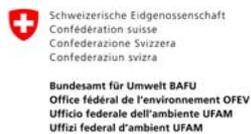




Payments for Ecosystem Services: What role for a green economy?

United Nations, Geneva – 4-5 July 2011



WOODLANDS FROM WASTE & SLOWING THE FLOW:

Pat Snowdon – Forestry Commission, Great Britain



What have Woodlands got to do with Waste?



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The 'Woodlands from Waste' project led by Lancashire County Council explains how



PES: What role for a green economy?, 4-5 July 2011, United Nations, Geneva



Project Vision

Create *new native woodland* across Lancashire & Blackpool:
extra 2.5 million trees by 2032,
community benefit & CO₂
sequestration



Enhance the local environment of Blackpool: using urban tree planting

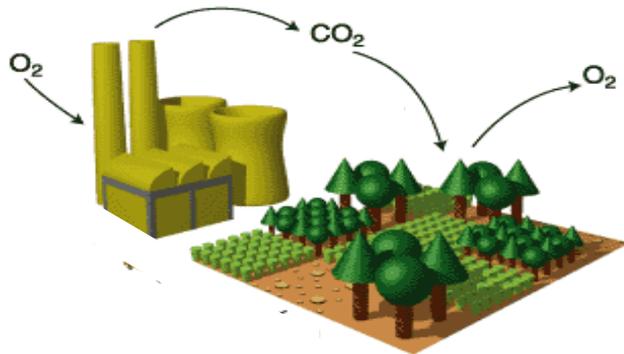
Divert stabilised organic residues from landfill - applied as an Organic Growth Medium (OGM), to improve & regenerate brownfield & marginal land



Project Objectives

1. To increase woodland cover

Target: almost 10% more woodland for Lancashire by 2032 (1200 hectares)



2. To reduce CO₂ emissions from Lancashire's Waste Network

Target: saving of 16,000 tCO₂ /yr by 2020

3. To recover the maximum resource from municipal waste



4. To minimise the disposal of municipal waste to landfill



5. To regenerate and remediate marginal land



Two Streams of Work

Woodland Planting

- Funded by savings made from landfill tax
- Planting plus maintenance for the project duration
- Carbon sequestration
- Woodland for public benefit
- Energy crops
- Education

Application of OGM to Land

- Diverting organic waste from landfill
- Reduction in methane emissions
- Improvement to marginal land

Some Overlap



Project Synergies / Partnership Working

Where possible, new woodlands will demonstrate support and/or complement other initiatives

- **Urban regeneration projects**
- **Land management (agri-environment schemes)**
- **Management of designated areas (AONBs)**
- **Reclamation projects**
- **Environmental and access improvements**
- **Community projects**
- **Habitat creation**
- **District and Borough Council Initiatives**



Site Selection

50 hectares per year are required to provide the land for woodland planting alone

- Priority 1 – LCC owned Brownfield land (especially landfill: the very land that has become compromised by previous waste management practices)
- Priority 2 – District & Borough Council owned Brownfield land
Privately owned Brownfield land
- Priority 3 – LCC owned Greenfield land (especially land that has high priority in the 'Lancashire Woodland Vision')
- Priority 4 – District & Borough Council owned Greenfield land
Privately owned Greenfield land



'Slowing the Flow'



Forestry can affect flood flows :

- Reducing the volume of run-off
- Slowing down run-off
- Holding back flood waters in floodplains

2007 floods in England and Wales

⇒ Review: called for greater working with natural processes

⇒ **'Slowing the Flow'** – to demonstrate how integrated application of land management practices can reduce flood risk at catchment scale, while providing multiple benefits for local communities



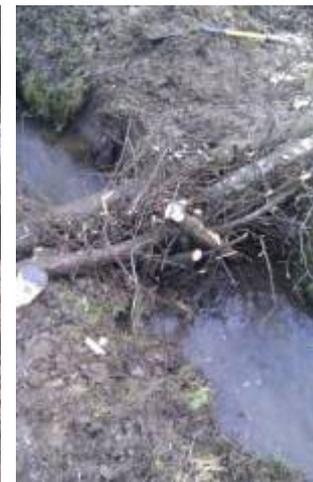
Activities are ongoing and include:

construction of bunds & large woody debris dams

riparian and floodplain woodland

farm woodland on sensitive soils (to increase soil infiltration)

blocking moorland drains & restoring streamside buffer zones



Slowing the Flow

- Evaluation
 - Some constraints: landscape and biodiversity, finance (landowners)
 - Modelling underway: flood storage bunds predicted to protect c50 properties in Pickering affected by low level flood events (1 in 25 yrs)
 - Key ecosystem services: flood regulation, erosion regulation, habitat provision, social relations, education and knowledge, climate regulation
 - Mean annual gain of £0.2m; central NPV of £4.3m
 - Lessons include: secure full implementation & take opportunities to extend, continue monitoring, communicate and promote success
 - Recommendations: develop & trial a PES to secure wider implementation



Conclusions

- Projects are still in their infancy
- But principles emerging:
 - Reliance on ‘single issue solutions’ (e.g. waste to landfill disposal) has had detrimental environmental impacts
 - Integration is needed across sectors (waste, energy, land management, flood management...)
 - Partnership is critical (skills, resources, vision...)
 - Forestry is part of a much bigger picture – “we must see the wood for the trees”
 - Forestry and land management can be a cost-effective way of delivering services
 - Use savings to increase efficiency and drive green investment

