Spain + Ukraine
- ✓ Expert partners on straw utilization (Denmark), biomass boilers (Austria), social research & sector representation (Belgium)
- ✓ Ice-breaking ESCO operating small-scale agrobiomass heating solutions (France)





























