

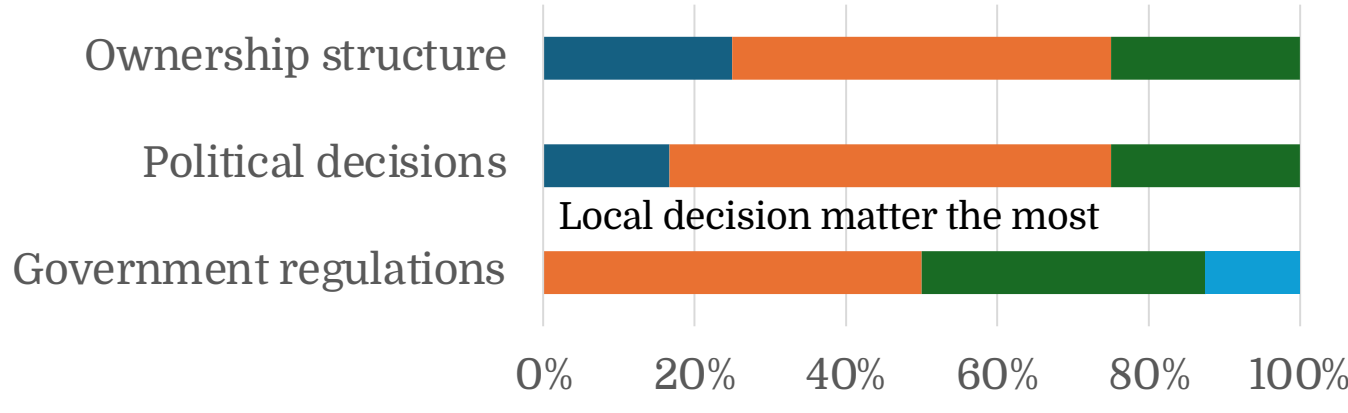
WP 6:5 Hesse and Thuringia – Environmental factors matter the most

Camilla Widmark*, Sandra Krommes**, Martin Brunsmeier**, Julia Seise**, Veronika Auer**, Lina Girata Sastoque**

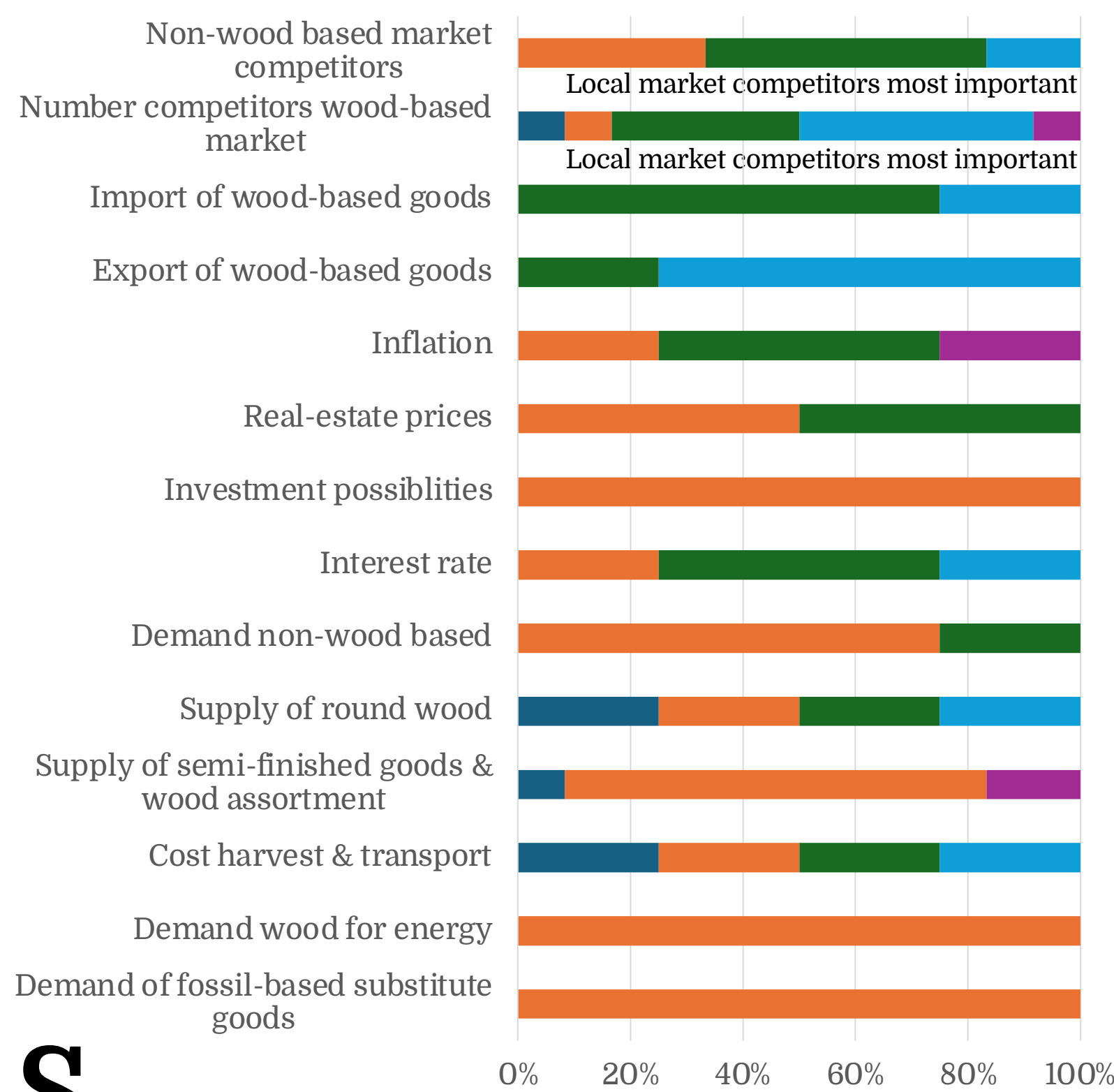
* Department of Forest Economics, Swedish University of Agricultural Sciences, camilla.widmark@slu.se

** Rosenheim Technical University of Applied Sciences

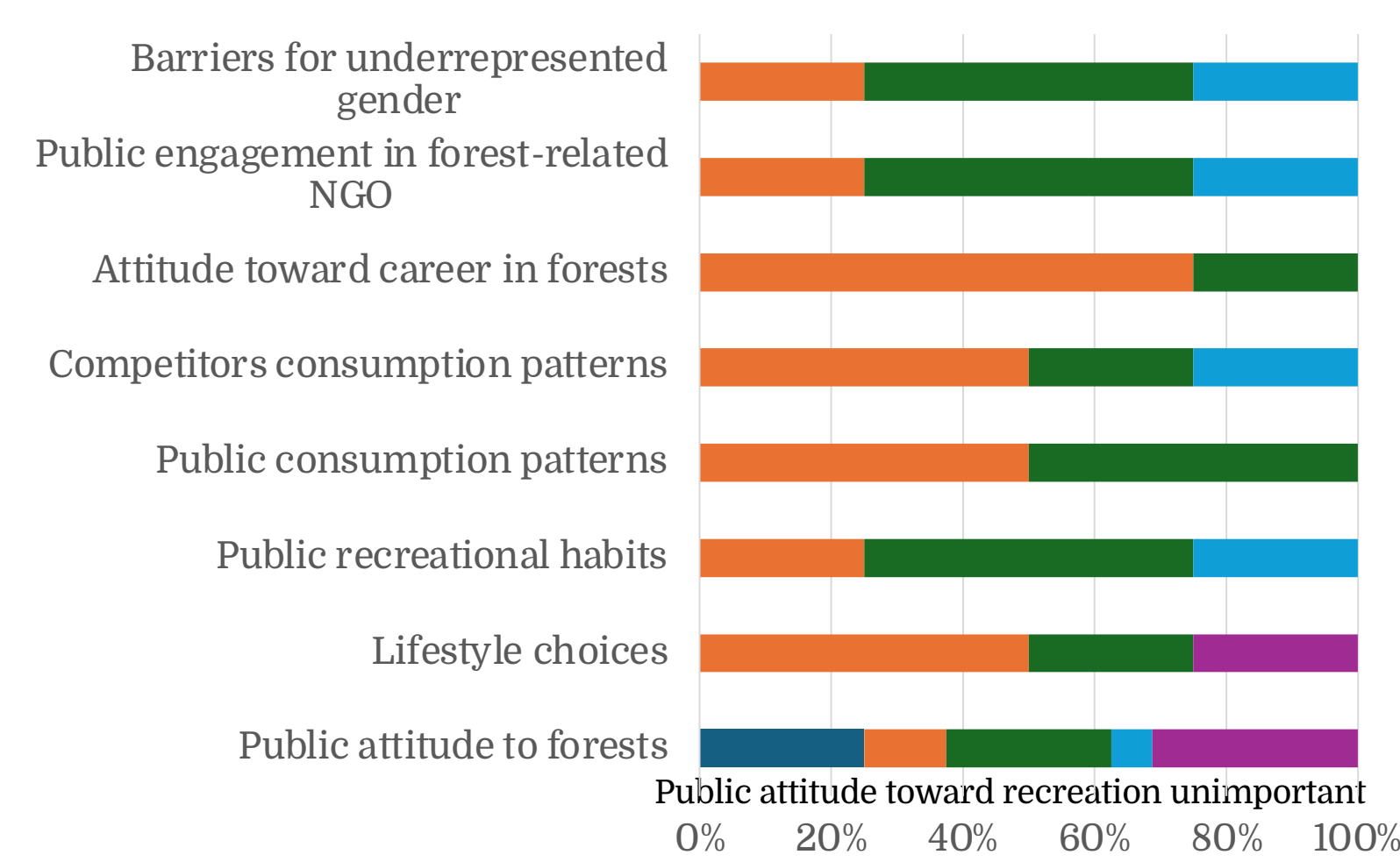
Political sub-factors



Economic sub-factors



Social sub-factors



PESTEL analysis builds upon discussions with stakeholders

Stakeholders in Hesse and Thuringia consider economic factors to be of most importance, together with environmental and political factors. The most insignificant factors are the social factors.

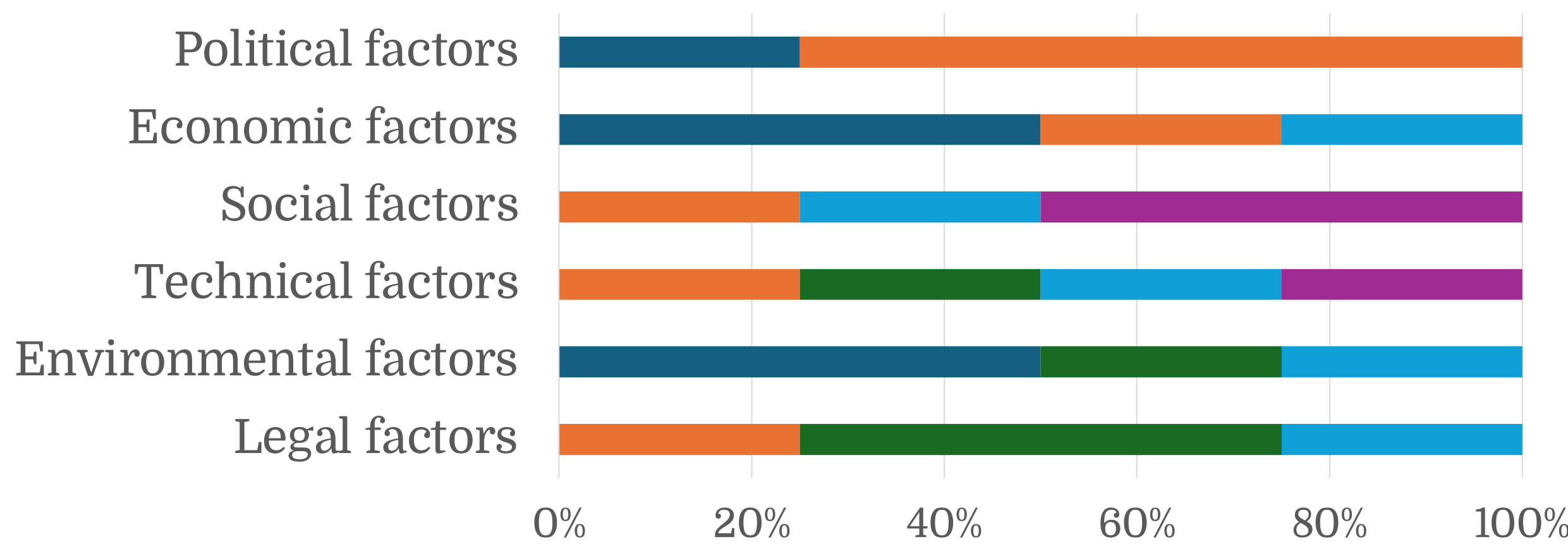
If the factors are broken down into sub-factors, environmental regulation for operating forest industry plants is of great influence on the forest sector. The forest function for regulating forest ecosystem services (e.g., carbon storage, water purification) are equally important.

Among the economic factors, stakeholders point at supply of round wood, supply of semi-finished goods and wood assortments as well as cost of harvest and transportation are influential factors.

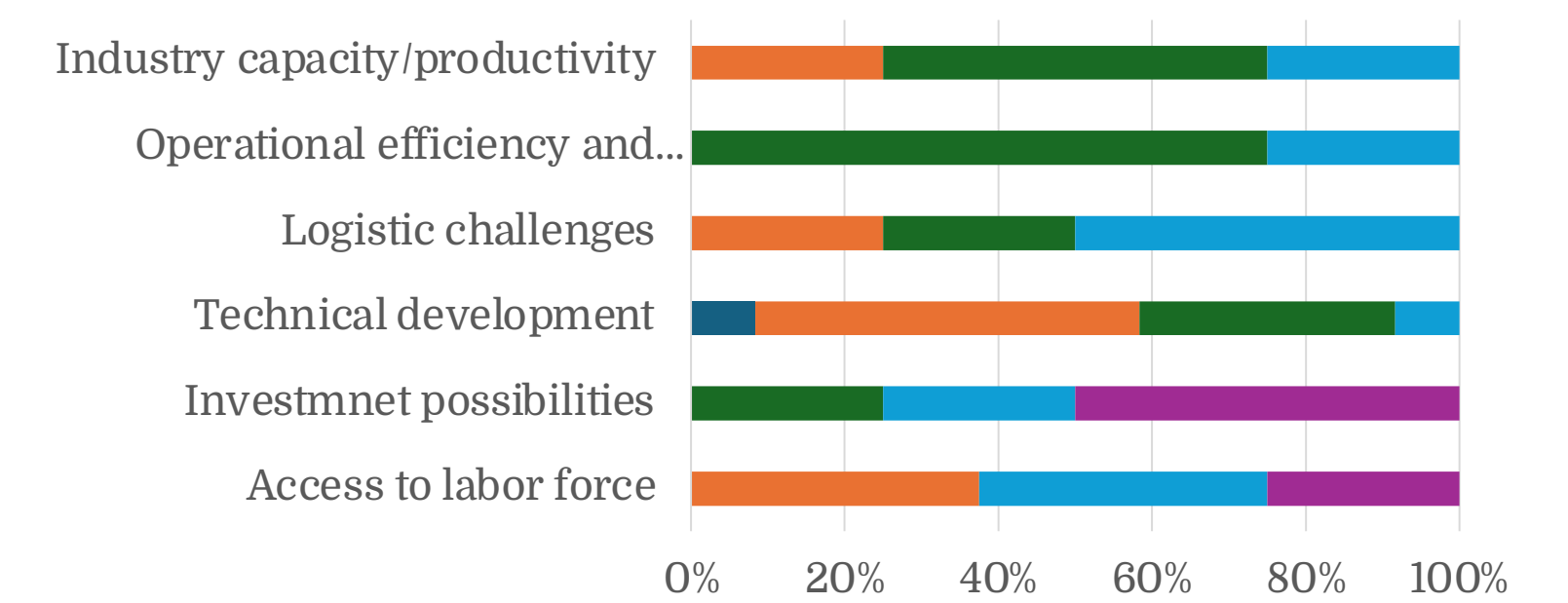
Political decisions on the local level are important political sub-factors to stakeholders, and they also mention ownership structure of the forest as important.

The social sub-factors of public attitudes toward forests and life style choices has the least important effect to forest stakeholders. Additionally, investment possibilities and access to labor force are stated having insignificant effect to stakeholders in the region.

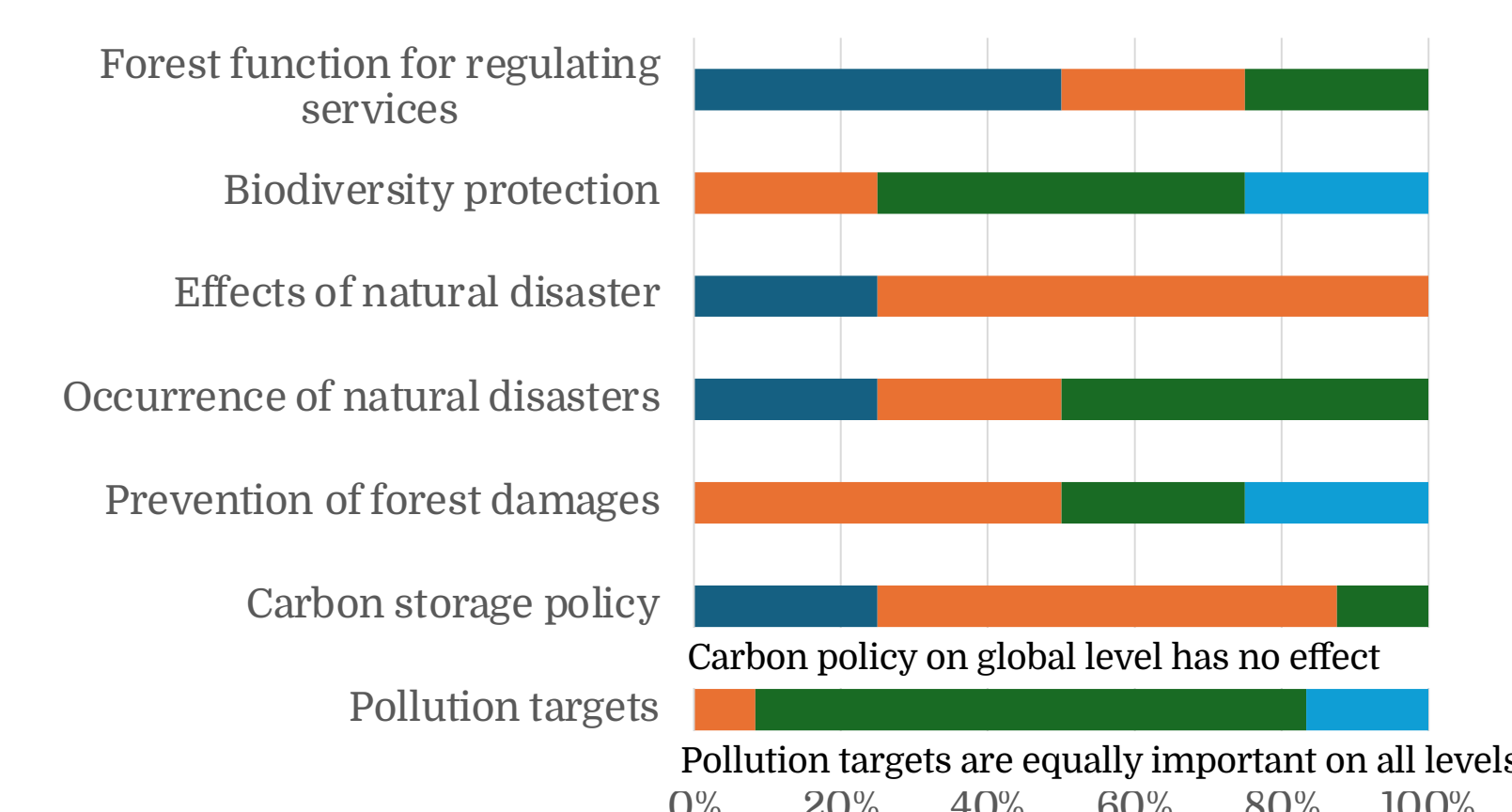
Factors affecting stakeholders in Hesse and Thuringia



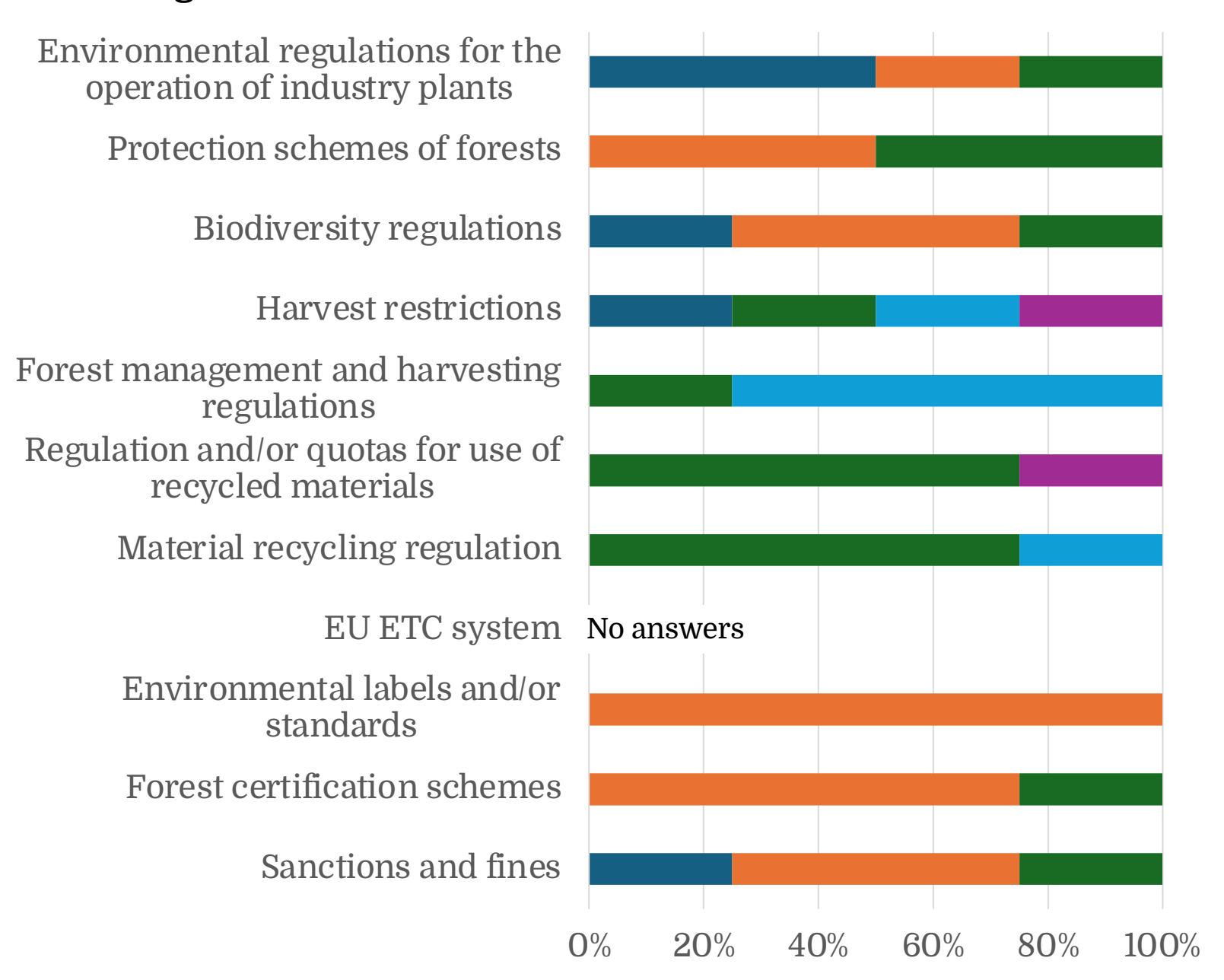
Technical sub-factors



Environmental sub-factors



Legal sub-factors



■ Sever effect ■ Major effect ■ Moderat effect ■ Minor effect ■ Insignificant effect ■ No effect

Scenarios in Hesse and Thuringia

From the PESTEL four scenarios was developed describing possible future developments of the forest and forest wood value chain in Hesse and Thuringia. A common view of the four storylines are that climate is a primary focus together with the development of biobased society and technical innovation along the wood value chain.

Vision: Strong regulation to promote protection of forests for carbon storage and biodiversity protection.

Attitudes: wood-based products requested; however, forest management should be restricted (paradoxical attitudes), recreation is increasingly demanded.

Wood value-chain market development: low/no increase in demand for timber, supply of timber at constant level, affected by forest damages.

Industrial development: traditional industry with low technological change or digitalization.

Labor: low interest in forest value chain, shortage of skilled labor.

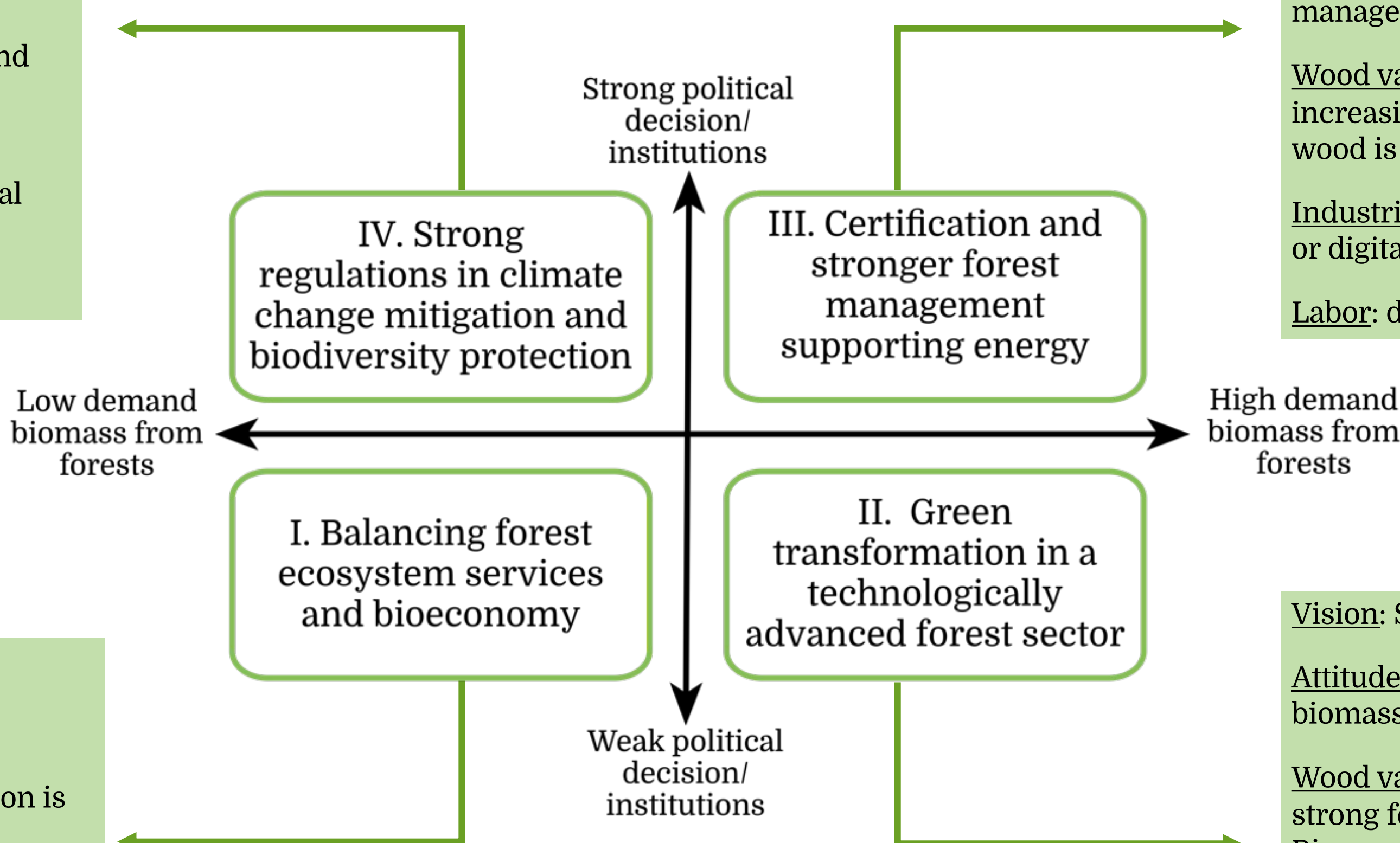
Vision: Balancing forest ecosystem services and local societal development

Attitudes: wood-based products requested; however, forest management should be restricted (paradoxical attitudes), recreation is increasingly demanded.

Wood value-chain market development: moderate demand increase, supply however remains constant. High transportation costs following import needs.

Industrial development: low technical development and digitalization

Labor: lack of skilled workers, transfer to other sectors.



Vision: Certification is strengthened following higher demand for forest protection and needs of climate change mitigation. Ownership is transferred to regional authorities to manage previously unmanaged forests to promote wood production.

Attitudes: harvest of timber is considered negative as forests should be managed only for recreational purposes.

Wood value-chain market development: demand for wood is moderately increasing, while demand of wood for energy increase strongly. Supply of wood is limited and decrease.

Industrial development: no further investments in technical development or digitalization.

Labor: declining knowledge of forest workers.

Vision: Society in green transformation in a strong forest sector

Attitudes: renewable goods are of societal priority based on forest woody biomass. Recreational use of forest land is becoming more important.

Wood value-chain market development: high demand for wood, in a strong forest-based market, both sawn timber and industrial wood. Biomass for energy is based upon wood side streams.

Industrial development: Technically well-developed forest industry based upon digitalization and innovation.

Labor: high demand of skilled forest workers, partly new demand for digitalized skills.