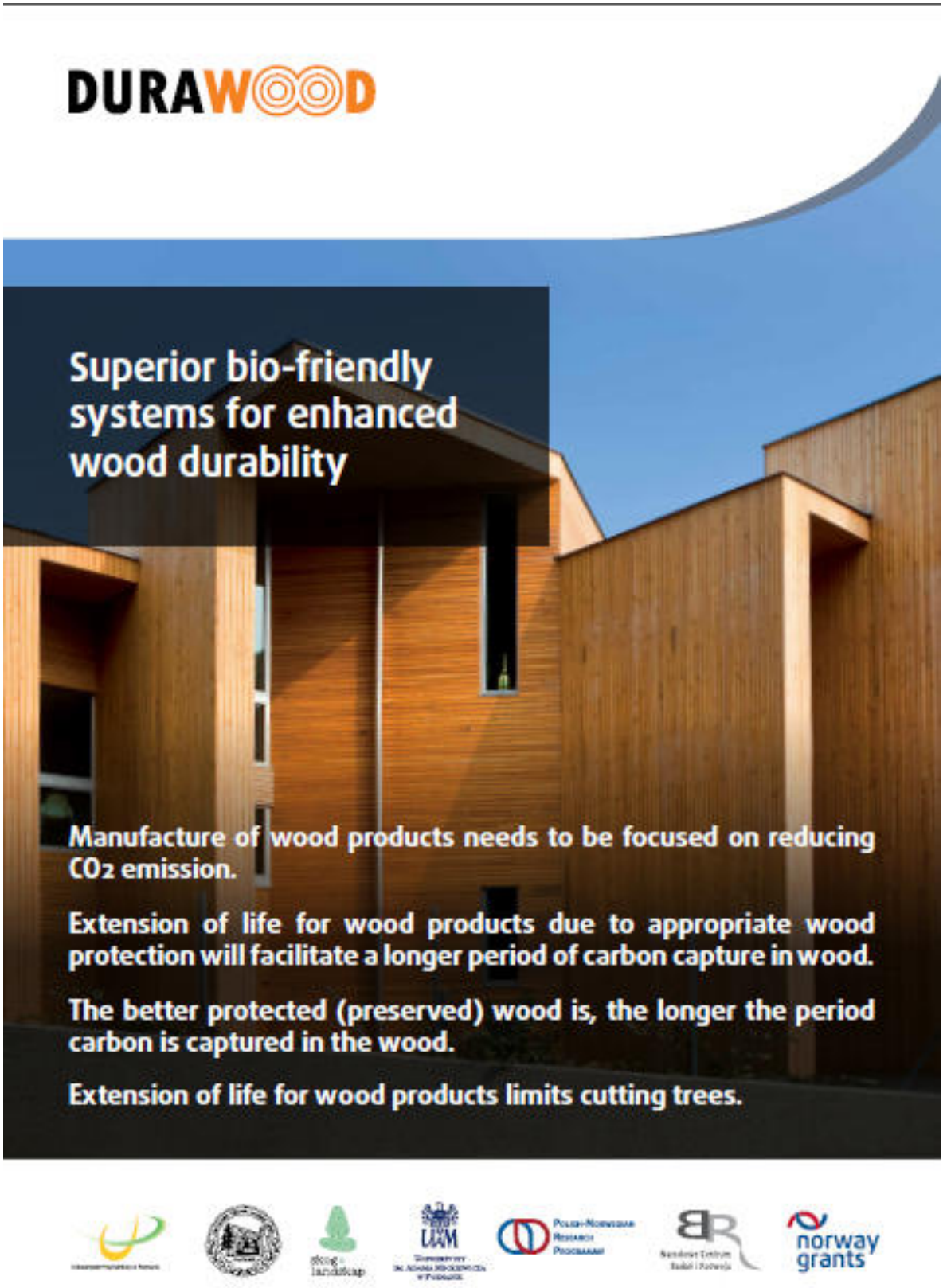
Superior bio-friendly systems for enhanced wood durability



The main overall objective of the project is concentrating on the contribution of wood durability to sustainability through the development of systems for quality assurance and performance classification of eco-friendly treated wood as alternative to wood treated with traditional preservatives and coatings.

Methods for testing and characterizing durability performance against physical as well as biological factors will be optimized. Wood treatment with bio-preservatives containing biocide-free, but new, eco-friendly ingredients (organosilicones, alkaloids, imidazoles, oils, etc.) is a well mastered alternative method for wood protection. The interest of this multicomponent system is to allow wood coating as well as wood treatment in a single step process. There is a need to work on such a systems in order to adapt the performance of the treated wood (durability towards wood destroying organisms, fireproofing, etc.) to its end use. Moreover, due to its alternative process, the up-grading and use of local timbers in new end-uses become possible and remain also one of the main objectives of this project. A large and precise environmental analysis (including LCA) will be also carried out during this project, for all stages of the process: from the formulation to the end of the life time of treated timber. The main steps of the project is as follow: a). process optimization by eco additives selection; b). multi scale process optimization; c). grafting lab analysis on wood fibres; d). environmental and societal analysis from the process to the treated timbers.