



How Voluntary Carbon Funding Can Support NFM

iCASP NFM Community of Practice and
CaBA Integrated Catchment Delivery

20th January 2020

Climate change and the UK

- The UK Government Climate Change Risk Assessment predicts:
 - 3.6m people in the UK at risk of flooding by 2050
 - Flood damage to be £12bn per year by 2080 – impacts will accelerate in 2020s
 - Greater summer heat mortality
 - Coastal erosion
 - Water shortages in 5 major catchment areas
 - Invasive pests and diseases affecting people, plants and animals
 - Threats to infrastructure and business operations
- We are already on a trajectory for unavoidable climate change over the next three decades

Solutions

- We can still prevent the worst effects after 30 years through reducing GHG emissions
- We can also adapt to a new climate here in the UK – for example through building design, or better land use
- UK woodland creation and peatland restoration offer action in both of these areas

The role of Forest Carbon

Forest Carbon is the leading developer of woodland creation projects for the UK voluntary carbon market.

Since 2006 we have been planting forests:

- In the UK
- Of all shapes and sizes
- Funded by the sale of certified carbon credits
- Trees sequester carbon & provide wide ranging co-benefits
- That are quality assured under the government's Woodland Carbon Code

We also:

- Developed the UK's first (and only) carbon peatland restoration project
- Are active in developing a new peatland carbon market and quality assurance standard
- Developed Ireland's first ever forest carbon projects, on behalf of Microsoft



Why forests are important to the UK

| | | | |
|---------------------------------|--|--------------------------|---|
| Flood mitigation | Flooding is a significant climate change risk for the UK. Riparian woodlands are a cost effective way of reducing peak flow and mitigating flooding. | Balance of trade | The UK is the world's second largest importer of timber. More sustainable timber grown here could lead to import substitution of £1 bn per year |
| Water quality | Riparian woodlands also reduce run-off pollution, protect river banks, and improve water habitat by lowering temperatures. | Forest protection | Globally only 33% of timber consumption is from sustainable sources. UK forests reduce pressure on old growth forests elsewhere. |
| Job creation | There are around 40k forestry related jobs, another 10k could be created by carbon market | Climate change | A doubling of UK planting rates could mitigate 10% of our footprint by 2050 |
| Sustainable construction | 45% of global emissions from buildings – materials and use. Timber can turn a building into a carbon store. | Green spaces | Public access to woodlands is good for health and wellbeing. Even the act of fencing a new woodland improves biodiversity by removing livestock |

How our woodlands are quality assured

Woodland Carbon Code

- Developed by UK government, launched 2011
- Offers independent audit and ISO certified carbon credits
- Credits accepted under UK government guidance on environmental mitigation
- Ensures: the right trees are planted, in the right place, and that they will be managed properly and protected in the long term
- Conservative, scientifically sound and project specific carbon capture estimates
- Projects meet all international carbon project rules:
 - Additionality
 - Quality assurance
 - Conservatism
 - Permanence
 - Monitoring
- One of the world's leading domestic carbon standards

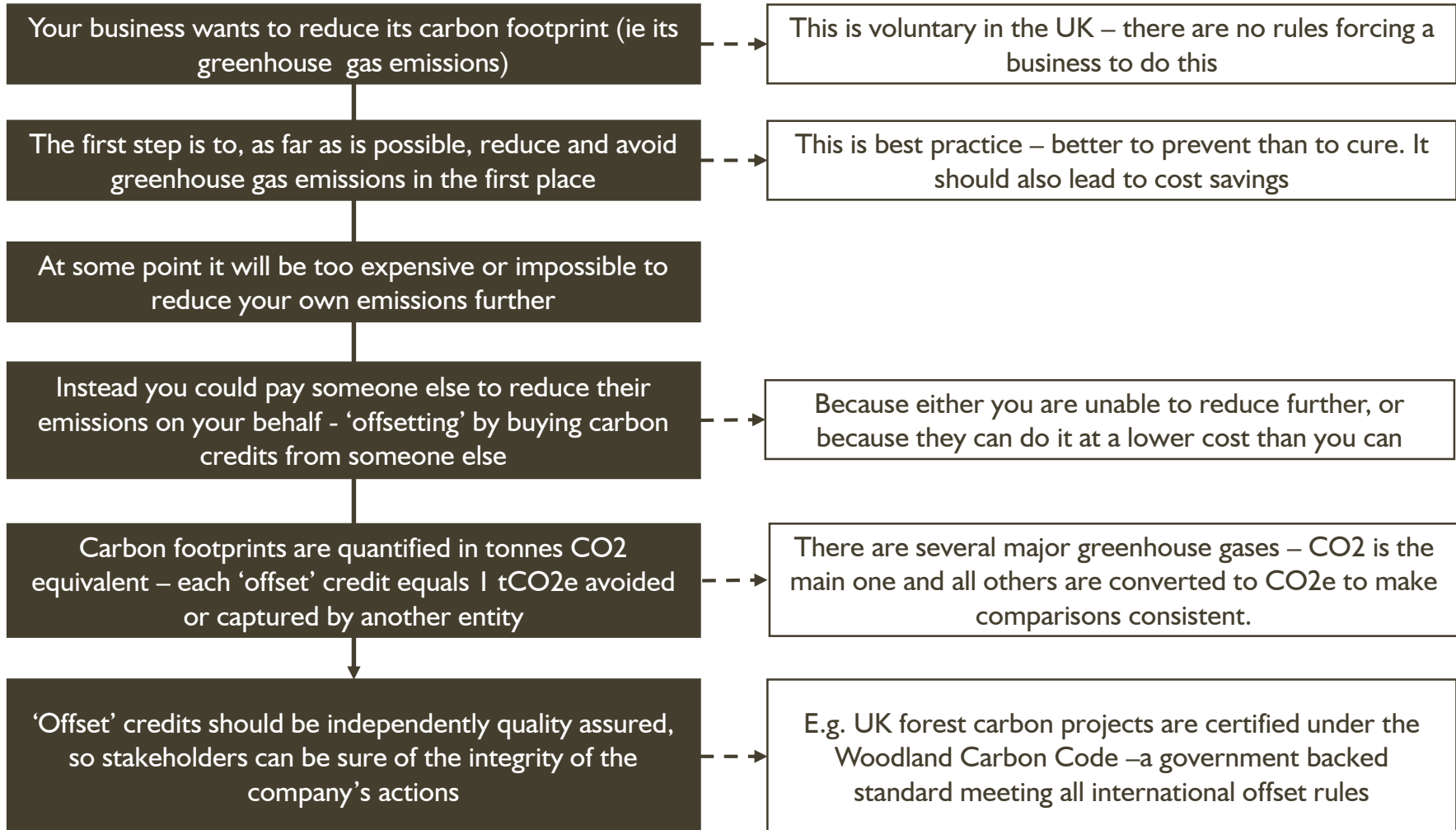


IHS Markit Registry

- Leading environmental credit registry
- Provides publicly available data on project certification status and credit ownership
- Allows transparent demonstration of fulfilment of environmental commitments
- Admission to the Registry indicates recognition of the quality of the WCC



How voluntary carbon markets work



The market is *currently* voluntary in the UK:

- Businesses are not compelled to take action, the alternatives to UK woodland or peatland credits are high quality international credits, or very low cost international credits, or do nothing
- There is no 'market' as we would understand it (e.g. like the stock market or the compliance carbon market) – no high volume of supply and demand with credits changing hands constantly and a floating price, and so no relation to the compliance carbon market prices
- All transactions are face to face, through the selling efforts of developers
- That being said, we are experiencing significant increase in interest

The market is not theoretical:

- There is no relation to theoretical social costs of carbon or values of carbon saved
- Prices are about (a) what it will cost to get the project off the ground, and (b) what someone will voluntarily pay for it
- We await the impact of the Woodland Carbon Guarantee on prices

There is an expectation on the part of buyers, for now at least, that landowners are selling carbon credits in order to enable them to plant woodlands, rather than planting woodlands in order for them to sell carbon credits.

What we have achieved so far

| | | | |
|--------------|--|--------------|---|
| 2006 | founded | 7,000+ | acres of biodiversity priority habitat type |
| 160+ | new UK woodlands | 2.5 million+ | Trees planted outside the UK |
| 12,500 | total acres | 1.0 million+ | tonnes CO2 capture outside the UK |
| 8 million+ | UK trees planted | 1st | WCC certification, & Markit Registry delivery |
| 1.5 million+ | tonnes CO2 capture | 1st | UK peat carbon project |
| 5.5% | of all UK woodland creation since 2013 | Developed | Ireland's first carbon forests, for Microsoft |

Tweed Catchment Flood Mitigation

- 16 new woodlands planted 2012 – 2020
- Covered 233 ha with 450,000 trees
- 82,000 tonnes CO2 capture
- Riparian planting – specifically designed to reduce downstream flooding
- Other benefits will include improved water quality and enhanced river biodiversity
- Projects planted on private land
- Worked in partnership with Tweed Forum – charitable trust leading integrated land and water management in the Tweed catchment
- Project funded by sale of carbon credits to seven UK businesses and our Carbon Club



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BWOC

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business solutions

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ICAP

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Ecology
Building Society



TWEED
FORUM

Background

- Peatlands – mixture of decomposed plants and mosses accumulated in saturated environment
- Over 80% of UK peatlands are degraded to some extent
- Peatlands offer ecosystem services:
 - Degraded peatlands are a significant source of greenhouse gas emissions – over 10mtCO₂ per year in the UK
 - Most UK drinking water comes via peatlands and healthy peatlands offer cleaner water
 - Peatlands can slow peak flow in flood situations
- Restoration can lead to an immediate avoidance of carbon loss (unlike woodland creation, where carbon capture takes time), and subsequently some carbon capture as vegetation regrows
- Restoration involves a range of activities to re-wet and/or re-vegetate bogs

Forest Carbon and peatlands

- Completed the UK's first peatland carbon transactions, in 2011 and 2012, on behalf of ICAP
- In 2013-2015 contributed to a major Defra research project: “Developing Peatland Carbon Metrics and Financial Modelling to Inform the Pilot Phase UK Peatland Code”
- Expect to complete the first Peatland Code validation in early 2018 – a new project in the Scottish Borders

How our work will be quality assured



Peatland Code

- Developed by IUCN, with financial support from various donors
- Launched September 2015
- Initial R&D work funded by Defra – FCL part of research
- Offers independent audit but not yet ISO certified carbon credits – currently working with one of the Woodland Carbon Code certification bodies to develop audit
- Carbon capture estimates much more problematic than woodlands – will use condition categories before and after project implementation (Near Natural, Modified, Drained, Actively Eroding)
- FCL completed a project validation (the first ever) in mid 2018



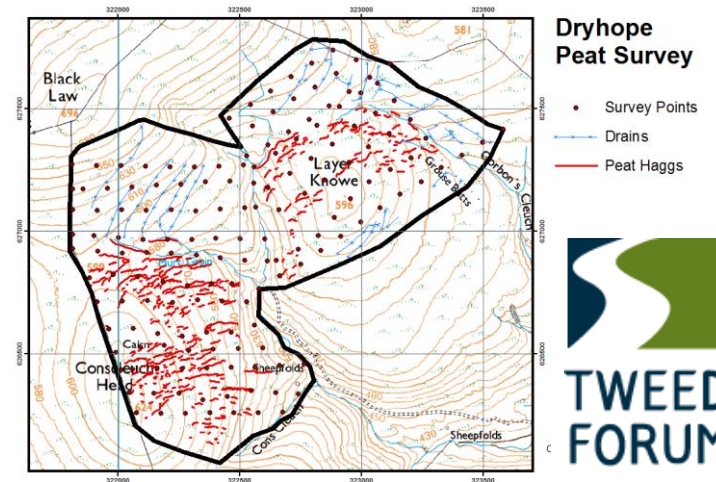
Registry

- Intention is to follow WCC and join Markit Registry
- Until then the Code will maintain a project registry on its own website

Case Studies – peatland restoration

Dryhope, St Mary's Loch, Selkirk, Scottish Borders

- Approximately 77.05 hectares of actively eroding and drained blanket bog
- Hag re-profiling and ditch blocking carried out in November 2017
- Passed test 2 of Peatland Code at 55%
- 45 yr NPV of restoration being delivered without carbon funding was significantly beneath business as usual. The project met the requirements of test 3 of the Peatland Code.
- Carbon funding was critical in persuading the landowner to commit to a 45 year carbon funding contract.



Projects can be

- On public or private land
- At any stage of development – the earlier we speak to land owners or managers the better
- Developed by intermediaries (eg EA) or just introduced to us
- In receipt of co-funding (carbon funding operates at the margins at present, in conjunction with other sources of income)
- Productive (e.g. commercial timber) or non-productive

Information needed

- Project costings and receipts (e.g. grants)
- Projected 15 year itemised cash flow
- Statement of current land use and income foregone and/or opportunity cost arising from project implementation
- In the case of woodlands a digital planting map, species mix and intended management plan
- In the case of peatlands a detailed project plan

Forest Carbon and landowners

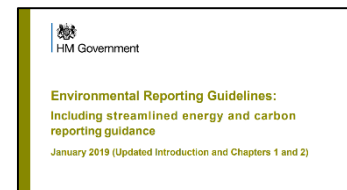
- Initial project feasibility appraisal
- Management of all aspects of WCC/PC validation and credit issuance
- Sale of carbon, and management of relationship with buyers
- Access to cost-effective compliance via group schemes
- Management of Markit registry accounts
- Maintenance of up to date knowledge on the Code, woodland and peatland carbon market and related land and carbon issues and legislation
- Management of Woodland Carbon Guarantee process
- Ongoing re-certification of schemes
- Provision of liquidity – buying landowner’s credits without an initial end buyer identified
- Ongoing reporting to buyers

Forest Carbon and business

- A pipeline of woodland or peatland projects that can deliver carbon more quickly
- A portfolio of projects that allows carbon purchases of any size and in many locations
- Assistance with the development of marketing & PR copy – to ensure compliance with government Green Claims guidance
- Management of Markit registry accounts
- Arrangement and hosting of site visits
- Dedicated web pages and presence on project map – offers credibility via showing the number and range of other partners involved
- Maintenance of project certification for buyers

Domestic and global carbon policies

- Climate Change Act and Net Zero
- UK Government 25 year Environment Plan & Clean Growth Strategy
- Woodland Carbon Guarantee (2018 budget announcement)
- Mandatory Carbon Reporting
- 2015 Paris Agreement
- International Civil Aviation Organisation (ICAO) wants carbon neutral growth from 2020 (192 member states)



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