At the EU level, timber harvesting is increasing to meet the higher demand for bioenergy and the bioeconomy. At the same time, demands associated with climate mitigation, nature conservation, recreation and other non-wood ecosystem services (ES) are becoming increasingly important. These increasing yet sometimes conflicting demands towards forests can lead to conflicts in forest use among different stakeholders. Forest management planning is an important tool for designing and implementing management interventions for providing a set of various ecosystem services (ES). The proposed research project (IFORPLAN) introduces novel approaches related to spatial forest planning. The project aims to achieve the following: 1) develop a procedure for the zonation of the forest landscape into ES priority areas differing in their capacity to supply ES; 2) establish a system of ES indicators and integrate them into forest planning by using quantitative and qualitative MCDA methods; 3) create a procedure for defining climatesmart forest management strategies with respect to their capacity to supply ES; and 4) engage in collaborative modelling with stakeholders in the zoning of ES priority areas, selecting ES indicators and defining climate-smart management interventions. The project focuses on five prevailing ES: timber, protection, nature conservation, recreation and carbon sequestration. In each participating country (Estonia, Finland, Poland and Slovenia), a case study forest area of a few thousand hectares is selected to test the developed procedures related to ES priority areas, ES indicators and climate-smart management strategies. Participatory methods will be integrated throughout the project to evaluate novel planning procedures from both a scientific perspective and practitioner expectations. The project aims to enhance understanding of multifunctional forest management and contribute to the implementation of Sustainable Development Goals.