



WARES Service

Scotland House, September 2014



**Northern
Periphery
Programme**

2007–2013

Innovatively investing
in Europe's Northern
Periphery for a sustainable
and prosperous future



European Union
European Regional Development Fund

Why an 'after-life' is important

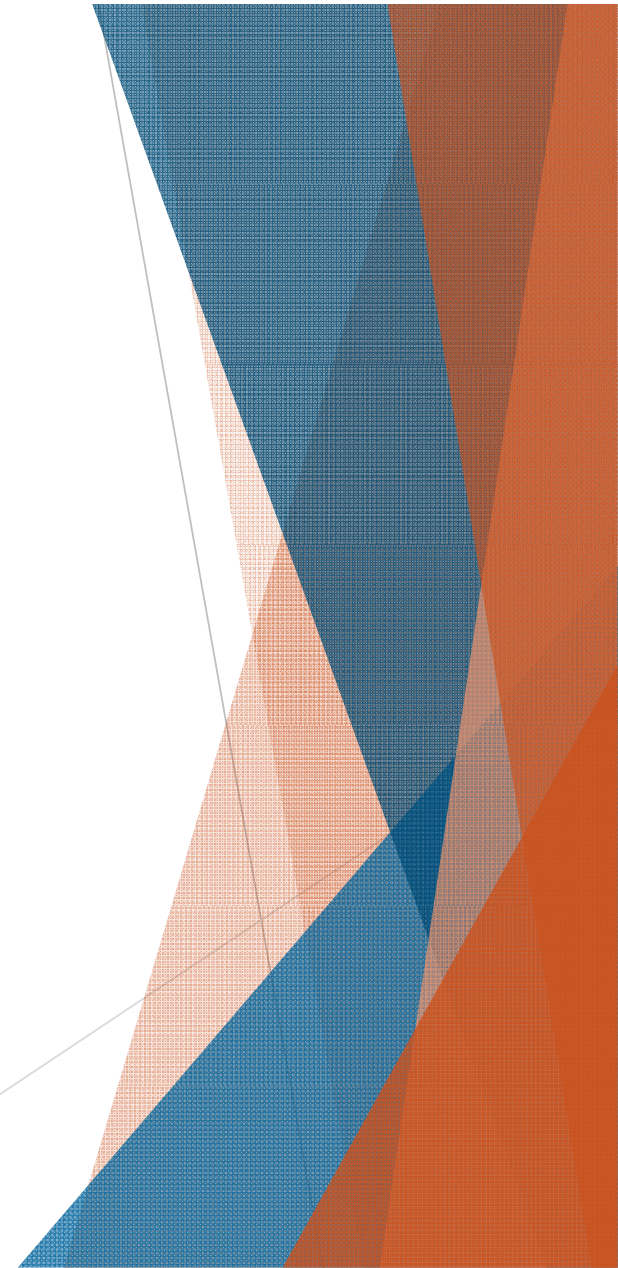
- ▶ To ensure sustainability and long-term impact of the WARES project
- ▶ Increased renewable generation
- ▶ Satisfying NPP requirements and substantial impact towards concepts of added-value, transnationality
- ▶ Contribution to EU2020 - Sustainable, Smart, and Inclusive
- ▶ WARES builds on lessons learnt from previous projects (SMALLEST, MicrE, OCTES, NEES, RASLRES) and it is important to ensure this experience is leveraged by future projects

How WARES delivers benefits to communities

- ▶ Enterprise & job creation
- ▶ Financial returns & social investment: surplus gained by the sale of renewable energy through the new enterprise will be given back to local communities
- ▶ Community empowerment
- ▶ Pre-and-Post Test: working with local stakeholders to provide community-based learning
- ▶ Mayo County Council: "Community Fund"

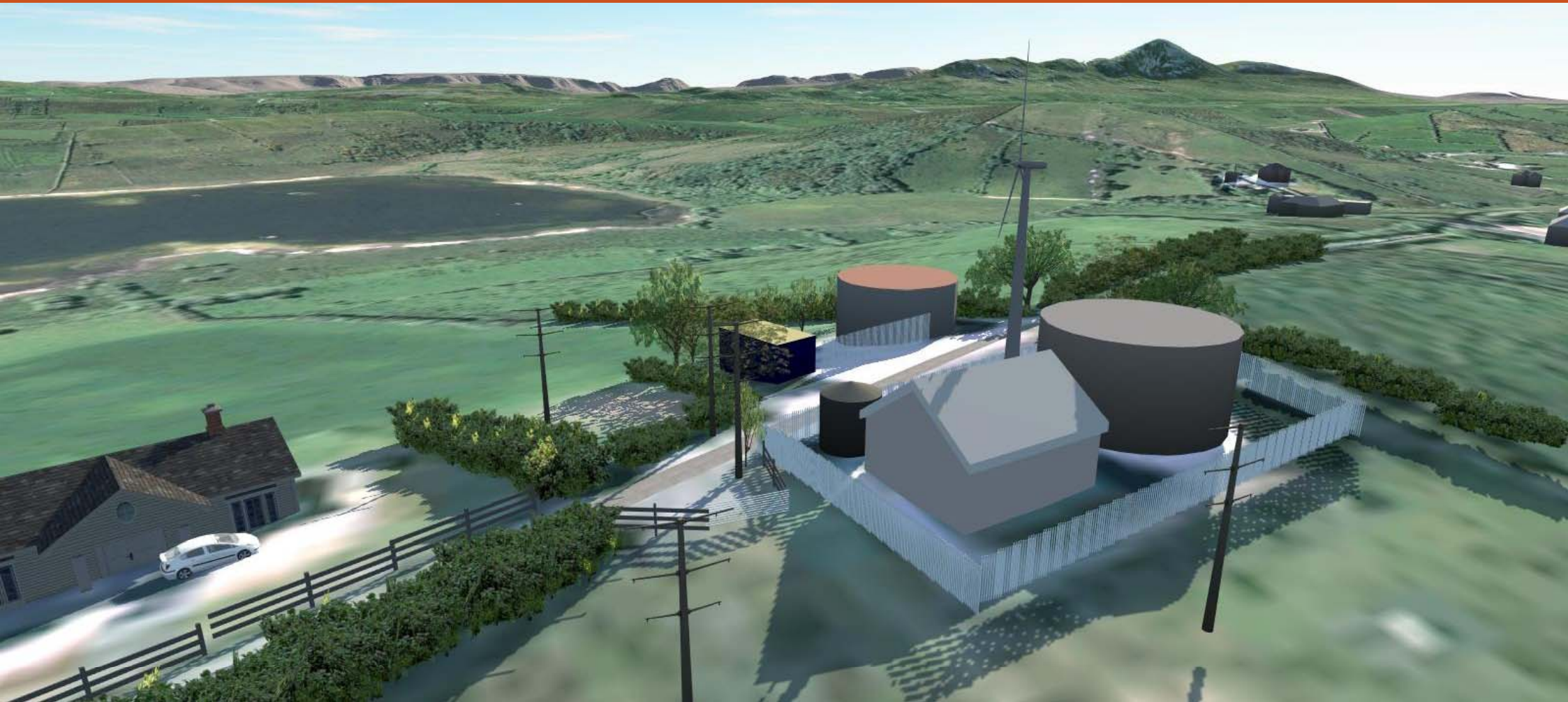
The legacy of the WARES pilot sites

- ▶ Developing of robust business plans and models, which are ready to raise external investment/finance.
- ▶ Looking to achieve sustainability through successful fundraising and technology implementation.
- ▶ Potential for community pilot sites to become self sustaining when established
- ▶ Building on the WARES' partners collective experience



Ireland

- ▶ 3x sites packaged together under a Group Water Scheme with a common manager: Kilmeena, Kileen and Ballycroy.
- ▶ Recommendations for energy savings have been incorporated into DBO (design/build/operate) contracts.
- ▶ All three community owned pilots are ready to apply for funding next year.
- ▶ The manager for the sites is also associated with the National Federation of Group Water Schemes (NFGWS), which further promotes sustainability and knowledge sharing.



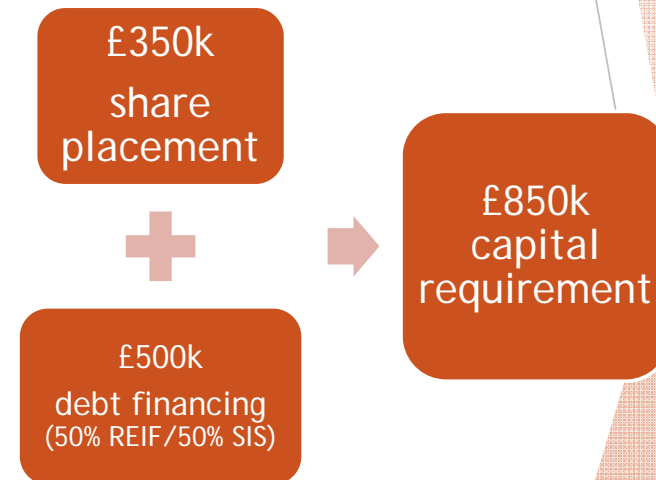


Irish GWS Potential Savings

	Annual Savings		Cap Ex Required	Payback (Years)	Total Savings	
	€	kWh			€	kWh
Kilmeena	11,000	64,237	75,000	6.8	36%	42%
Kileen	2,446	16,305	32,100	13	16%	16%
Ballycroy	7,025	46,835	60,000	8.5	30%	30%
Potential Combined Savings	20,471	127,377	167,100	8.2	32%	30%

Scotland

- ▶ Run-of-river microhydro scheme, assembly due to commence in February 2015:
 - ▶ Estimated annual energy yield of 419,500 kWh
 - ▶ = £112,300 gross annual income
- ▶ Raised funds through CARES programme (Scottish Government) which paid for a full-time project manager
- ▶ Sustainable - funding raised with the ability to repay debt finance whilst contributing a **minimum £20,000** per annum into a community benefit fund.

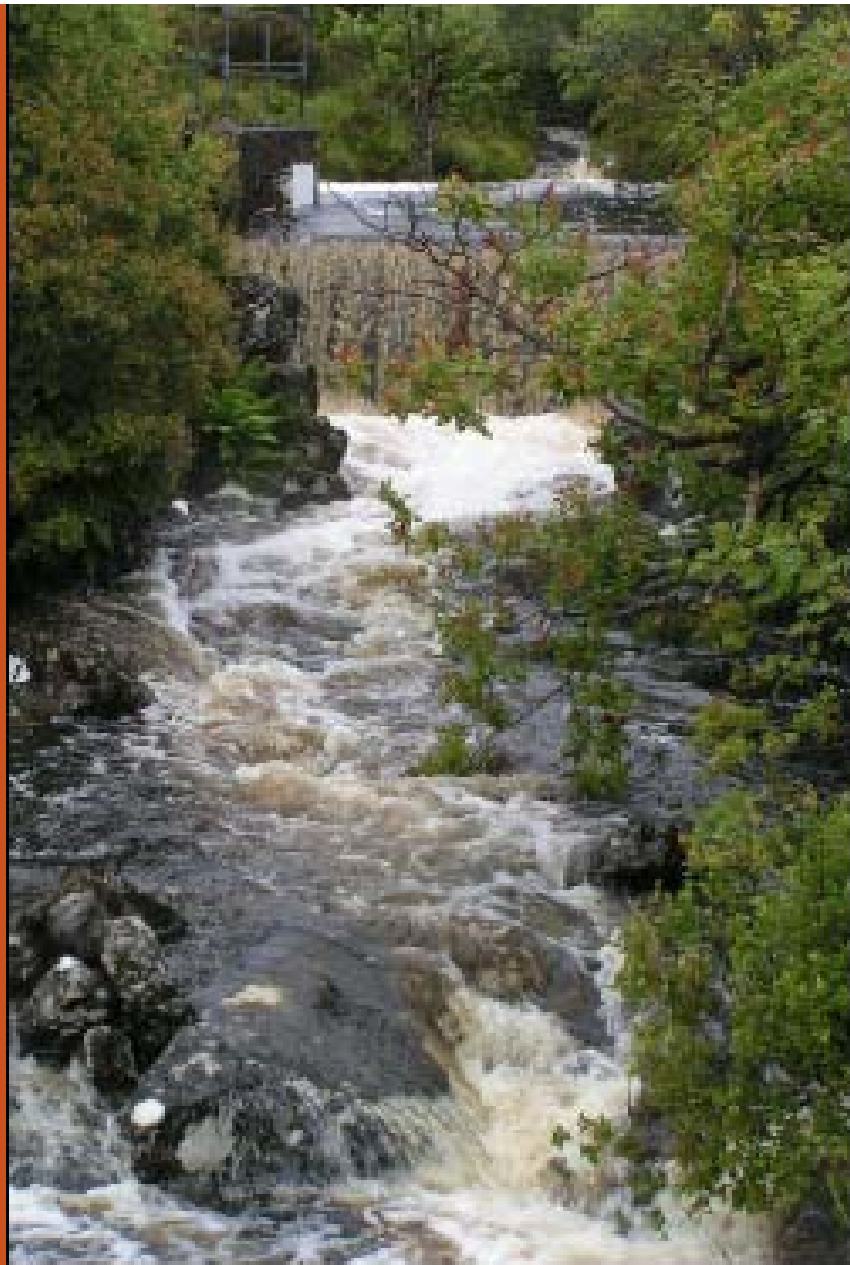




The Scottish
Government
Riaghaltas na h-Alba

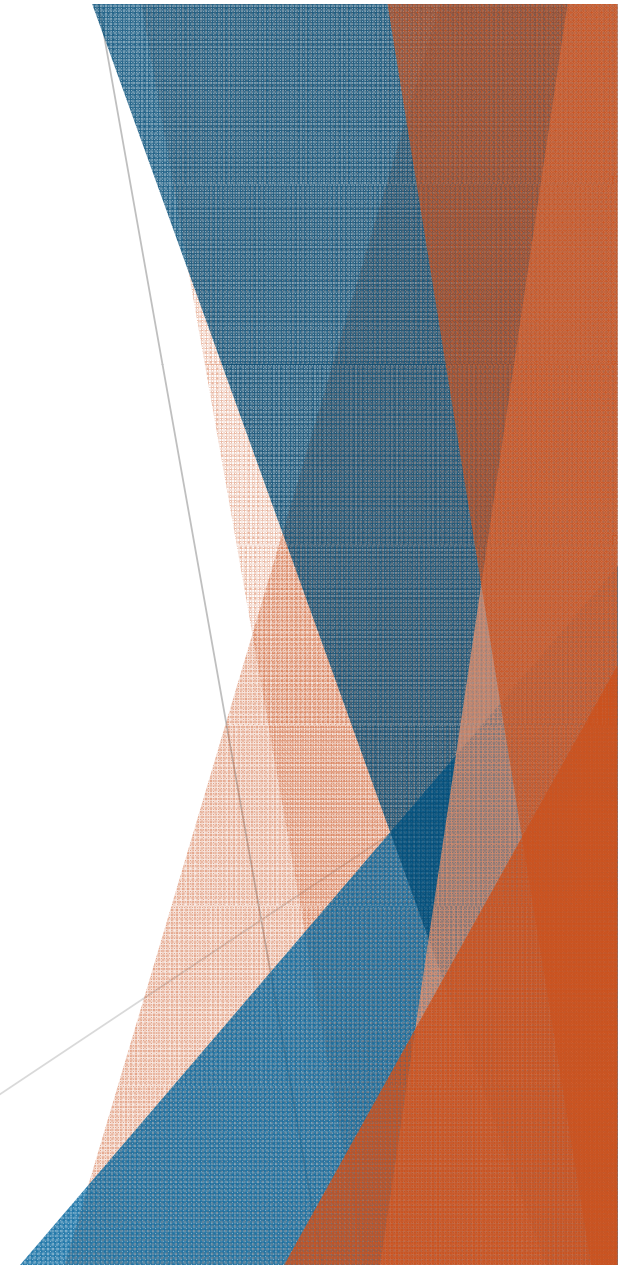
international resources
and recycling institute





Finland

- ▶ Main interest: energy recovery from wastewater
 - ▶ anaerobic digestion & waste heat recovery
- ▶ The financial success of anaerobic digestion depends on size
 - ▶ Small scale solutions are not economically viable
- ▶ Another option is co-digestion, e.g. with municipal and/or industrial bio-waste
- ▶ Research is also looking into the synergy of water/energy/waste, also from the point of nutrient recovery and preservation of biodiversity
 - ▶ Waste is not only a source of energy but also of nutrients that can be returned to the land



Contributing to future thinking & policy

- ▶ Ongoing network and collaboration to review the sustainability:
 - ▶ Scottish Water, Irish Water, and Northern Irish Water
 - ▶ Input into Scottish Government via Hydro Nation programme
 - ▶ Continued research effort into providing scientific evidence to better understand the water/energy/food nexus
- ▶ Knowledge sharing & dissemination
 - ▶ This event!
 - ▶ Conference in Oulu:
http://nortech.oulu.fi/WARES_conference.html
 - ▶ WARES website [5 years]
 - ▶ www.waresnpp.eu
 - ▶ Outputs
 - ▶ University of Oulu reports
 - ▶ Feed into future EU and NPP projects

Implication for the wider EU and European Communities

- ▶ New renewable energy enterprise creation which can be scaled across Europe
- ▶ Demonstrates best practice on decentralised solutions to manage water services
 - ▶ Applicable to remote locations across Europe
- ▶ A new way of providing environmental services: cost-efficient, environmentally friendly and socially-inclusive
- ▶ Community involvement and shared responsibilities
 - ▶ Towards a more environmentally-conscious European citizenship