

Materials Efficiency at the World Resources Forum



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National Industrial Symbiosis Programme (UK & Internationally)



edge environment

A facilitated business opportunity network that is designed to improve the productivity of under-utilised resources (*energy, water, materials/waste, logistics, land, assets, expertise etc*) and secure significant beneficial environmental, economic and social outcomes for its members and the wider economy

Gary Foster, former Regional Director (South), NISP (UK)



NISP: Devised and managed by

International Synergies
industrial ecology solutions

Problems create opportunities

From resource inefficient to a more 'circular' way of working for a horticultural company in UK

- 15-year accumulation of 30,000 tonnes of contaminated inert material (gravel) – growing media
- Regulator required swift removal, landfill cost prohibitive
- NISP introduced company to chain of others:
 - Logistics, Waste processor, Construction Contractor, Utility
- Material became a revenue stream, rather than a significant cost
- Revenue able to be used to purchase on site cleaning plant



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NISP® (England) Delivered Outcomes

April 2005 - March 2013

METRICS	In year benefits*	Lifetime benefits (max 5 years)
Landfill diversion	9.4 million tonnes	47 million tonnes
CO ₂ reduction	8.4 million tonnes	42 million tonnes
Virgin material savings	12 million tonnes	59.9 million tonnes
Hazardous waste eliminated	0.42 million tonnes	2.1 million tonnes
Water savings	14.5 million tonnes	73.2 million tonnes
Cost savings	£214 million	£1.1 billion
Additional sales	£209.2 million	£1.0 billion
Jobs	10,000+	
Private investment	£317 million	

£36.8 million investment since 2005

***all outputs independently verified**

Rate of return for Govt. 9:1

'Energy flows wherever attention goes'



edge environment



Barriers to collaborative success in increasing materials productivity

Systemic:

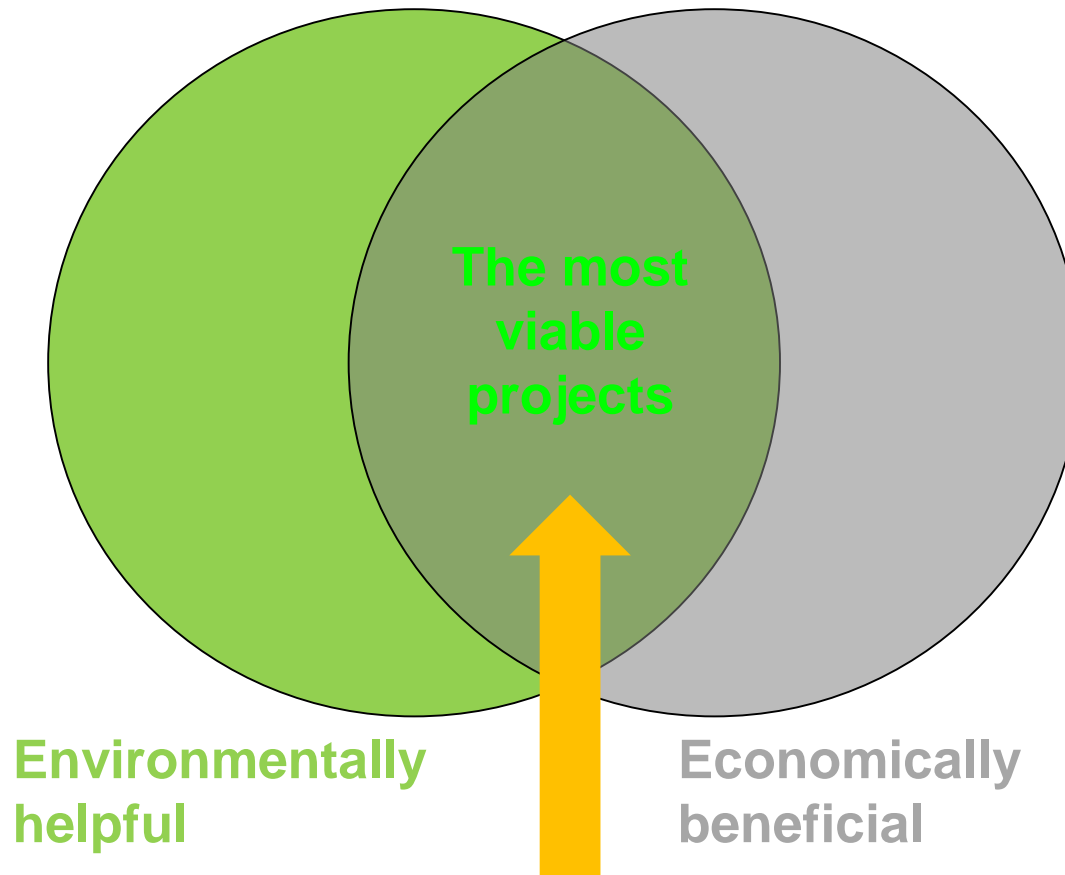
- Informational
- Motivational

Specific:

- Technical
- Physical
- Economic
- Legal/Bureaucratic
- Geographical
- Timing
- Organisational/Personal etc.



Industrial symbiosis – the business case drives the project opportunity



Conclusions

- **Challenge**
- **Change**
- **Collaboration**
- **Innovation**

