

ROADMAP TO BOOST ELECTRIC MOTORIZATION OF THE PORTUGUESE FOREST SECTOR

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ABSTRACT

The global challenges of decarbonizing the economy have encouraged investment in renewable energy all across the world. The European Green Deal, for example, aims to decouple economic growth from resource use and net zero emissions of greenhouse gases by 2050. Moreover, Portuguese industries and forestry companies interested in reducing their carbon footprint see a promising opportunity in the adoption of electric vehicles and machinery (EV) and hybrid or hydrogen powertrains (EV/HIB/H). Within this context, in 2022 the project “Agenda TransForm” was launched in Portugal. The project represents the largest consortium ever made for the Portuguese forest sector. TransForm project aims at the transformation of the value chains through R&D and innovation, toward digital transition, economic resilience, and carbon neutrality. The 59 participants represent Portugal’s entire forest value chain (forestry producers, forest companies, territorial management entities, and the researchers center). The goals of “Agenda TransForm” address the European Green Deal commitment to cutting greenhouse gas emissions (GHG) and therefore promote R&D projects and the development of low carbon emissions for forest harvesting machinery. Although the electrification of forest machinery is already a reality in many Center/Northern European countries, the region known for its extensive Eucalyptus globulus plantations requires additional development and forest machinery suitable to local climatic and forest conditions. In this context, this pioneering project aims to: a) Present a global description of a low-carbon emission and/or electric solution suitable for the Portuguese forest sector by identifying priority operations and equipment based on benchmarking and local stakeholders; b) Implement different research lines in order to develop and assess the identified solutions, in particular on charging stations and transmission lines for the Forest; potential impacts on the logistic chains; and business models for new electric equipment and batteries; c) asses the sustainability and suitability of electric vehicles and machinery for the Portuguese wood supply chain; d) promote the adoption of electric vehicles and machinery, hybrid or hydrogen engines (EV/HIB/H₂) for forestry operations and transport, supporting Portuguese forestry companies interested in reducing their carbon footprint. Within the results of this project, we expect to promote a roadmap and a timeline for the implementation of different actions and solutions as well as a basis to support public policies and decision-makers in implementing greener forest operations and transportation.

Keywords: European green deal, electric vehicles, renewable energy, low carbon emissions