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Woodland Carbon CO_2de®

UK Woodland Carbon Code & Agroforestry

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Forestry Commission

Presentation at Farm Woodland Forum, Cranfield University on 23 June 2017

Outline

- The UK Woodland Carbon Code
  - Background
  - Elements of a carbon standard
  - Application & Group schemes
- WCC Progress
  - Projects/landowners
  - Buyers
- Costs and potential income
  - Woodlands
  - Low density planting and hedgerows

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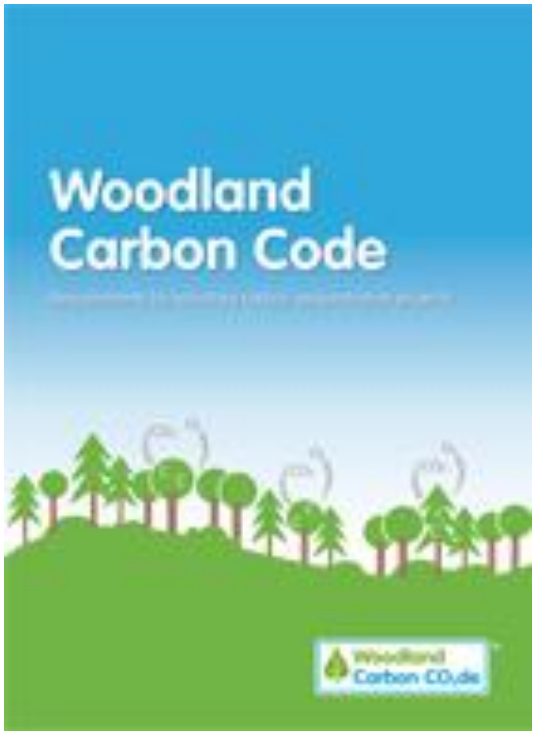
WCC and Peatland Code

- Launched in 2011
- Woodland creation only
- Account for biomass, soil and management emissions



- **High Standards**

> Robust science

> Transparent Registry

> Independent Validation/ Verification

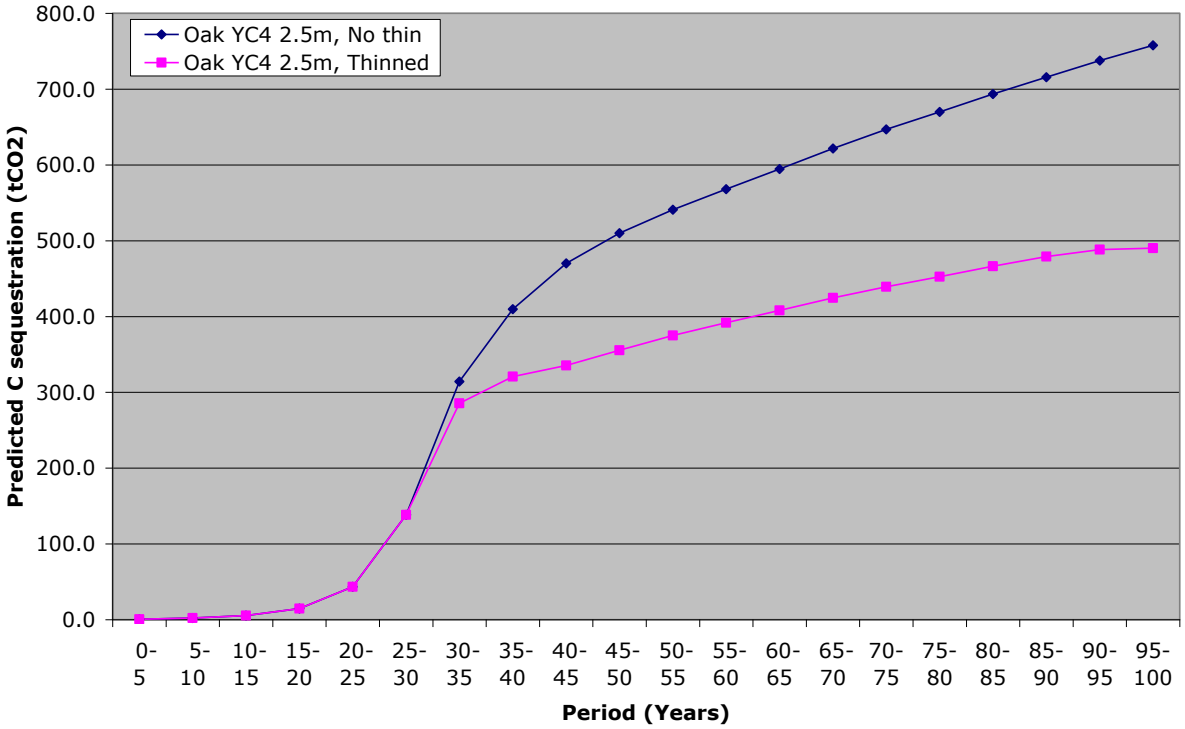
- Launched standard 2015
- Restoration of degraded peatlands

PEATLAND CODE

Requirements

- UK Forestry Standard +
- Additionality
  - Legal : Financial : Barrier
- Permanence
  - Forestry Act, EIA regs,
  - Risk assessment, Buffer (15-40% of project C)
  - Requirement to restock if losses to wind, fire, pest & disease, development
- Predict and monitor carbon sequestration
  - Baseline : Leakage : Project benefit
  - Conservative methodology developed with Forest Research
- Carbon Statements & Reporting
- Social and Environmental benefits: Optional to monitor

Robust science



- Predict Carbon sequestration:
  - 'C Lookup Tables' based on Forest Research models
- Measure carbon sequestration as trees grow:
  - 'Carbon Assessment Protocol' sets out monitoring methods

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UK Woodland Carbon Registry

markit

Registry use: 9 pence / tCO2

Financial Information Services

Registry - Public View

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Clear Search: moorside Registry:

UK Woodland Carbon Code | All Units | Page 1

Account Holders | Projects | Issuances / Listings | Holdings | Retired Credits

Vintage	Project	Account	Standard	Project Type	Verifier	Units	Measurement	Type	
2065 - 2075	Moorside Wood	The Green Insurance Company	UK Woodland Carbon Code	No thinning or clearfell	SFQC	1,048	WCU	PIU	View
2055 - 2065	Moorside Wood	The Green Insurance Company	UK Woodland Carbon Code	No thinning or clearfell	SFQC	1,307	WCU	PIU	View
2095 - 2105	Moorside Wood	The Green Insurance Company	UK Woodland Carbon Code	No thinning or clearfell	SFQC	783	WCU	PIU	View
2075 - 2085	Moorside Wood	The Green Insurance Company	UK Woodland Carbon Code	No thinning or clearfell	SFQC	930	WCU	PIU	View
2017 - 2025	Moorside Wood	The Green Insurance Company	UK Woodland Carbon Code	No thinning or clearfell	SFQC	827	WCU	PIU	View
2045 - 2055	Moorside Wood	The Green Insurance Company	UK Woodland Carbon Code	No thinning or clearfell	SFQC	1,636	WCU	PIU	View
2010 - 2017	Moorside Wood	The Green Insurance Company	UK Woodland Carbon Code	No thinning or clearfell	SFQC	80	WCU	PIU	View
2105 - 2110	Moorside Wood	The Green Insurance Company	UK Woodland Carbon Code	No thinning or clearfell	SFQC	317	WCU	PIU	View
2035 - 2045	Moorside Wood	The Green Insurance Company	UK Woodland Carbon Code	No thinning or clearfell	SFQC	3,779	WCU	PIU	View
2025 -	Moorside Wood	The Green Insurance	UK Woodland	No thinning or	SFQC	4,759	WCU	PIU	View

Microsoft PowerPoint - [... | Microsoft Excel - registry... | Forestry Commission ...

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Validation and Verification

Validation

- At the outset
- Meets the standard (incl UKFS)
- Validate carbon prediction

- ~ £750 / project
- £ Savings for group validation

Monitoring

- After year 5 and every 10 years
- Field survey (except small woods)
- Assess actual sequestration

Verification

- After year 5 and every 10 years up to 100 years/project length
- Meets the standard (incl UKFS)
- Verify actual carbon sequestration

- ~ £750/project
- £ Savings for group verification

UKAS-accredited bodies:
(ISO14065, ISO14064/3 & UKWAS)

Acoura

Soil Association CERTIFICATION

WCC registration options

- Single project (normally viable if > 10ha)
- Group of projects (any size)
  - Requires 'group manager'
  - Works well for projects in same ownership/ same project developer or working together in same valley etc.
  - ~40% saving / project on validation/verification cost
- Small woods (projects with net area < 5ha)
  - Requires 'group manager'
  - Time-saving: Simplified carbon prediction, fixed-rate buffer
  - Time-saving: Streamlined process with less admin
  - Time/cost-saving: No field survey at verification after year 5
  - ~40-50% saving / project on validation/verification cost
  - More conservative C estimate / slightly less C to sell.

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UK as of 31 Mar 2017:

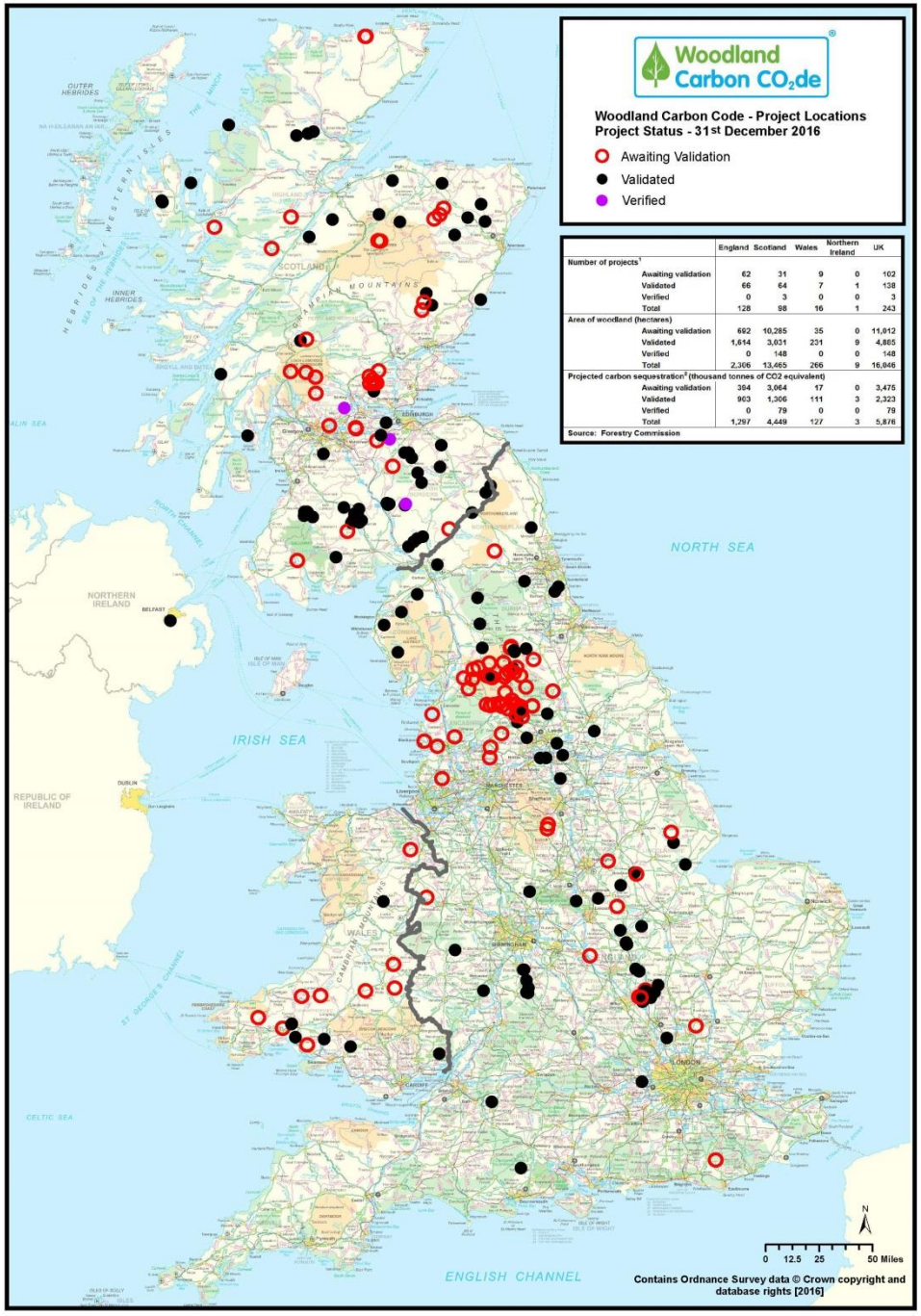
- **250 Projects registered**
- 16,153 ha woodland
- 5.9 $MtCO_2$ over lifetime

- **140 projects validated**
- 5,000 ha woodland
- 2.4 $MtCO_2$ over lifetime

- **3 projects verified (yr 5)**
- 150 ha woodland
- 79,000 tCO_2 over lifetime

- ➢ **40 Project Developer account**
- ➢ **14 Project Developers with validated projects**

- ➢ **70 Corporate Buyers**



Yorks Dales Millennium Trust

- 'Standard' Group of 5 projects, 2-13 hectares
- Project Developer: YDMT
- Will sequester 15,000 tCO_2 over 100 years
  - 13,000 tCO_2 for sale
  - 2,000 tCO_2 to buffer
- On small upland farms, previously grazed (sheep)
- Increase biodiversity/connectivity → low wood cover

Small Woods Group

- James Lonsdale's group, planted 12/13 and 13/14
- 4 sites, 1.5-5.5 ha, 13.5 ha total.
- Mostly formerly pasture, planting native woods
- Mostly near towns
- 6,511 tCO_2 total (5,209 tCO_2 to sell, 1,302 tCO_2 to buffer)

- 'Small woods' group
- Simpler, conservative carbon prediction
- No field survey@ verification – assume prediction right

- Less work and cash cost
- Conservative and small % of total carbon in WCC

Allstar

- Since 2015 with Forest Carbon
- To compensate for the emissions of fuel card users over time.
- Card users pay a per-vehicle contribution to buy carbon units
- Bought carbon from 8 projects +

Why?

- aware that vehicle emissions account for a significant proportion of the nation's carbon footprint;
- large customer base → help many smaller businesses take action
- collective buying power of customer base → a cost effective mechanism
- Like multiple and local benefits from UK woodland creation

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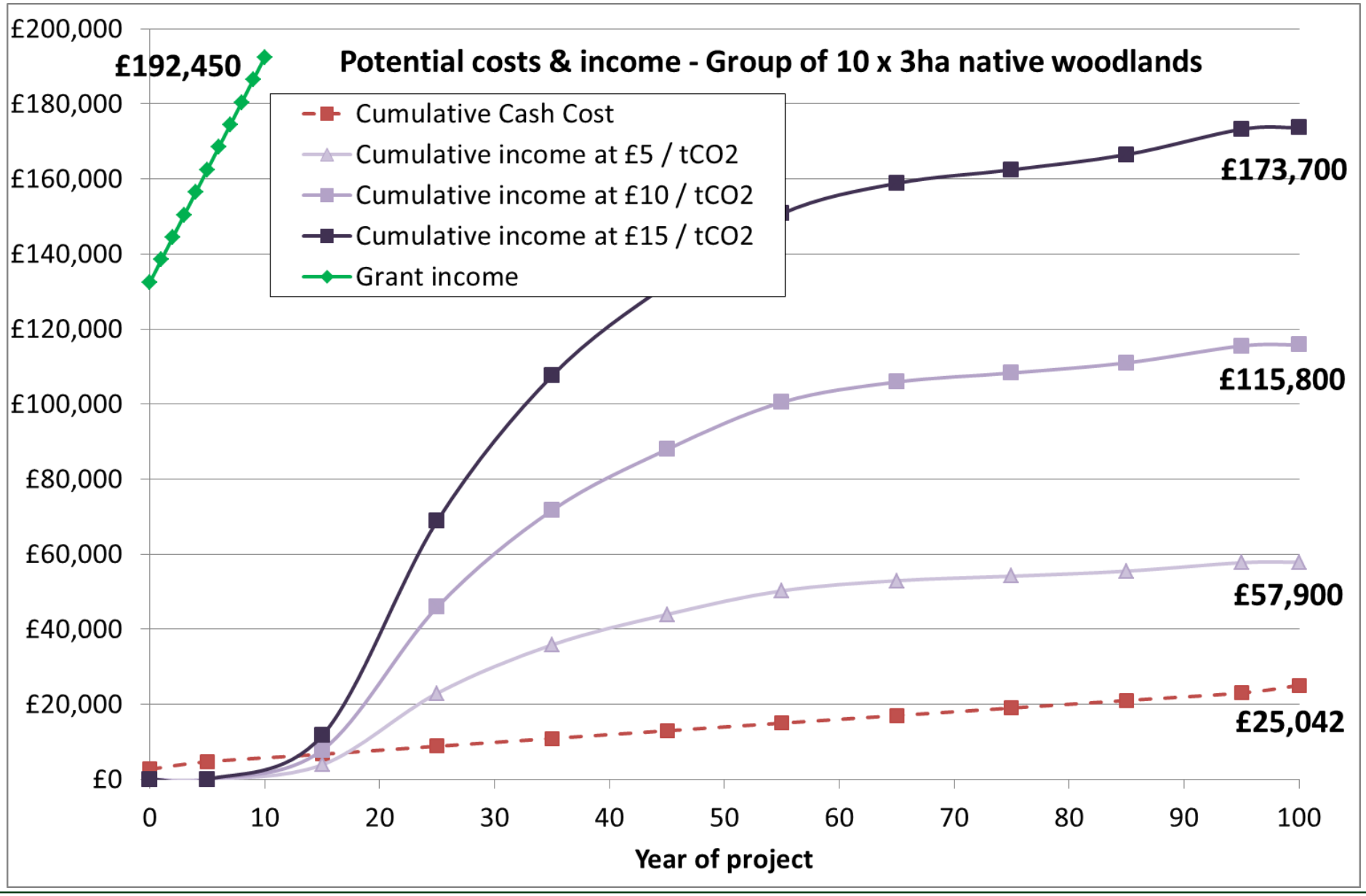
10 x 3ha native woodlands



Agroforestry grants

Country	Grant Detail	Capital Grant Rate	Annual Payment	Notes
Scotland	Agroforestry 400/ha	£3,600/ha	£84/ha 5 yrs	Continue grazing & Basic Farm Payment
	Agroforestry 200/ha	£1,800/ha	£48/ha 5 yrs	
Wales	Agroforestry 80/ha	£1,600/ha	£30/ha 5 yrs	Continue grazing & Basic Farm Payment
England	Low density woodland creation – from 400/ha	From £1152/ha (tree+shelter) plus fencing	Up to £200/ha 10 yrs	Exclude stock as 'woodland'?

- Silvo-arable – Tree planting on current grazed pasture

Potential C income?

Stems/ha	Average spacing (m)	Claimable Sequestn (tCO2/ha)	C income at £5/tCO2 (£/ha)	C income at £10/tCO2 (£/ha)
1,100	3.0	386	£ 1,930	£ 3,860
400	5.0	140	£ 700	£ 1,400
200	7.0	70	£ 350	£ 700

- Mixed Broadleaved woodland, No thinning
- Growing at Yield Class 4 (conservative)
- Carbon sequestered in tree biomass
- 20% put aside in WCC buffer
- Conservative estimate of growth
- 100 year project

Hedge height (m)	Hedge width (m)	Claimable Sequestn (tCO2/km)	C income at £5/tCO2 (£/km)	C income at £10/tCO2 (£/km)
2.0	1.5	30.8	£ 191	£ 308

- Hedge carbon estimate from Matthew Axe PhD (2015) – 20% buffer

Thankyou

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LinkedIn: ‘Woodland Carbon’ group

WCC Mailing list