

# Transforming landscapes



AGROFORESTRY AND MIXED FARMING:  
PARTICIPATORY RESEARCH TO DRIVE THE TRANSITION TO  
A RESILIENT AND EFFICIENT LAND USE IN EUROPE



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement 862993.



5th European Agroforestry Conference  
17<sup>th</sup> – 19<sup>th</sup> May Nuoro, Sardinia, Italy (online)  
17<sup>th</sup> May 2.2 POLICY – Room B



## **AGROMIX - AGROforestry and MIXed farming**

Participatory research to drive the transition to a resilient and efficient land use in Europe

### **‘AGORMIX – Introducing Policy Co-Development for Agroforestry and Mixed Farming’**

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# 28 Partners: 10 universities, 7 research institutes, 11 multi-actor partners

## 14 countries represented

Research Centre  
Agroecology, Water  
and Resilience

Coventry  
University



INTERRA



MVARC  
MOINHOS DE VENTO  
AGROECOLOGY  
RESEARCH CENTRE

Zurich University  
of Applied Sciences

Polish Agroforestry Association (OSA)



W  
ERV  
EL  
beweging voor  
gezonde landbouw

Eesti Maaülikool  
EMU Estonian University of Life Sciences

afbi AGRI-FOOD  
& BIOSCIENCES  
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REVOLVE

zhaw School of  
Engineering

Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
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Swiss Confederation

WAGENINGEN  
UNIVERSITY & RESEARCH



AGROECOLOGY  
EUROPE

ILVO

Flanders  
is agriculture and fisheries

Federal Department of Economic Affairs,  
Education and Research EAER  
Agroscope

Sant'Anna  
School of Advanced Studies – Pisa

TENUTA DI PAGANICO  
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RESEARCH  
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ELM FARM

Network for Rural Development of Serbia

zalf

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VENETO  
AGRICOLTURA



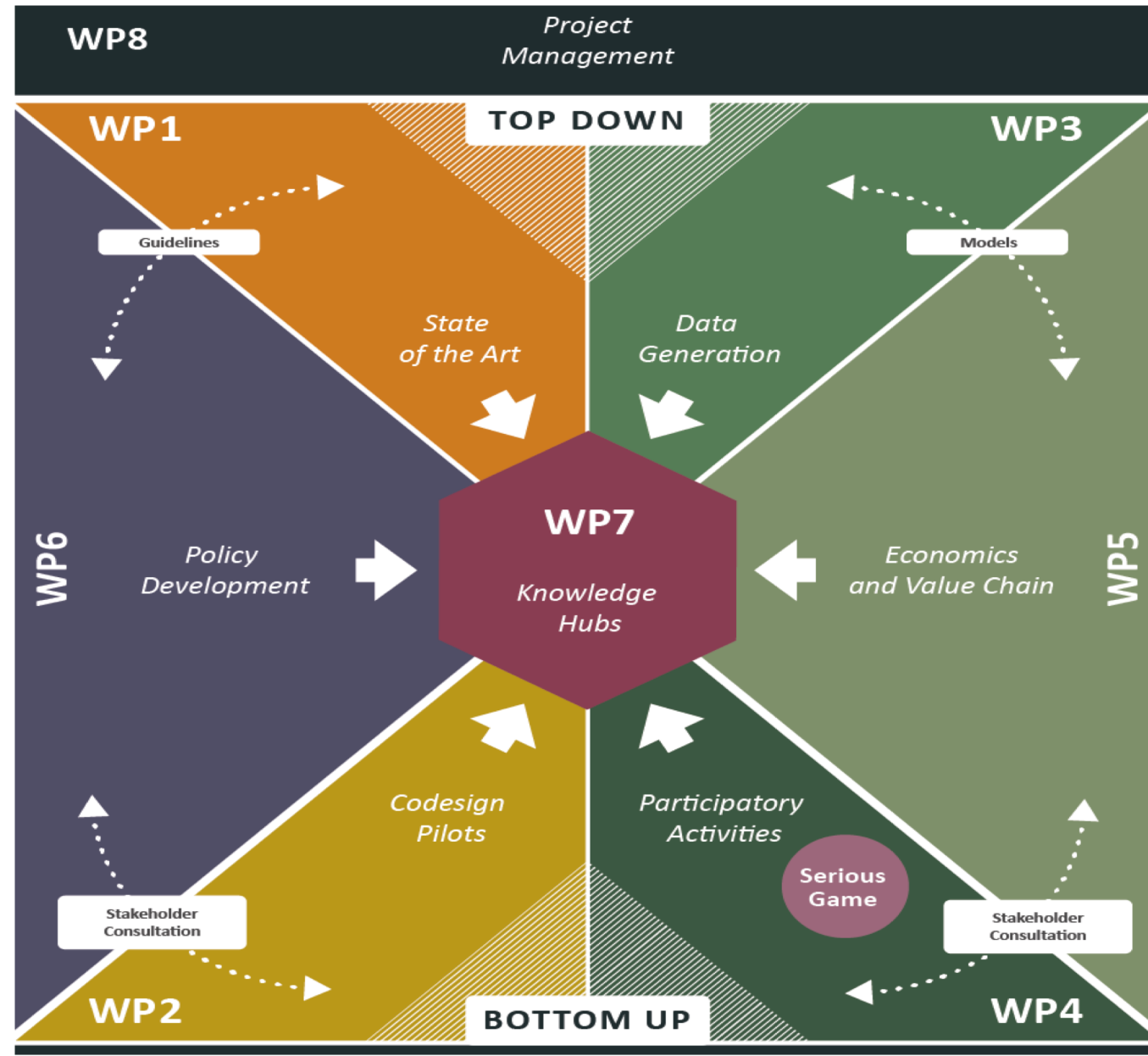
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# Approaches

- Interlinked WPs
- Long-term field sites
- Mix-APP, Serious games
- Economic value chain modelling
- Policy Co-development
- Knowledge Hubs





# AGROMIX main aims

- **deliver participatory research** to drive the transition to resilient and efficient land use in Europe
- provide **practical agroecological** solutions for farm & land management – and related value chains
- explore the potential for **novel approaches, technological, social, policy** to promote innovation in highly complex, diverse contexts

**4-years:** 1 November 2020 – 31 October 2024, **7 million Euro**,  
RIA (Research and Innovation Action, Horizon 2020)

## More info:

Poster page 22 P1.1\_5\_73 AGROMIX,

Website [www.AGROMIXproject.eu](http://www.AGROMIXproject.eu)

## WP 6 Policy Co-Development (new staff joined)

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# Rationale

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- ✓ European Commission is innovative: Green Deal: **25% certified organic Land Use by 2030** combined with Biodiversity strategy (**GAP-1991** = EU organic regulation 1991 becomes minimum standard for good agricultural practice - GAP) but - 'watered down in parliament and political process – but also counter pressure'
- ✓ '**Agrar-Wende**' = 'revolutionary' change/transition to agroecology in Europe
- ✓ Phase-out of ALL intensive industrial livestock in Europe = 100% GAP-1991 for animals, akin to 'Abolition of slavery in agriculture' as it also includes moral change
- ✓ **Agroforestry and mixed farming (AGROMIX)** could play major role in this transition?



# Tasks

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- **Task 6.1:** *Inventory* of current policy contexts, instruments and operational means for the support of MF and AF systems and the assessment and evaluation of ecosystem services from MF and AF systems.
- **Task 6.2:** *In-depth analysis of policy scenarios and sector mechanisms within the EU and four national states.*
- **Task 6.3:** *Ten multi-stakeholder policy workshops for the co-design of MF/AF policies within the EU and four national states.*
- **Task 6.4:** *EU-level policy development, MF/AF white paper and 'AGROMIX summit'.*



# Nested Approach

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- The AGROMIX policy workshops will contribute to a better scientific understanding of policy co-development from a bottom-up citizen perspective
- A set of comparative policy workshops at different policy levels: EU level, member states in Eastern and Western Europe but also non-EU states within Europe, like Switzerland and UK.
- In addition, devolved federal state levels are studied, e.g. in Eastern and Western Germany.

# T6.1 Questions used in each country

1. What are the **keywords** or commonly used terms to refer to Agroforestry and Mixed Farming systems in your country?
2. Does your country make provisions for Agroforestry under the CAP?
3. Are there any **national policies** (**separate from** the CAP) that support Mixed Farming or Agroforestry systems in your country?
4. What are the **national regulations** (**separate from** the CAP) for trees on farms?
5. How popular are Agroforestry and Mixed Farming Systems in **traditional farming/knowledge** in your country?
6. **Going back 100 years**, what was the historical context of trees in the farmed landscape in your country?
7. Is **forest farming** legal in your country (specifically forest pastoralism where livestock can forage through wooded/forest land)?
8. Has the **CAP played a role in de-mixing** the landscape? If so, how (specifics)?
9. What are **2-3 good examples** of Mixed Farming/Agroforestry farms in your country?
10. What are the **key challenges and barriers** to full development of Agroforestry and Mixed Farming Systems?
11. Has your country released its **Strategic Plan** for the new CAP?
12. What are the rules for **crop rotations**? Do they **include livestock**? What are the rules for **on-farm feed** production?





# First findings

- old CAP (Rural Development Plan) was **ineffective and up-take was limited** (e.g. Ireland, Hungary and Italy)
- New CAP (Eco-schemes) are **not fully implemented and watered down**, so could also be in-effective, need to study
- **Mixed farming is not existing** in the old and new CAP
- ‘CAP **control treatments**’ (Switzerland and UK) are difficult compare yet. Need policy and implementation data on on farmer uptake (as we have with organic farming statistics).
- *“CAP has too many contradictions, it feels like the people who write the CAP do not understand farming”*
- Why is the CAP uptake so low?  
Is it because we are not re-designing the system with agroecology thinking, just giving one option?
- Is the ‘C (common)’ in ‘**CAP**’ too ambitious? Should more agriculture policy be devolved to EU member states = ‘**cAP**’?
- **International perspective:** difficult to compare as nobody has a CAP, however agroforestry is more the obvious choice in small scale agriculture worldwide, and also it is used as part of sustainable intensification



# First findings

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- **Mixed farming** not directly regulated and supported. The word and concept is old but like Agroforestry 10-20 years ago, it does not feature much directly in policy documents, however indirectly -> further research to find proxies
- One proxy identified is **ecological/biological/organic farming to EU regulation 1991 ff. (and following updates until today)**. Mixed farming is in the general principles of the EU-Reg-1991 ff., but it is not mandatory. However, it is difficult to close nutrient cycles and manage fertility without livestock and therefore many organic farms are mixed (livestock free organic farms also exist: stockless arable, vineyards, bio-greenhouses and vegan organic farms).
- Similar is agroforestry, it fits the the general principles of EU-Reg. 1991, but it is not mandatory. Unlike mixed farming, it can be made mandatory in the next EU-Reg. update. The question is how much per farm and when is it introduced?



# Agroforestry mandatory in ecological/organic?

- Ecological/biological/organic farming is already a certification scheme (1991 ff.) with a high level of consumer trust and value added to farmers.
- Mandatory Agroforestry would 'force' every organic farm (430,742\* in 2019) in Europe (including intensive organic horticulture, viticulture) to introduce agroforestry.
- Independent annual and spot-check certification gives credibility. Higher level of agroforestry can be promoted using the same certification scheme (but higher standards).
- How much agroforestry depends on the farm type. A simple rule could be 'percentage(%) - land' on farm e.g. 1-5%. Having no agroforestry would become a major non-compliance.
- Fits to EU commission's aims for 25% certified organic land by 2030  
=> agroforestry will legally exist on all this land  
(non-EU Europe, e.g. Switzerland, Norway, England, Scotland, Wales, NI, Serbia, can have similar aims)

\*Source: Willer, Helga, Jan Trávníček, Claudia Meier and Bernhard Schlatter (Eds.) (2021): The World of Organic Agriculture. Statistics and Emerging Trends 2021. IFOAM Bonn





*"Cherries, damsons, quince, dessert pears, apricots,  
almonds, raspberries, mixed berries and more."  
Helen Browning*

Source: [www.helenbrowningsoorganic.co.uk/agroforestry-orchards](http://www.helenbrowningsoorganic.co.uk/agroforestry-orchards)



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# THE AGROFORESTRY HANDBOOK

## Agroforestry for the UK

Apples – orchard system			
Production level	Average		£/tonne
	per ha	per ac	
Yield: tonne/hectare (acre)	1.7	1	
	£		£/tonne
Output at £900/t	1,530	619	900
Variable Costs £/ha (ac):			
Orchard depreciation	60	24	35
Pruning/clearing	50	20	29
Fertiliser/sprays	81	33	48
Crop sundries	20	8	12
Harvesting	117	47	69
Grading/packing	248	100	146
Storage/bin hire	142	57	83
Packaging	111	45	65
Transport	90	36	53
Commission/levies	115	47	68
Total variable costs	1,034	418	608
Gross margin £/ha (ac)	496	201	292
Silvoarable – top fruit gross margin £/ha (ac)	1,242	503	731

Tree age	Year 1–3	Year 4–5	Year 6–15	Year 16–25
Tree yield	zero	50%	100%	75%

Figure 37: Silvoarable fruit cereal system in Cambridgeshire

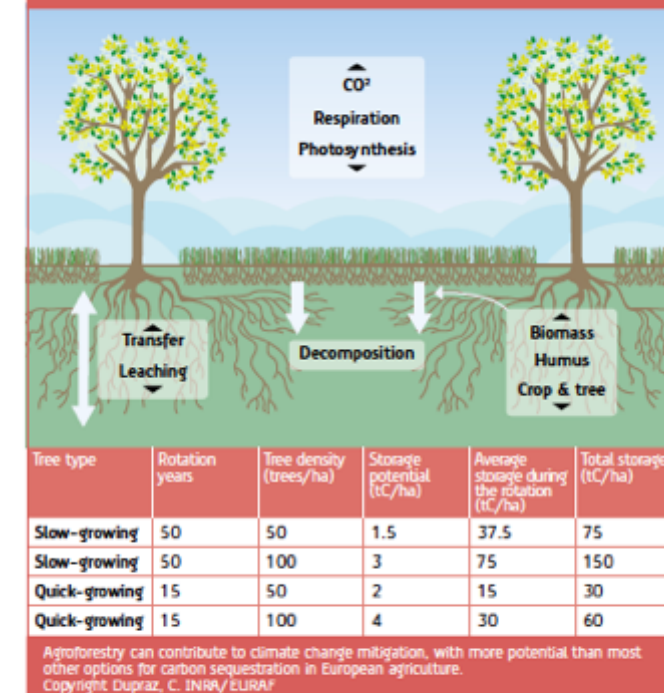


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## Agroforestry for carbon capture

There is significant potential for using agroforestry systems to build carbon in woody components and sequester carbon in the soil. Research has demonstrated carbon sequestration of between 1.0 to 4.0 tonnes of carbon per ha per year from agroforestry tree densities of between 50–100 trees per ha. Faster-growing trees with higher density sequester more than slower-growing less densely populated systems as shown in Figure 44.

Figure 44: Carbon-storage potential of agroforestry



Source: The Agroforestry Handbook: Agroforestry for the UK 1st Edition (July 2019) Soil Association Limited, Bristol, England, ISBN: 978-1-904665-07-6

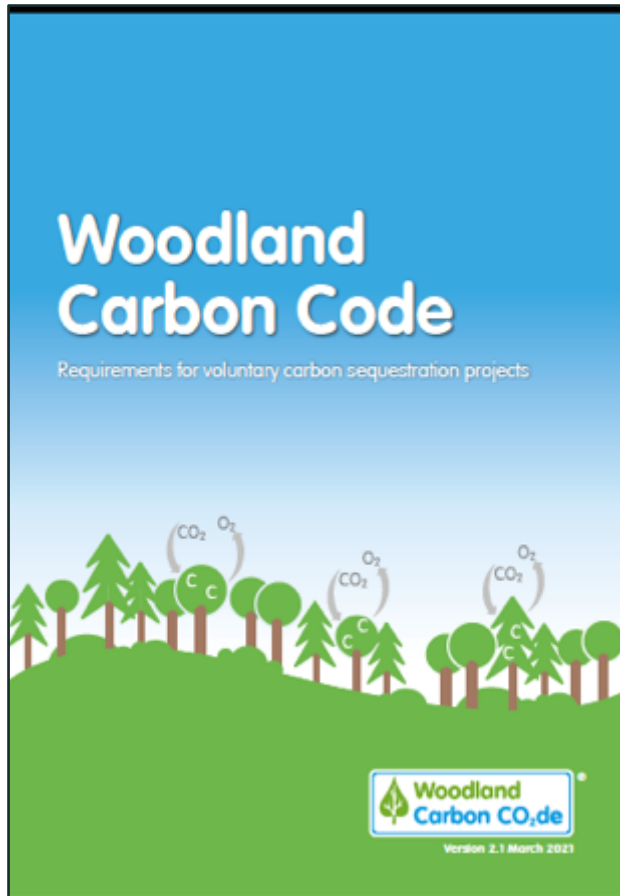


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## Daily EU ETS carbon market price (Euros)




Source: <https://ember-climate.org/data/carbon-price-viewer>



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Registry - Public View



Clear

Search:

UK Woodland Carbon Code

All Units

Account Holders

Cancelled Units

Projects

Issuances / Listings

Holdings

Retired Credits

API Retired Credits

Assigned Credits

Name	Category	Standard Name	Project Type	Status	Additional Certification	Validator	Developer	Country	Details
2017-2020 (Bridge End Farm 2017)	Carbon	UK Woodland Carbon Code	No thinning or clearfell	Validated		Organic Farmers & Growers C.I.C.	carl williams	England, Cumbria	<a href="#">View</a>
2020 HWF Group (2020 HWF Group Documents)	Carbon	UK Woodland Carbon Code	Thin only	Validated		Soil Association Certification Ltd	HW Forestry Ltd	Wales, N/A	<a href="#">View</a>
2020 HWF Group (Pantyrhyn)	Carbon	UK Woodland Carbon Code	Thin only	Validated		Soil Association Certification Ltd	HW Forestry Ltd	Wales, Ceredigion	<a href="#">View</a>
2020 HWF Group (Penygaer)	Carbon	UK Woodland Carbon Code	Thin only	Validated		Soil Association Certification Ltd	HW Forestry Ltd	Wales, Carmarthenshire	<a href="#">View</a>
2021 HW Carbon Group (Cwm coch)	Carbon	UK Woodland Carbon Code	Mixed mainly clearfell	Under Development		Soil Association Certification Ltd	HW Forestry Ltd	Wales, Carmarthenshire	<a href="#">View</a>
2021 HW Carbon Group (Enfield)	Carbon	UK Woodland Carbon Code	Thin only	Under Development		Soil Association Certification Ltd	HW Forestry Ltd	Wales, Pembrokeshire	<a href="#">View</a>

**Woodland** – Land under stands of trees with a canopy cover of at least 20% (25% in Northern Ireland), or having the potential to achieve this.

Source: [https://mer.markit.com/br-reg/public/index.jsp?entity=project&sort=project\\_name&dir=ASC&start=0&acronym=WCC&limit=15&additionalCertificationId=&categoryId=100000000000001&name=&standardId=100000000000042](https://mer.markit.com/br-reg/public/index.jsp?entity=project&sort=project_name&dir=ASC&start=0&acronym=WCC&limit=15&additionalCertificationId=&categoryId=100000000000001&name=&standardId=100000000000042)



## Group validation statement

### Woodland creation project-group details

Group Name	2020 HWF GROUP		
Group ID	103000000017167		
Number of Projects	2	Group Area (ha)	12.01
Group manager name	Alison Wheeler	Group manager email	aw@hwaforestry.co.uk

### Group Net carbon sequestration details

Group start date	01/04/2018	Project-Group duration (years)	100
Estimated claimable carbon sequestration over project-group duration (tCO <sub>2</sub> e)	3113	Estimated contribution to risk buffer over project-group duration (tCO <sub>2</sub> e)	779
Group claimable carbon sequestration to date (tCO <sub>2</sub> e)	To be confirmed at verification in 2023	Group buffer contribution to date (tCO <sub>2</sub> e)	To be confirmed at verification in 2023

### Site validation

Site visit(s) undertaken? no - not needed at the validation stage

### Key principles validated

<b>1. Eligibility</b>	<b>3. Carbon Sequestration</b>
1.1-1.3 Eligible timescale, activities and land	3.1-3.3 Baseline and Leakage
1.4 No evidence of non-compliance with the law	3.4 Project sequestration
1.5 Additionality	3.5 Net sequestration
<b>2. Project Governance and Documentation</b>	<b>4. Environmental Quality</b>
2.1-2.2 Registration and Documentation	
2.3-2.5 Group & Project Management, monitoring	
2.7 Carbon statements and reporting	
2.8 Trademarks	<b>5. Social Responsibility</b>

### Validation opinion

Opinion validated	Soil Association Certification Ltd has conducted a validation of the compliance of the project-group 2020 HWF GROUP with the Woodland Carbon Code, including the greenhouse gas (GHG) data reported. On the basis of the assessment undertaken (see the annex) the project-group was found to be compliant. The GHG data ('Net Carbon sequestration details' above) are materially correct, with a reasonable level of assurance.
Comments which qualify the opinion	n/a

Signed

Name of signatory	Andy Grundy	Position	Senior Certification Manager
Validating organisation	Soil Association Certification Ltd	Address of validating organisation	Spear House 51 Victoria Street - Bristol BS1 6AD
Certified from	20/11/2020	Certified until	31/03/2023

## Registry - Project Details

### 2020 HWF Group (ID: 103000000017167)

#### Description

Group of GWC Carbon sites West Wales

### Penygaer (ID: 104000000013201)

#### Project Documents

- (WCC) Carbon Calculations



## Group validation statement

### Details of constituent projects

Group name	2020 HWF GROUP							
Group ID	103000000017167							
Date of validation statement	20/11/2020							
Project Name	WCC Reference	Woodland Type	Management Regime	Area (ha)	Start Date (year)	Duration (years)	Estimated Buffer Contribution (tCO <sub>2</sub> e)	Estimated Claimable Carbon Sequestration (tCO <sub>2</sub> e)
Penygaer	SN778387	Broadleaved (>80%)	Thin only	3.01	2018	100	663	2411
Pantyrlyn	SN452556	Broadleaved (>80%)	Thin only	3.0	2018	100	176	702
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Source: [https://mer.markit.com/br-reg/public/index.jsp?entity=project&sort=project\\_name&dir=ASC&start=0&acronym=WCC&limit=15&additionalCertificationId=&categoryId=100000000000001&name=&standardId=100000000000042](https://mer.markit.com/br-reg/public/index.jsp?entity=project&sort=project_name&dir=ASC&start=0&acronym=WCC&limit=15&additionalCertificationId=&categoryId=100000000000001&name=&standardId=100000000000042)



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