

# ForestPaths

Co-designing holistic forest-based policy pathways for climate change mitigation

## Forest-based policy pathways towards a climate-neutral society: Introducing the ForestPaths project

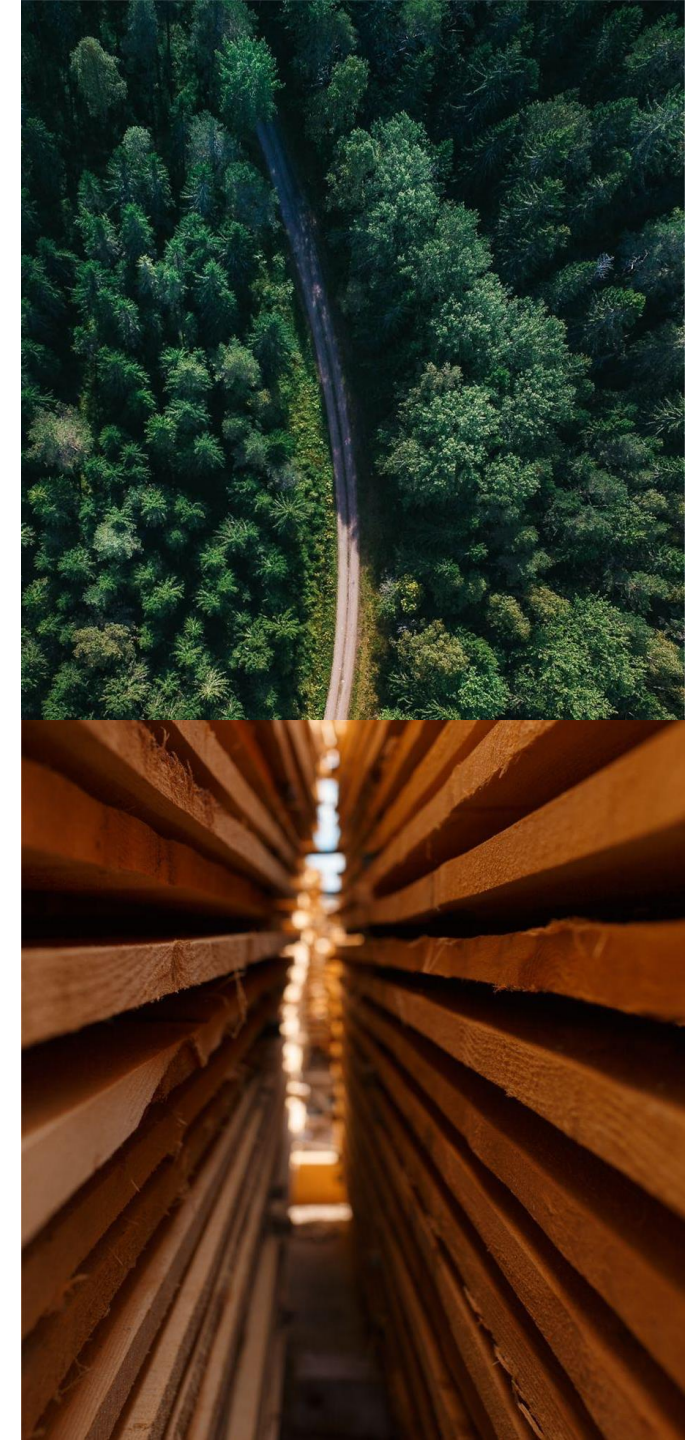
— **Speaker**

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# About the project



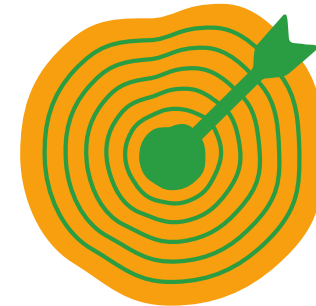
## CHALLENGES

**EU targets** to significantly reduce greenhouse gas emissions by 2030 and become climate neutral by 2050 **require urgent and major reforms** by all sectors. Simultaneously, the EU has committed to conserving biodiversity.



## OPPORTUNITIES

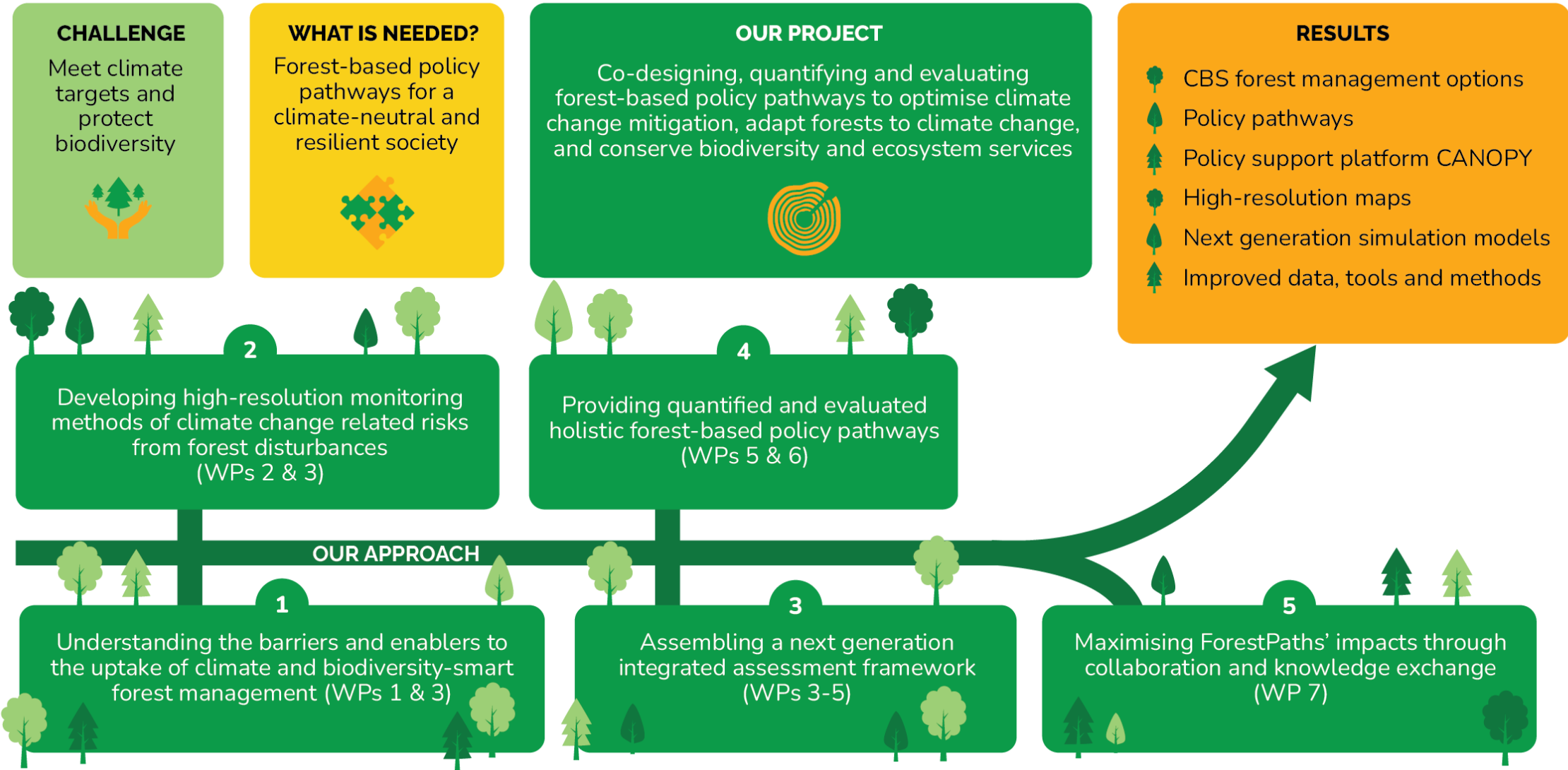
**Clear policy pathways are needed** to meet these multiple targets. They need to outline alternatives for how European forests and the forest-based sector can contribute to achieving a climate-neutral and resilient society and economy.



## AIM

ForestPaths is co-designing, quantifying and evaluating holistic forest-based policy pathways to optimise the contribution of EU forests and the forest-based sector to **climate change mitigation**, while considering the need to **adapt forests** to climate change, conserve **biodiversity** and sustain **forest ecosystem services** provisioning.

# Our approach



# Main results



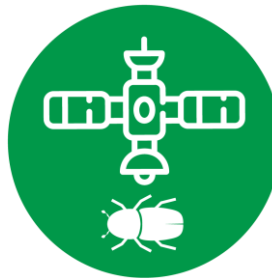
Climate and  
Biodiversity-Smart (CBS)  
**forest management options**



Holistic  
forest-based  
**policy pathways**



Policy  
support platform  
**CANOPY**



Improved  
data for understanding  
changes in climate on **forest  
disturbances**

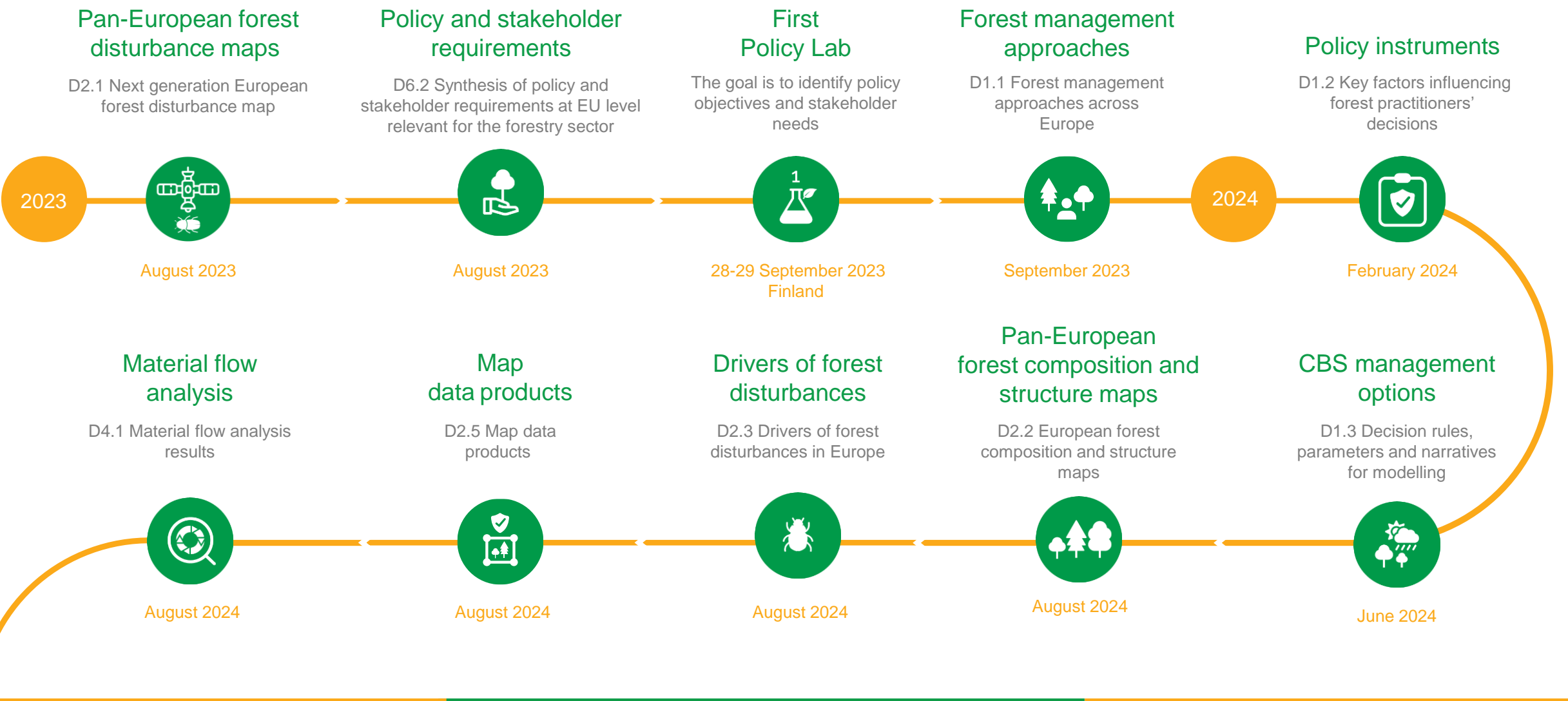


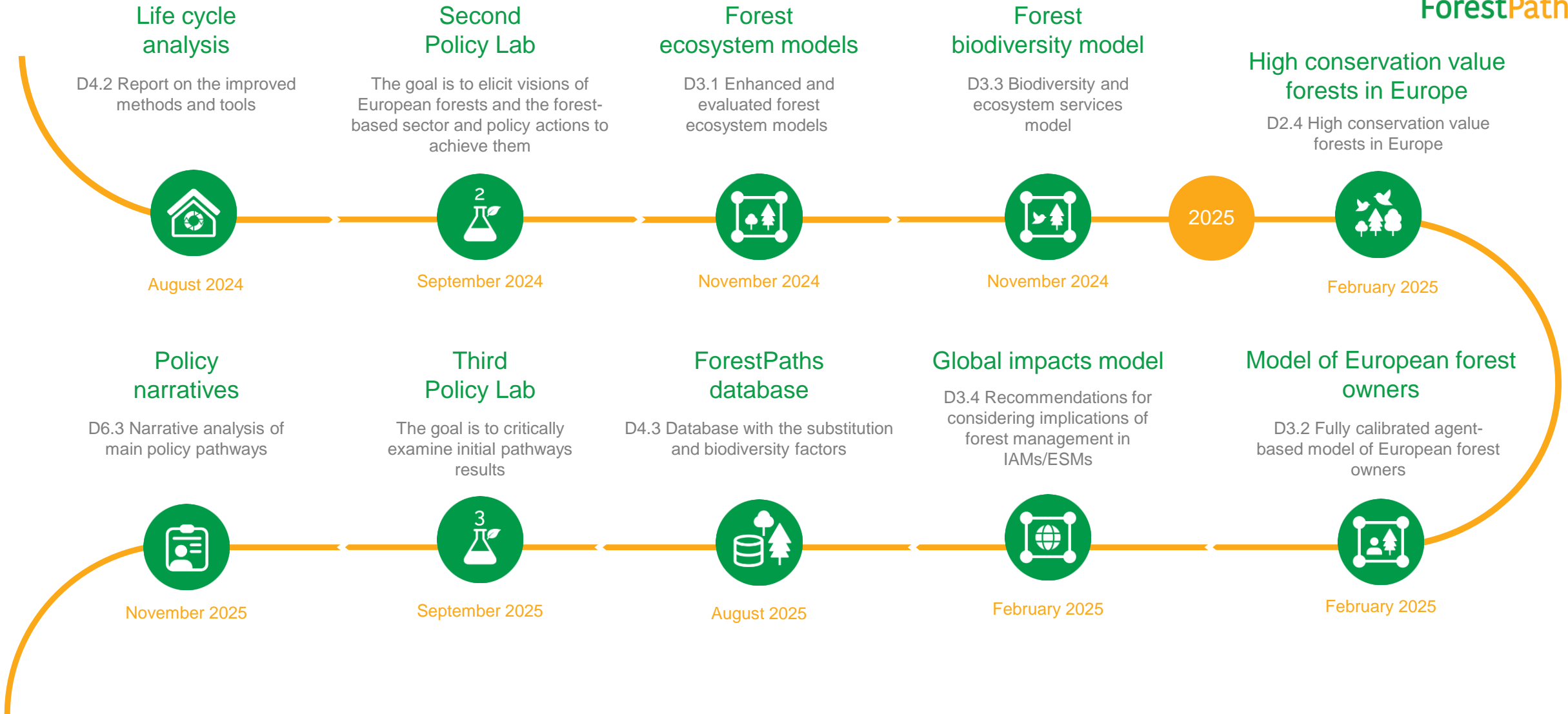
Next generation  
forest ecosystem and  
management **simulation  
models**



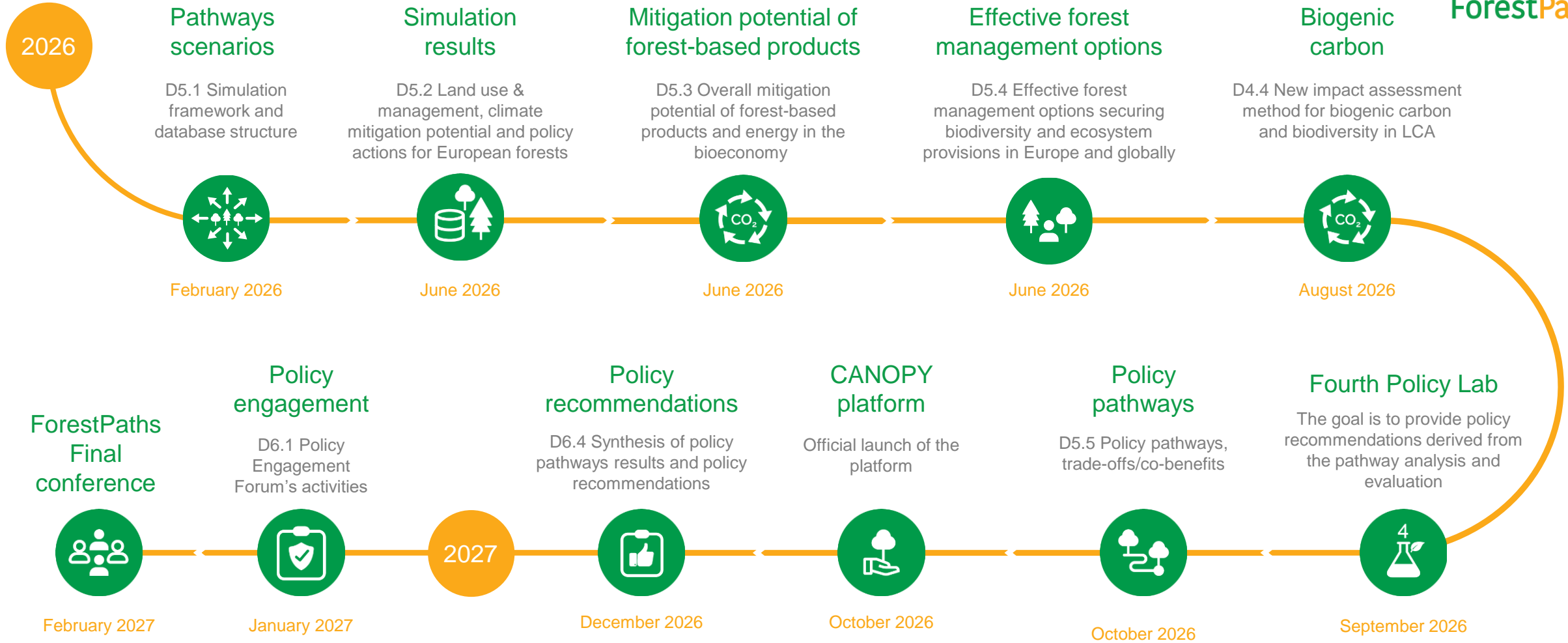
Improved  
**data, tools and methods**  
for the European forest-  
based sector

# Timeline









# CBS forest management options

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CBS management options are co-designed with local practitioners and stakeholders through **interviews**, **surveys** and **workshops**.



- Decision **rules**, **parameters** and **narratives** for modeling
- **Policy instruments** for influencing owner behavior



# Holistic forest-based policy pathways

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The policy pathways with their supporting information and evidence will be openly available through the project's **online policy support platform CANOPY**.



- Comprehensive **assessment of climate mitigation potential** of European forests and forest-based sector
- Policy **narratives**
- Policy **recommendations**

# Policy support platform CANOPY

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CANOPY will be hosted on the **project's website** and will be maintained after ForestPaths' end to ensure the **longevity** of its results.

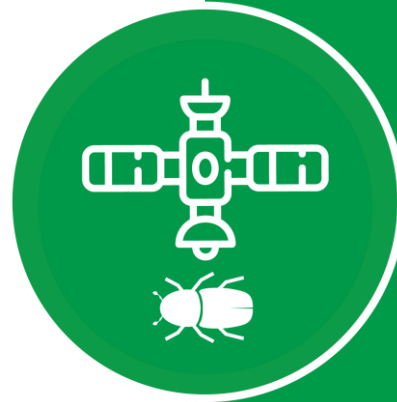


- Interactive **policy analysis tool**
- Detailed **assessment results**
- Policy **recommendations**

# Improved data for understanding changes in climate on forest disturbances

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These are available to **LULUCF experts** under open access and **training** and guidance is provided for them.



- Open access **pan-European forest maps** for disturbance and forest composition and structure
- Guidance to the use of forest **disturbance, composition, and structure** maps

# Next generation forest ecosystem and management models

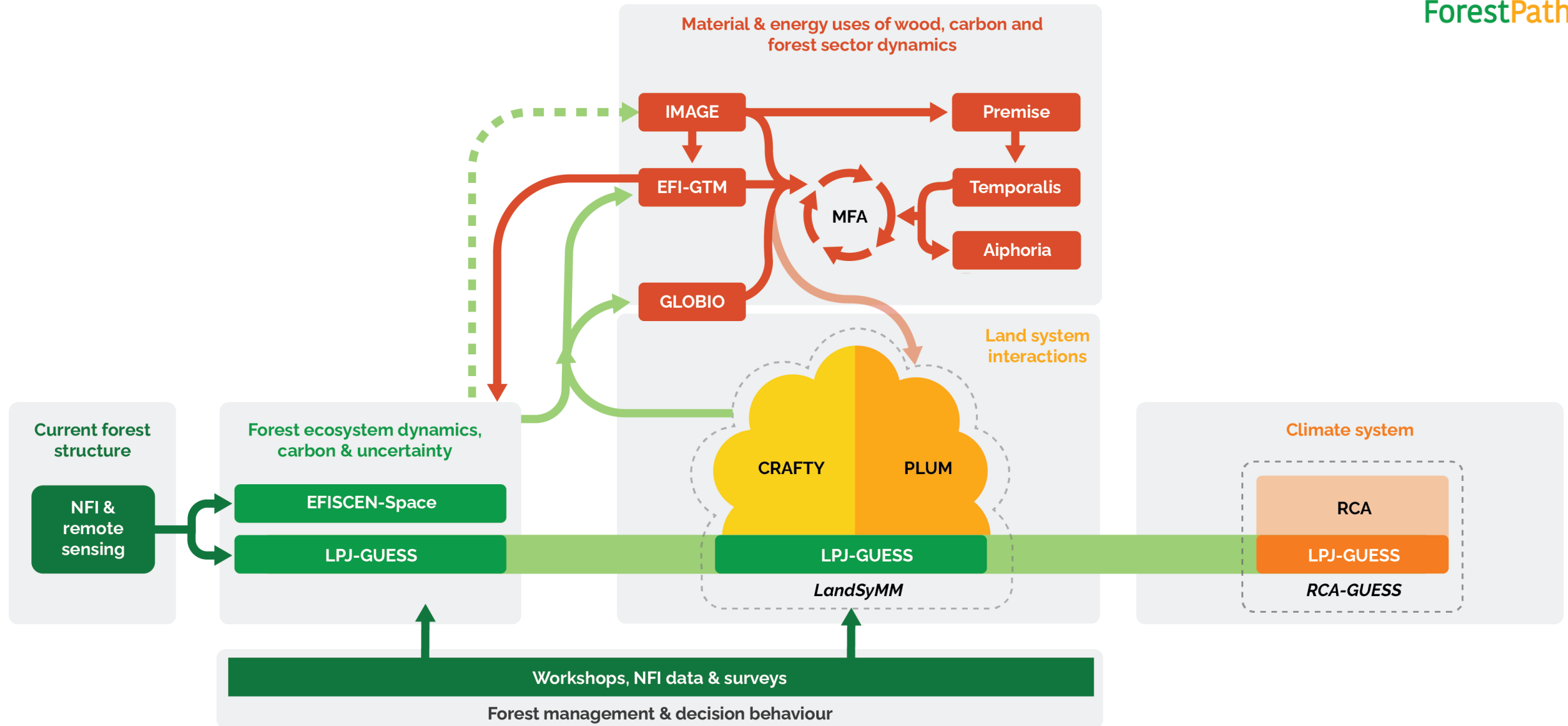
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Simulation results will be synthesised and made available on the **CANOPY policy support platform**, complemented by **training** and **workshops**.



- Forest management **maps**
- **Improved** simulation models for:
  - forest ecosystems and management: **EFISCEN-space**, **LPJ-GUESS**
  - owner behavior: **CRAFTY**
  - earth systems: **RCA-GUESS**
  - integrated assessments: **LandSyMM**, **IMAGE**, **EFI-GTM**

# Modelling approach



# Improved data, tools and methods for the European forest-based sector

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These are **freely available** and **training** is provided for them, along with other supporting materials such as **videos** and **podcast episodes**.



- Open access **LCA** data and tools
- Database of **substitution factors** and **impact factors**
- Methodologies for **upscaling** substitution impacts

# Co-design process with stakeholders



**Policy Engagement Forum**



**Demo cases**



**Policy labs**



# Policy Engagement Forum

ForestPaths engages key stakeholders at local, regional, national and European levels in an in-depth dialogue centered around the **co-creation of forest-based policy pathways**.



The project interacts with its stakeholders through a **Policy Engagement Forum**, which has an online basis for ongoing networking and collaboration and combines digital with hybrid and in-person activities.

The Policy Engagement Forum will outlive the project by becoming a part of its **policy support platform CANOPY**.

# Demo cases

ForestPaths has **four demo cases** where it works with stakeholders to ensure that the CBS management options and policy pathways are **practically applicable and relevant** in different European contexts.



The selected locations cover **diverse** forest decision-making structures, importance of forests and the forest sector to the national economy, climate change impacts, approach to biodiversity and biogeographic regions.

The four demo cases are located in **Finland, Italy, Romania and the Netherlands.**

# Demo cases

## Boreal climate

- Mostly under private ownership (60%), excl. companies. State forest service responsible for actively managed forests and conservation areas
- High importance to forest industry, as well as NVVFPs, recreation, and GHG balance for climate neutrality
- 106,000 people employed by forest-based bioeconomy
- Increasing productivity, moderate increase in disturbances, challenges to mobilise wood under climate change
- Fairly segregated approach through protection of forests. Management focuses on production and considers biodiversity following certification standards

## Atlantic climate

- Mix of private (52) and state owners (48%)
- Low economic importance for industry, but high for climate change mitigation, recreation and other services
- 86,000 people employed by forest-based bioeconomy
- Increased risk of droughts and occasional wildfire. Loss of vitality by combined impacts of climate change and high nitrogen deposition
- 1/3 of forests have biodiversity as main focus, otherwise integrated approach



## Continental and Alpine climate

- >60% state-owned forests
  - Management fully regulated by the state
- Medium importance to industry, high importance for NWFP.
  - About 50% of households rely on wood for heating
  - 257,000 people employed by forest-based bioeconomy
  - Climate change and natural disturbances so far limited impacts
- Management aimed to increase stand stability through enforcing natural forest type. Significant tracts of old-growth forests at risk of exploitation

## Mediterranean and continental climate

- Mostly under private ownership (66%). Associations are being established as ownership becomes more regulated
  - Medium importance to forest industry, large differences between regions. High Importance for protection (35% of the total forest area) and NIFPs
  - 440,000 people employed by forest-based bioeconomy
  - Decreasing productivity, strong increase in wildfire risk
- Segregated approach through protection of forests. Recent decree introduces important innovations for NWFPs, biodiversity and sustainability

# Policy labs

ForestPaths' co-creation of policy pathways is supported by **four two-day policy labs**, each with a particular objective.

**Policy lab 1:** identify policy **objectives** and stakeholder **needs**

**Policy lab 2:** elicit **visions** on European forests and the forest-based sector and policy **actions** to achieve them



**Policy lab 3:** critically **examine** initial pathways results

**Policy lab 4:** provide **policy recommendations** derived from the pathway analysis and evaluation

# Impact

# Expected impact



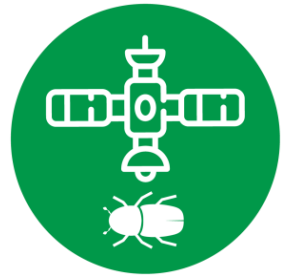
Support the transition to a **climate-neutral and resilient society**

- CBS management options
- Forest-based policy pathways



Advance the understanding of **Earth system science and climate ecosystems interactions**

- Next generation models



Improve the monitoring of **forest disturbances**

- LCA tools
- Improved data



Increase research knowledge's **transparency and practicality**

- Policy Engagement Forum
- Demo cases
- Policy Labs
- CANOPY platform

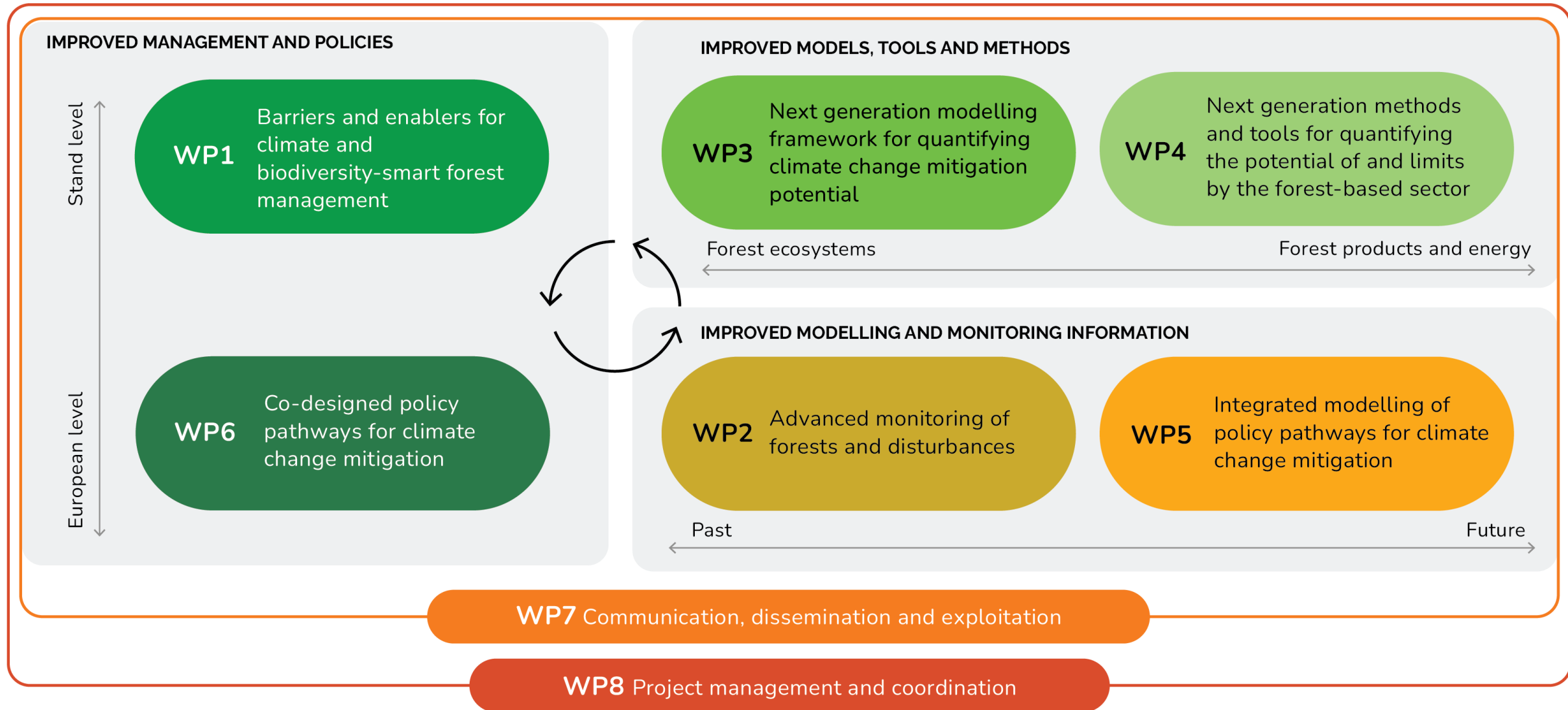
# The project



# The ForestPaths consortium



# Project structure



# Improved management and policies

## WP1

Barriers and enablers for climate and biodiversity smart forest management

- **Aim:** improve models on land use and climate change by furthering the understanding of how forest management and associated decisions is conducted across Europe and identifying feasible **Climate and Biodiversity-Smart (CBS) forest management approaches**
- **Results:** decision rules, parameters and narratives that will serve to improve modelling (WP3) and support the development of exploratory scenarios in WP5. Information on effective policy mechanisms to facilitate the wider implementation of CBS across Europe

## WP6

Co-designed policy pathways for climate change mitigation

- **Aim:** co-design and analyse diverse and innovative climate change mitigation **policy pathways** related to European forests and forest-based sector
- **Results:** mapped policy landscape, multi-level stakeholder approach to co-design and analyse forest-based policy pathways and policy recommendations

# Improved models, tools and methods

## WP3

Next generation  
modelling  
framework for  
quantifying climate  
change mitigation  
potential

- **Aim:** deliver an advanced **Integrated Assessment framework** that scales the environmental impacts of policy and climate on forests seamlessly from landscape to the European scale
- **Results:** next generation Integrated Assessment framework

## WP4

Next generation  
methods and tools  
for quantifying the  
potential of and limits  
by forest-based  
sector

- **Aim:** develop enhanced **tools**, **databases** and **methods** to better estimate the mitigation potential and biodiversity impact of the European forest-based bioeconomy, including the substitution and carbon storage effect of forest-based material and energy products, with appropriate time dynamics
- **Results:** material flow analysis, temporal dynamic, prospective and combinatorial LCA framework, spatio-temporal explicit substitution factors

# Improved modelling and monitoring information

## WP2

Advanced  
monitoring of  
forests and  
disturbances

- **Aim:** improve existing methodologies for high-resolution **monitoring of forest disturbances** to enhance the understanding of the drivers of climate change related risks to Europe's forests
- **Results:** base data and maps on forest composition and structure across Europe, base maps of disturbances (separated by agent), drivers of disturbances

## WP5

Integrated  
modelling of policy  
pathways for  
climate change  
mitigation

- **Aim:** **quantify** and **evaluate** the climate mitigation potential of EU forests and forest-based products and energy, whilst avoiding the negative trade-offs for other components of the Earth system
- **Results:** evaluated exploratory and normative (target-seeking) scenarios on CC mitigation by forests and the forest-based sector, trade-off analysis

## WP7

Communication,  
dissemination  
and  
exploitation

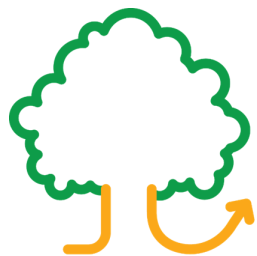
- **Aim:** **maximise ForestPaths' impact** through tailored communication, dissemination and exploitation strategies aimed at sharing the project's results with relevant stakeholder groups, and particularly supporting policymakers via the **CANOPY platform**
- **Results:** CANOPY policy support platform, targeted communication materials, workshops and trainings for selected stakeholders, established synergies and knowledge exchange with relevant initiatives and networks

## WP8

Project  
management and  
coordination

- **Aim:** provide the structure and conditions for the **successful implementation** and completion of ForestPaths





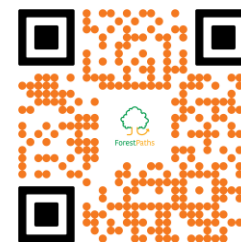
# ForestPaths

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 [forestpaths.eu](https://forestpaths.eu)

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 [ForestPaths Project](https://www.linkedin.com/company/forestpaths-project/)



ForestPaths  
Newsletter

# Thank you!

## Speaker

Affiliation, Contact details



Funded by  
the European Union

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