




Description of innovation

Innovation	
Title	Intelligent Bioenergy Network s.r.l. – iBioNet s.r.l.
Picture	  
Domain	Forest management and planning, forest communities, wood-energy supply chains, biofuel certification service and biomass plant emissions analyses (efficiency monitoring biomass plant)
Source of wood	Centralized biomass district heating systems in mountain areas allow lower GHG emissions and better land and forest management. Analyzes on wood fuels and on gaseous emissions in the plants allow a guarantee on the plant efficiency and safety and a better sustainable forest management.
Location	Current status: registered office in Sesto Fiorentino (FI), Tuscany.
Implementers	
Actual status	Running
Approach	iBioNet (Intelligent Bioenergy Network) is a spin-off of the University of Florence, established in 2015. iBioNet supports the local communities through the development of renewable energies and guarantees the environmental and social sustainability. Furthermore, iBioNet promotes wood-energy supply chains, assists the enterprises and the local communities. iBioNet supports the energy production together with the maintenance strategy into the local framework. iBioNet promotes the biomass energy to reduce the GHG

	emissions and as drive force for the rural economy and forest management.
Main results	<p>iBioNet's services are:</p> <ul style="list-style-type: none"> • Planning and design of biomass supply chains, through specific analyses and the development of web applications that allow an assessment of the sustainability of the new energy plants. • Biofuel Certification Service and emissions analyses aimed at certifying the quality of solid fuels (wood chips). In particular, iBioNet issues quality certification of solid biomass samples, according to the UNI EN ISO standard. • iBioNet also produces and installs SensorWebEnergy (SWE) and Air Quality (AIRQ) remote monitoring systems and able to determine: the first the quantity and quality of biomass supplied to the plants; the energy eventually produced; the overall performance of the plant, weighed against climatic and electricity consumption data; whereas the second, weather data and emission value data of CO₂; CO; NO₂; VOC; PM₁₀; PM_{2.5}. SWE and AIRQ data are sent in real time to the web platform (www.ibionet.eu) to be processed and made immediately available to the users.
Lessons learned	iBioNet pays particular attention to the growth of a sustainable economic model, compatible with the economic and ethical development of local companies, thanks to the coherence between the core business of "renewable companies", based on principles of environmental sustainability and efficient use of resources.
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Link to website	www.ibionet.eu
Code	IN_IT_01

Innovation assessment

Region	Europe
Time scale	Tuscany
Mobilization Potential	
Kind of wood concerned	Stemwood, woodchips and micro woodchips
Sustainability Potential	High, through forest management and planning
Impact on environment & biodiversity	low environmental impact and increasing forest biodiversity
Ease of implementation	
Economic impact	creation of local wood-energy chains
Job effect	possibility of new jobs in the wood supply chains
Income effect	possibility increase income to local enterprises with sale of certified biomass
Specific knowledge needed	good practices for sustainable forest management, good knowledge of wood supply chain, wood fuel market trend, knowledge ISO 17225 norm
Costs of implementation	
Technical readiness level	University degree
Key information for adoption	Forest management and planning, forest communities, wood-energy supply chains, biofuel certification service, biomass plant emissions analyses (efficiency monitoring biomass plant)