



Socio-economic impacts and development opportunities linked to forest therapy

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Nature's well-being is recognised in EU and global policies

UE Strategy for Biodiversity 2030:

- “Nature is as important for our mental and physical wellbeing as it is for our society’s ability to cope with global change, health threats and disasters. **We need nature in our lives**”.
- “**Nature-based care initiatives (green jobs) are a crucial foundation for a just and green transition in Europe**”.

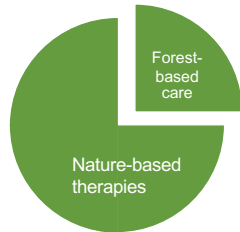


Source: OMS

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A definition



Forest-based care refers to all organised interventions in forest areas that embed aspects of healthcare, rehabilitation, disease prevention, social inclusion, wellness and relaxation, education, spirit and inspiration, employment and livelihoods.



Source: Adapted from Doimo *et al.*, 2020

A special role of forests among green areas



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Contents

- Socio-economic benefits of forest health care: the **demand side**
- Socio-economic benefits of forest health care: the **supply side**
- Benefits at **global level**: towards a new approach to nature

Slides available on the web: search «pettenella» or



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Potentials of forest care initiatives

Effective in **reducing incidence of disease** (i.e. improved mental health, reduced stress, and enhanced physical well-being)

depending on the **target** and **type** of the intervention

(Hansen *et al.*, 2017;
Bratman *et al.*, 2019)

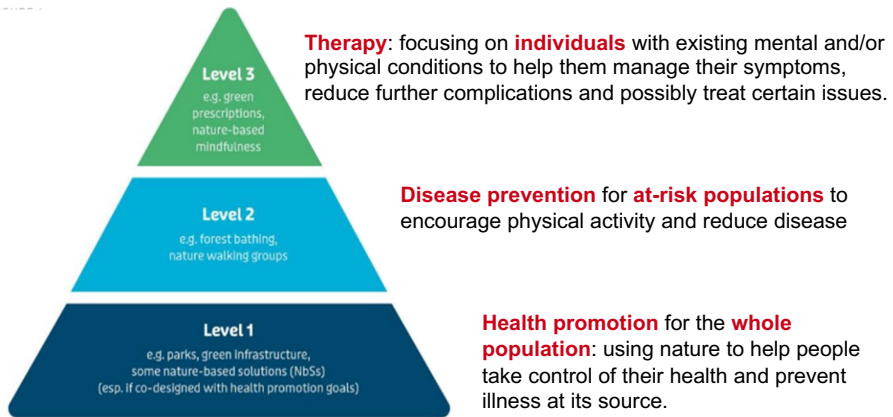


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Targets and types of intervention



Source: Resonate Project (2023)

Public healthcare saving

(Ralf *et al.*, 2022)

Two dimensions:

- a. Values of the **forest-based health services**
- b. Values in terms of **reduction of public health costs** and cost-effectiveness



Gaisberger, M., Šanović, R., Dobias, H., Kolarž, P., Moder, A., Thalhamer, J., ... Hartl, A. (2012). Effects of ionized waterfall aerosol on pediatric allergic asthma. *The Journal of Asthma: Official Journal of the Association for the Care of Asthma*, 49(8), 830–838.

a. Economic values of the forest-based health services

Estimated average values of **socio-cultural services** of forests in 3 biomes is about **900 \$/ha/year** vs. value of commercial timber production of **181 \$/ha/year in temperate forests** and **84 \$/ha/year in tropical forests** (de Groot *et al.*, 2012)



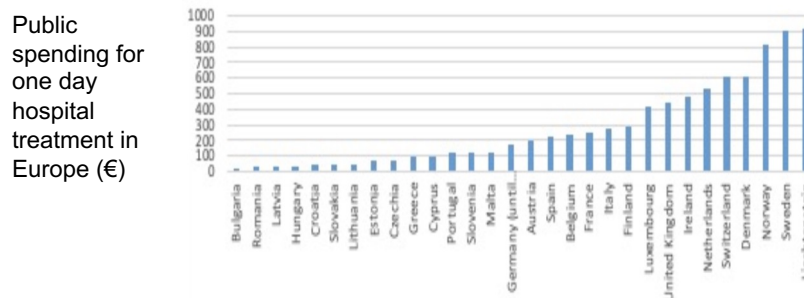
Estimated value of the ecosystem service of **human health** from visiting **protected areas in Australia**, in terms of increased labour productivity and lower costs for health therapies, is approximately **US\$ 2.1 trillion per year** (Buckley *et al.*, 2019)



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b. Public healthcare saving (Ralf C. *et al.*, 2022)

A funding dimension: involving the forest sector in the health care and educational systems means saving some money through prevention of some diseases and in the conventional costs of (mental) treatments



Source: <http://www.sossanita.org/archives/9862>

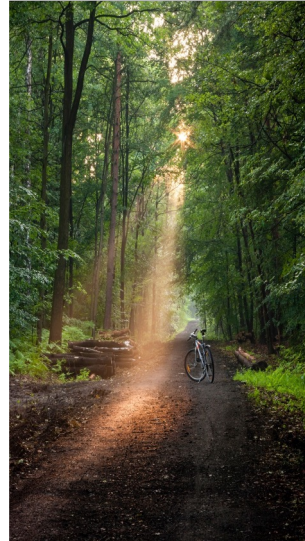


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b. Economic value of reduction of public health costs and cost-effectiveness

On equal effect, a **Green Prescription program** costs half as much as a **10-session behavioural therapy program** in the UK (Haywood *et al.*, 2024) → high **Social Return on Investment (SROI)**

Nature-based therapies seem to have a **positive financial and extra-financial value** (social value), generating results for a greater value than the capital invested (Hartfeld *et al.*, 2023; Wildlife Trust, 2023; Bagnall *et al.*, 2019; Carrik *et al.*, 2011)



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Sustainable financing potential

NbTs financing appears predominantly hybrid, combining public funding, user fees, personal budgets, donations and community contributions. This hybridity reflects both the adaptive approach of the sector and persistent gaps in systemic financing.

Promising developments are emerging. We observed that public health systems and social insurance schemes are increasingly explored as financing channels through service contracts, reimbursement mechanisms, personal budgets and vouchers, offering greater predictability than discretionary grant funding

Blended finance and co-financing models - combining public, private and community resources - are emerging as strategic tools to support scaling, innovation and long-term sustainability.

Source: Biasin, Doimo *et al.*, 2026 (to be published)



Nature-based therapies sustainable financing guide
A MARKET AND FINANCING OVERVIEW OF NATURE-BASED THERAPIES IN EUROPE



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Barriers towards sustainable financing

CLUSTER OF BARRIERS (B)	TITLE	DESCRIPTION
B1 (N=14)	Scarcity, instability and discontinuity of funding	Financing is often insufficient, fragmented, and short-term, which hinders continuity, long-term planning, and scaling up.
B2 (N=6)	Lack of institutional recognition, reimbursability and access to health budgets	NBTs are not frequently recognized by health service providers such as the NHS in the UK and in policies, they cannot be prescribed or reimbursable, this limits the access to health and insurances budgets
B3 (N=6)	Bureaucracy, administrative costs and limited organizational capacity	Application and fund management processes are increasingly complex and costly, often disproportionate to the capacities of organisations, which are frequently small in scale
B4 (N=9)	Dimension, fragmentation and low attractiveness for investors	NbT are perceived as too small in size, fragmented, or insufficiently scalable to attract institutional capital or structured private investment
B5 (N=11)	Lack of standards, certification and quality assurance	The absence or fragmentation of shared standards, certifications, and professional requirements reduces credibility, trust, and financeability of NbT
B6 (N=7)	Costs of evidence, research and evaluation	Producing evidence, metrics, and evaluation requires resources that are often not funded or remunerated
B7 (N=6)	Fragmented governance and institutional misalignment	Institutional silos are often difficult to overcome, with overlapping competencies, conflicts of responsibility, and divergent priorities
B8 (N=7)	Fragile economic models and sustainability	Barriers related to absence of economic/business models, lack of knowledge about costs and planning, voluntary-based models, and long-term sustainability of the business
B9 (N=16)	Cultural and reputational barriers, lack of awareness and social legitimacy	Social and cultural perceptions that reduce or discourage the demand, political support and financeability, terminology confusion, poor awareness and knowledge about NbT

Source: Biasin, Doimo *et al.*, 2026 (to be published)



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Sustainable financing: what need to change

Once FT interventions are credible, demonstrably effective, communicated to public and policy > they can be better integrated and recognized by the different sectors, and therefore become more compatible with public budgets, private investment, and hybrid financing arrangements.



Source: Biasin, Doimo *et al.*, 2026 (to be published)



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The supply side: impacts of forest-based care initiatives



Courtesy: Boscoincittà, GoJauntly, Ecowellness

Not only individual benefits of the target subjects, but also collective benefits in terms of **social innovations**

- New entrepreneurship** opportunities, innovative professions, **green jobs**
- New **gender balance** in the forestry sector
- Hybrid organisations**: PPP
- Synergies** with other sectors

Source: Mammadova *et al.*, 2021.
<https://www.greenforcare.eu/news/eu-blueprint-on-green-care/>



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a. New green jobs

EU trend: decrease in workers in the wood value chain; new potential in forest cultural services:

- Creation of new, hybrid, flexible figures, capable of **attracting new professionals** and **young people** to the forestry sector
- Work in line with **sustainable development** and **sustainable forest management**

Challenge: **lack of data and indicators** to detect these new jobs (→ reduced public visibility and policy awareness)



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b. The impacts of a new focus on forest-based care initiatives

"The first and foremost purpose of a forest growth is to supply us with wood material; it is the substance of the trees itself, not their fruits, their beauty, their shade, their shelter, that constitutes the primary object ..."

B. E. Fernow, 1902.
Economics of Forestry (p. 86)

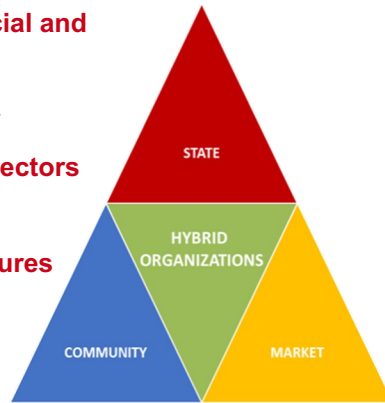
A **gender revolution** in the forestry sector



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c. Forest-based care initiatives as hybrid organizations

- Connecting **profit-generation** to a **social and environmental mission**
- Lacking **institutional and legal clarity**
- Operating across **diverse economic sectors**
- (So far) operating in **niche markets**
- Having **diverse organisational structures** and collaborative arrangements

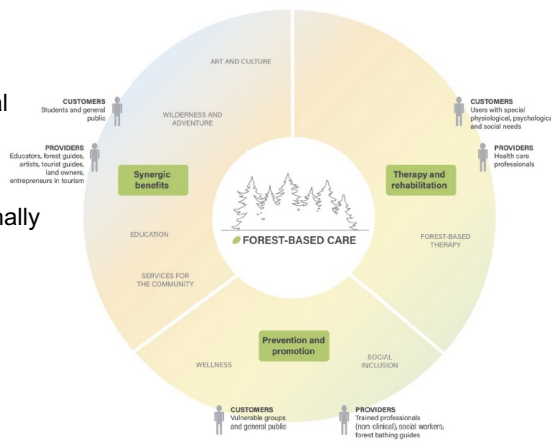


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d. New services and new partnerships

Innovation fields:

- Expansion of socio-cultural ecosystem services in line with social demand
- **Connections** with traditionally **non-neighboring sectors**
 - Pedagogy
 - Social inclusion
 - Well-being
 - Health
 - Art
- Openness to **new beneficiaries**



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d. Synergies with other sectors: a tourist potential for mountain and remote areas



Source: Attitudes of Europeans towards tourism – EC Eurobarometer, 2021

- The natural environment is the **2nd aspect** considered by EU citizens when **selecting a tourist destination** (same relevance as the overall price of the trip!)
- A large percentage of respondents (**82%**) **are willing to change** some habits to support **more sustainable tourism** (e.g. "paying more to protect the natural environment" – 35%)

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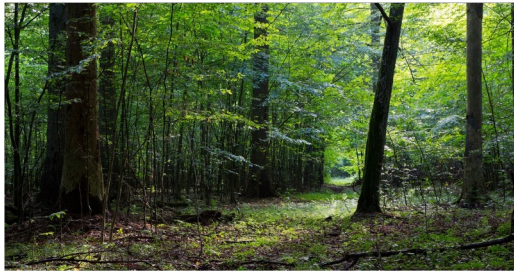
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Core of the problem: human-nature divide. Values of nature

Intrinsic value
Nature has a value independent of people



Instrumental value
Nature is valuable as it delivers diverse services and benefits for people



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From practice to paradigm shift. Rethinking values of nature

Relational value
Derivative of relationships with and responsibilities towards nature

Individual
(identity, good life, stewardship)



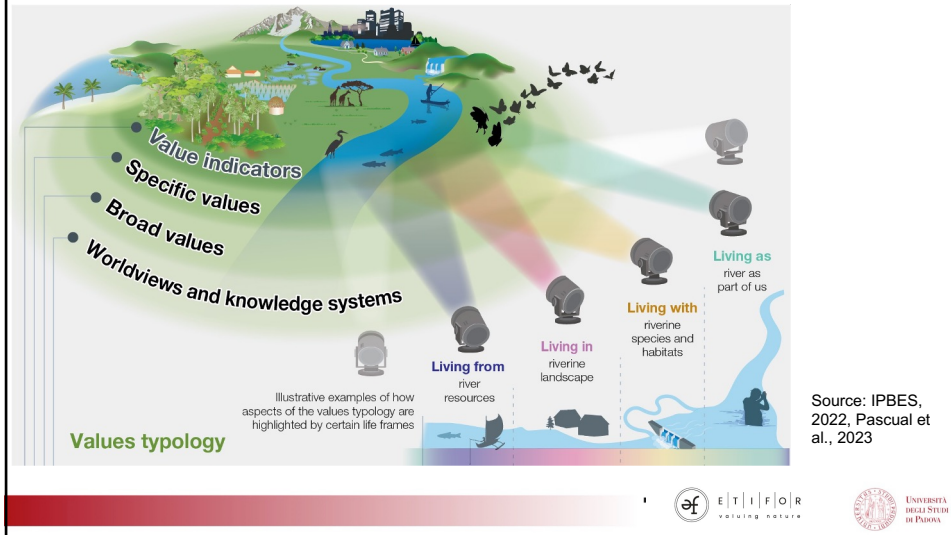
Collective
(cultural identity, social cohesion, social responsibility, moral responsibility towards non-humans)

From a **human-centered vision** based to the **instrumental value** of nature (forests) to...



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... to the perception of the diverse values of nature: living from, in, with as nature

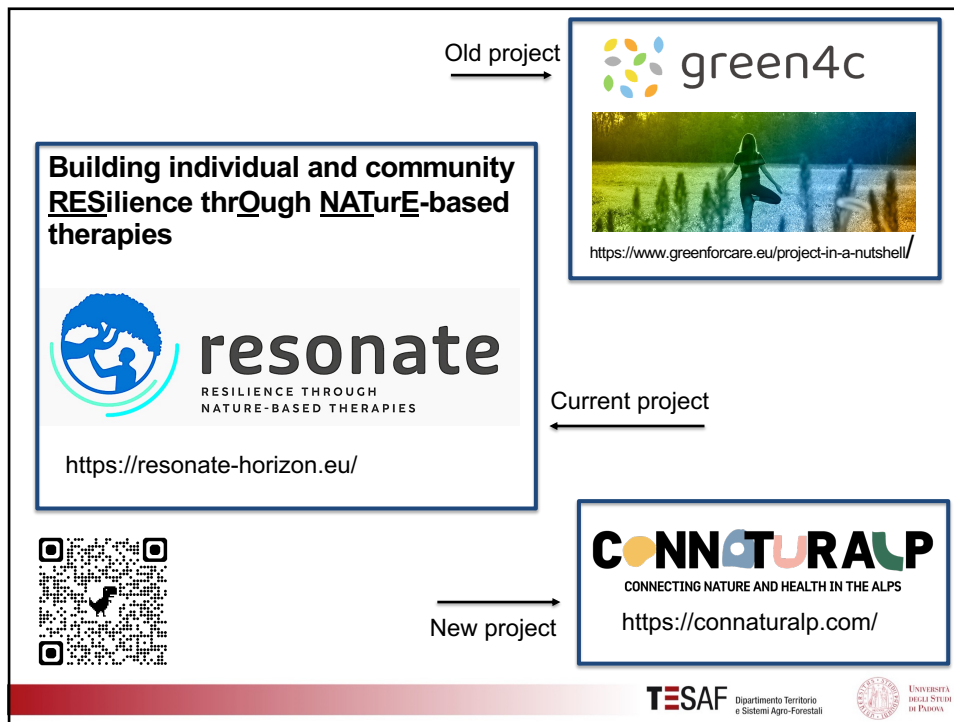


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Take home messages

- Integrating the forestry and healthcare sectors is useful for improving the **quality of the welfare system** and **saving money**
- Promoting forest care initiatives can contribute to creating new **"green jobs"**, the **gender balance**, **hybrid organizations** and **integrated rural development policies**
- Forest therapy initiatives can contribute to a **new perception of the values** of forests, to improving social capital and to creating sources of income for implementing SFM

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