



Cattle farming and trees

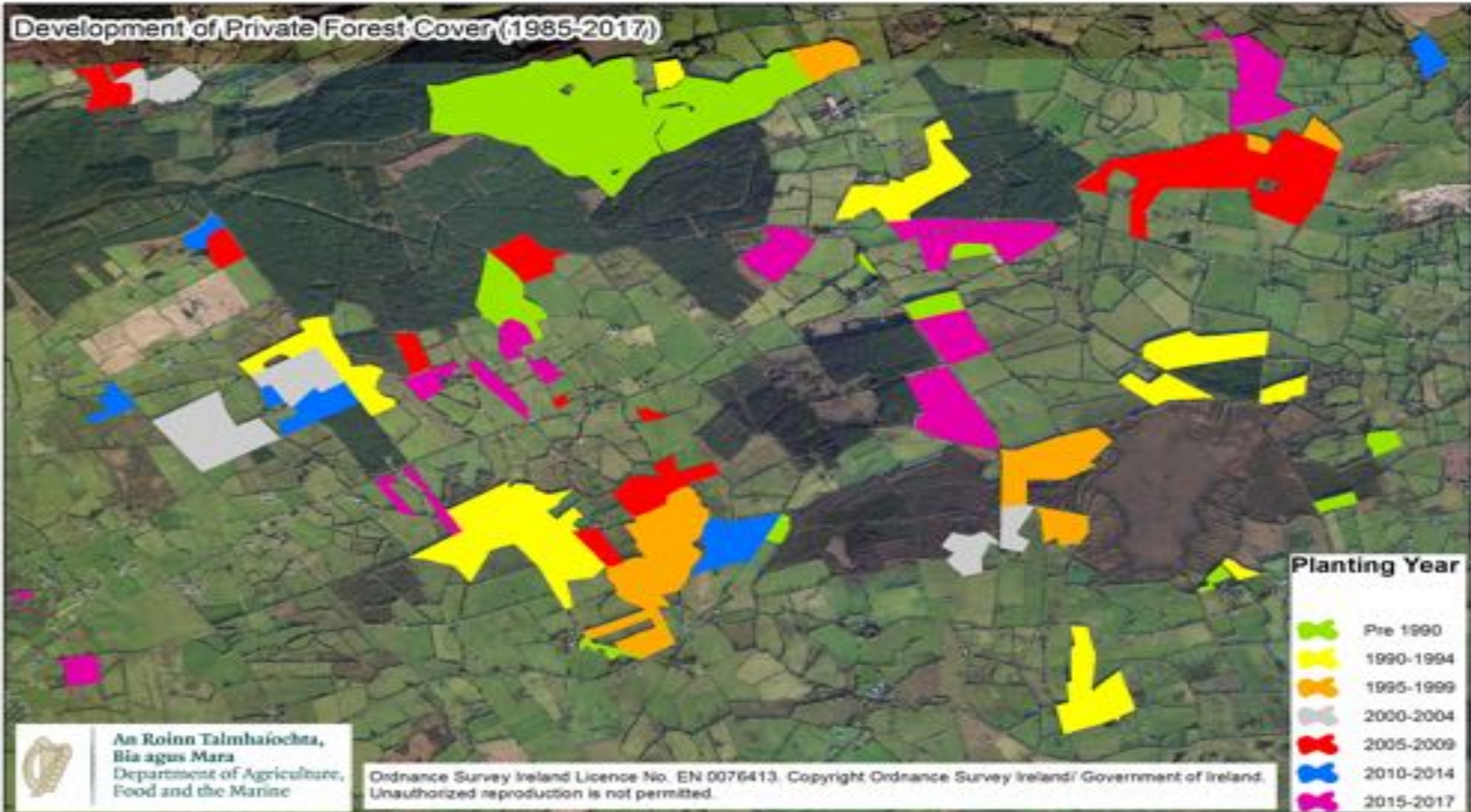
Pat Hennessy

Smart Farming Spring Seminar
Tuesday, 30th April 2019



Need to change the mindset of farmers that planting is no longer seen as a failure, instead as an opportunity to increase the sustainability and profitability of the farm.

Development of Private Forest Cover (1985-2017)



Planting Year

- Pre 1990
- 1990-1994
- 1995-1999
- 2000-2004
- 2005-2009
- 2010-2014
- 2015-2017



An Roinn Talmhaíochta,
Bia agus Mara
Department of Agriculture,
Food and the Marine

Ordnance Survey Ireland Licence No. EN 0076413. Copyright Ordnance Survey Ireland/ Government of Ireland.
Unauthorized reproduction is not permitted.

Why I planted...

No upfront costs, 100% establishment grant.

Income tax free premium.

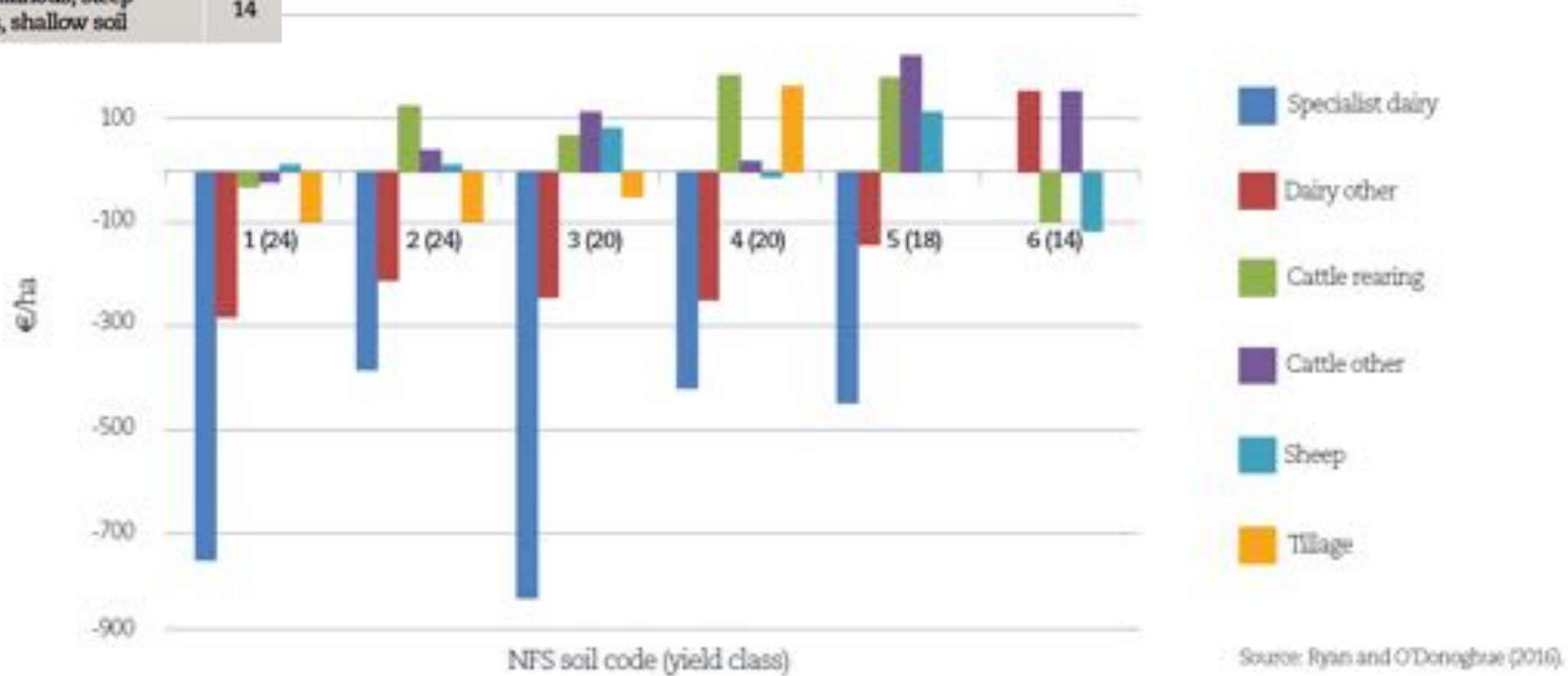
Land was suitable and very productive for growing trees.



Soil Class (SC)	Agricultural use	Soil type	SS yield class
1	Wide	No limitations	24
2	Moderately wide	Minor limitations	24
3	Somewhat limited	Higher elevations, heavier, poorer structure	20
4	Limited	Poor drainage	20
5	Very limited	Agricultural potential greatly restricted	18
6	Extremely limited	Mountainous, steep slopes, shallow soil	14

Over the long-term farmers who benefit the most from forestry are those **that plant on land that is marginal for agriculture but highly productive from a forestry perspective.**

The highest gains are on marginal land yield class 18 and 20.

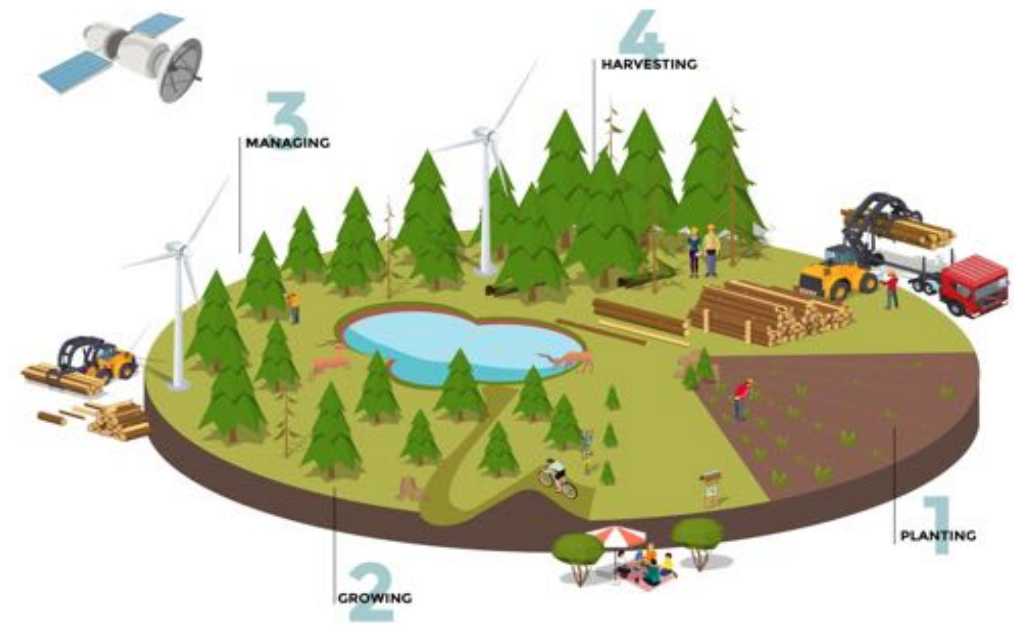


Afforestation & Woodland Creation scheme

- 100% establishment grants.
- 15 year forest premium, which is income tax free but liable for USC and PRSI.
- Can be paid forest premium and BP on afforested land subject to retaining 10% of eligible area (minimum of 3ha) in agriculture.
- Minimum grant aided area is 1ha for conifer and ≥ 0.1 ha broadleaf with a minimum width is ≥ 40 m
- It is a condition of the scheme that the land must remain under forestry and is subject to a replanting order.

Grant Premiums Category	Total Grant (€/ha)	Premium Rate (€/<10ha)	Premium Rate (€/>10ha)	Duration of Premium (years)
GPC 1 – Unenclosed	2,140	185	190	15
GPC 2 – Sitka Spruce / Lodgepole Pine	3,105	440	450	15
GPC 3 – 10% Diverse Conifer / Broadleaf	3,215	510	520	15
GPC 4 – Diverse Conifer	3,710	590	600	15
GPC 5 - Broadleaf	5,280	605	620	15
GPC 6 - Oak	5,620	645	660	15
GPC 7 - Beech	5,620	645	660	15
GPC 8 – Alder / Birch	3,595	605	620	15
GPC 9 – Native Woodland Establishment (Scenario 1-3)	5,620	665	680	15
GPC 10 – Native Woodland Establishment (Scenario 4)	5,280	665	680	15
GPC 11 - Agroforestry	5,620	645	660	5
GPC 12a – Forestry for Fibre	3,215	510	520	15

Good management practice



- Take the time to learn about the crop.
- Walk your forest regularly to make sure the trees are growing well.
- **Planning is the key to success.**



Thinning



Improves the quality of the forest to (i) create access for future management and (ii) to remove deformed or poorer quality stems to focus future growth on the most valuable sawlog and the final crop.

The timing of thinning operations is very important.

- Talk to other farmers that have thinned, attend any information or field days about thinning.
- Get to know the markets and timber prices.
- Know the value of your crop and expected volumes to be harvested.
- Get a forester to oversee operations.

My management plan

Description	Year
Planted (38 hectares)	1991
Constructed harvesting road	2006*
1 st thinning	2006
2 nd thinning	2010
3 rd thinning	2014
Clearfelled (8 acres)	2018



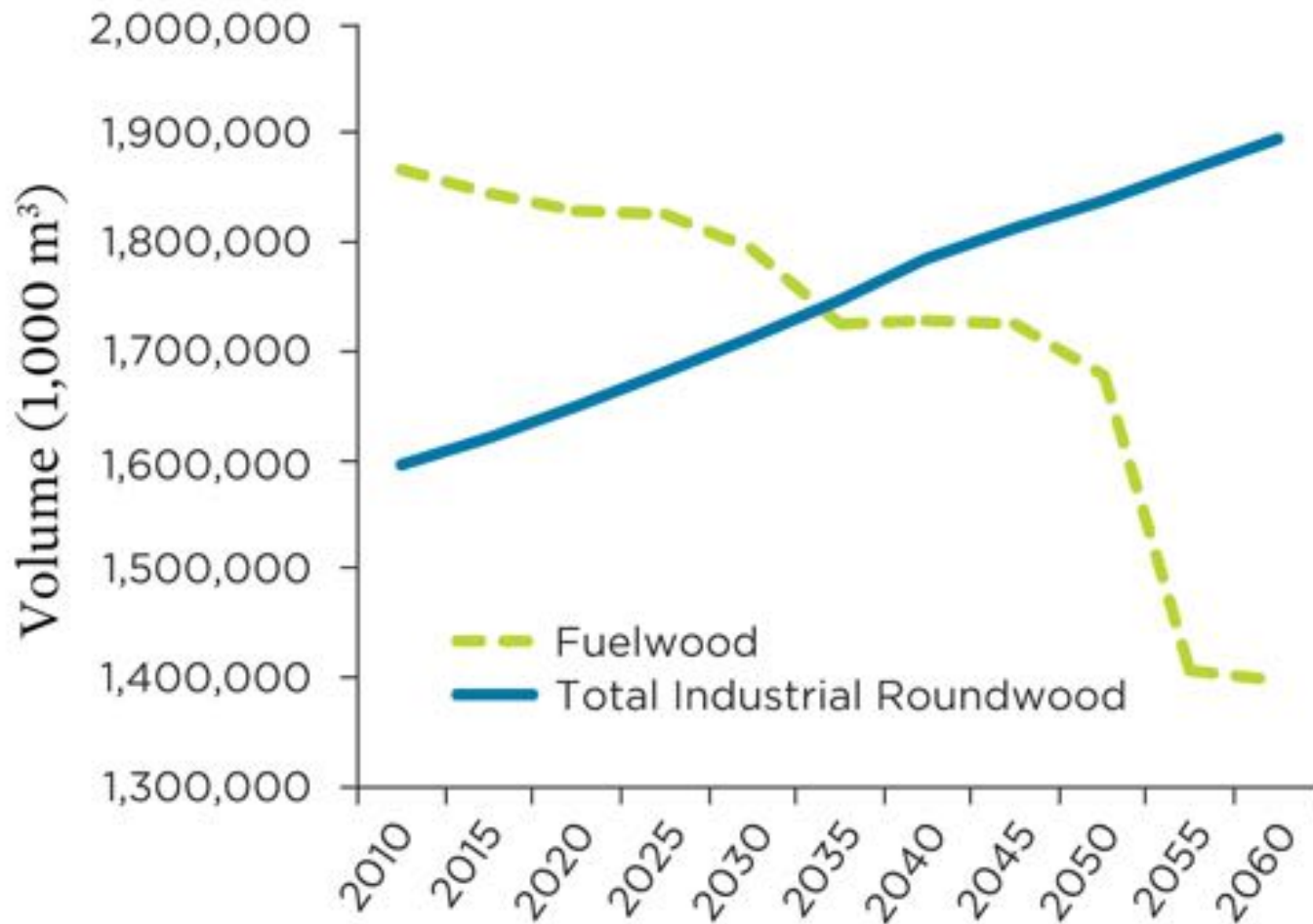


Returns for clearfell

Product	Tonnes	Price*
Sawlog (16cm plus)	969	€56
Pallet	329	€41
Stakes	46	€40
Pulp	73	€29
Firewood	30	€30
TOTAL	1467	€73,284

*Net roadside after harvesting and haulage costs.

Global demand for wood products



The drivers for demand include:

- Growing world population is projected to increase to 8.2 billion in 2030.
- Environmental policies and regulation: exclude more forests from wood production.
- Energy policies: the use of biomass, including wood, is increasingly encouraged.

New innovative products being developed



Carbon Fibres

A team of researchers at the University of Liverpool has developed a project to produce carbon fibre from forestry products. The researchers used reinforcement to plastic impregnated with carbon fibres to plastic impregnated with carbon fibres. The material has the same properties as carbon fibre but at a lower cost of end product and a smaller carbon footprint of production.

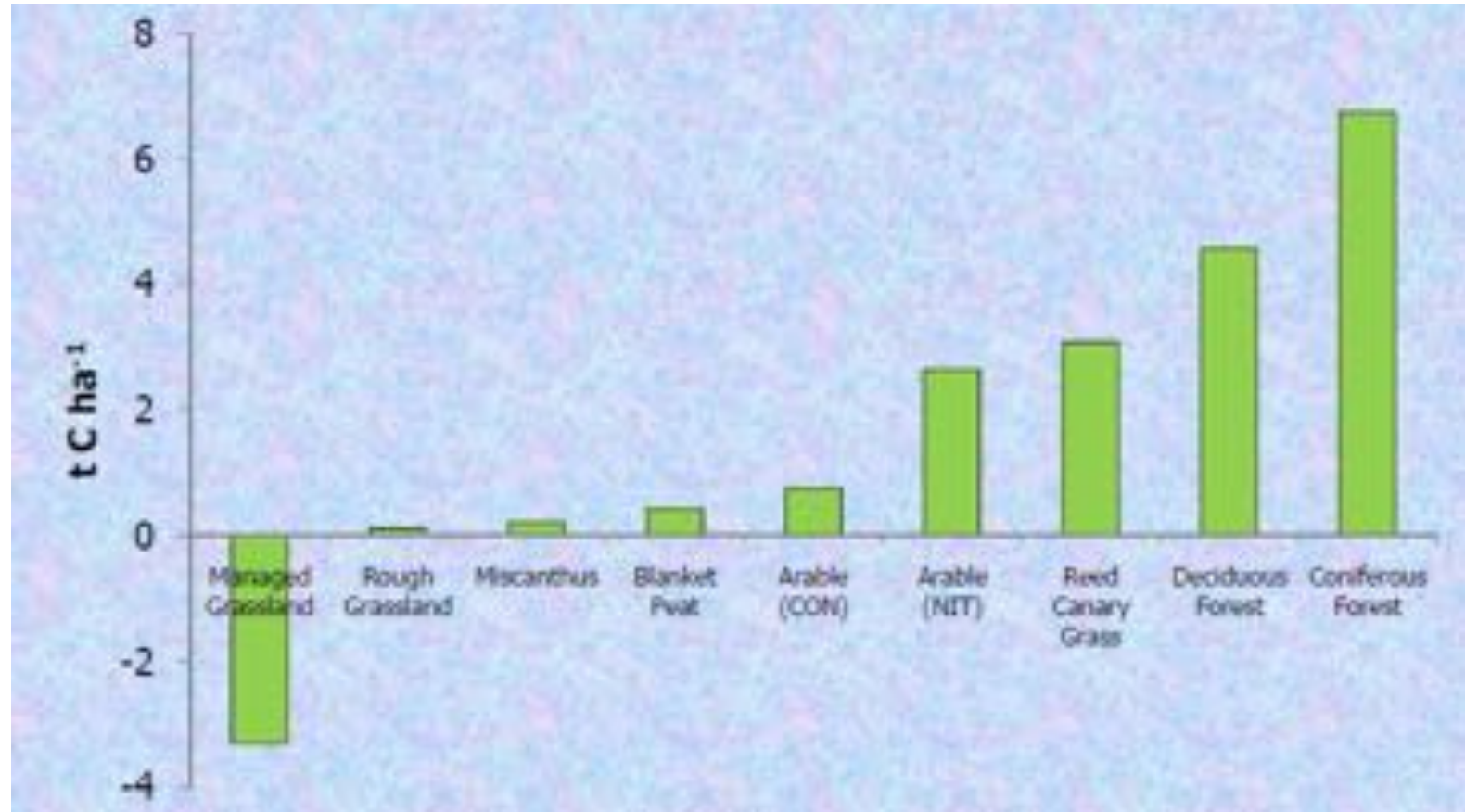
Bio-packaging

Stockholm based premium ice cream manufacturer Fryst has replaced oil based plastic tubs with pulp based containers. The container is made from unbleached pulp which is thick enough to insulate the cold content and is strong enough to withstand filling and freezing. The packaging is cheaper than plastic and is recyclable and compostable. The company's founder Kim-Benjamin Falkarp says "In the future we will see more paper and plant based packaging materials with a greater flexibility in size and design".

Cross Laminated Timber

A revolution is underway in the way we use timber for construction. Stadthaus is a 10 storey residential building in Hackney, London. It has 29 private and semi-private flats. This pioneering building is made entirely in timber. It is the tallest timber building of this height to date. It has load-bearing walls and stairs and lift cores made of timber. By avoiding the use of concrete, it has saved 310 tonnes of carbon dioxide from being emitted.

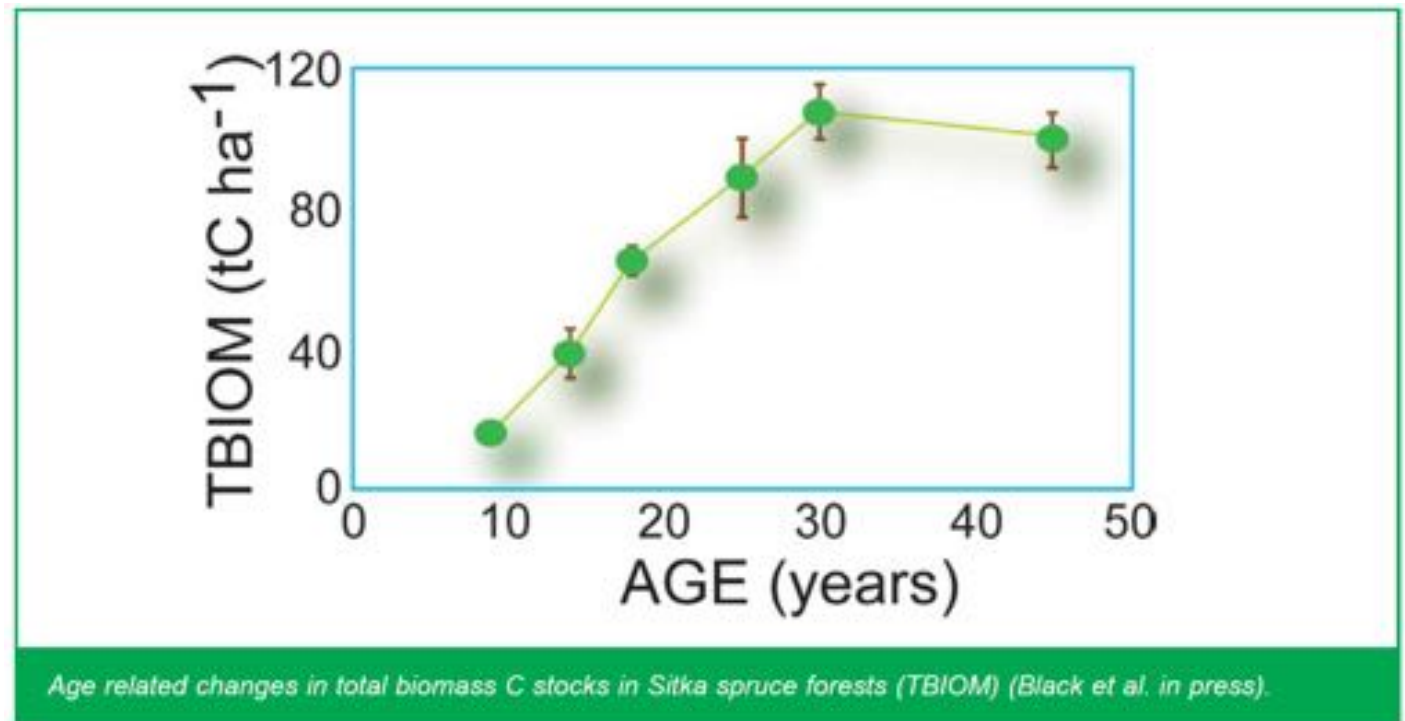
Carbon storage in forests



Note: There are 5 pools of carbon storage in forests: aboveground, belowground, deadwood, litter and soil.

Carbon markets

- Payment for carbon sequestration to mitigate climate change is one of the fastest-growing environmental markets.
- Carbon price, which is approx. €26 per tonne, is forecast to quadruple by 2030 in Europe.



Some of the benefits....

- Diversifies farm income.
- Creates shelterbelts for animals which positively impacts production.
- Enhances biodiversity on farms.
- Improves drainage and water management.
- Produces a high value, sustainable and renewable product.
- Improves carbon balance on farm.



A young pine tree is in the foreground, its branches and needles clearly visible. The background is a vast, rolling landscape of green fields and forests, stretching towards a hazy horizon under a soft sky. The scene is captured from an elevated perspective, looking down over the landscape.

“The best time to plant a tree was 20 years ago; the second-best time is now”