Business cases and Funding Opportunities for I-US

24th March 2026

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International Synergies

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International Synergies

International Synergies' Mission

"To lead the world in innovative industrial symbiosis solutions for a low carbon, sustainable economy."

Since 2005

50
Countries

50 Mt
CO2 Reduction Facilitated

£3B
Economic Value Generated

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What we do

Industrial Symbiosis Facilitation

International Synergies has developed and implemented the world's leading facilitated industrial symbiosis model (NISP®), based on demand-led engagement with business and other organisations.

Resource Matching Platform

International Synergies award-winning SYNERGie® is a resource matching platform delivering business benefits for organisations around the world.

Net Zero Strategies For Industry

International Synergies supports its clients to take a cross-sector approach to reduce Scope 3 emissions. We have helped industries towards net zero in many sectors including construction, food and drink, utilities and manufacturing.

Place-Based Decarbonisation Strategies

Integrating an industrial symbiosis approach into economic development and master planning enables rapid realisation of circular economy opportunities and identification of inward investment targets.

Capacity Building For Industrial Symbiosis

International Synergies has been delivering industrial symbiosis training for two decades, tailored to audiences including industrial symbiosis facilitators, companies, public authorities and government.

Collaborative Activities & Research

International Synergies works to inspire governments and industry to apply industrial symbiosis methodology through participation in European and other international projects, key note speeches, interviews and publications.

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What is Industrial Symbiosis?

What is industrial symbiosis?

"Industrial symbiosis is the use by one company or sector of underutilised resources broadly defined (including waste, by-products, residues, energy, water, logistics, capacity, expertise, equipment and materials) from another, with the result of keeping resources in productive use for longer."

CEN Workshop Agreement – CWA

17354:2018

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Misconceptions

Language

- Transaction vs sharing/exchange
- Under-utilised resource vs by-product
- Resource vs Material flow
- Value vs Geographic proximity
- Facilitator vs waste broker
- Resource matching platform vs waste/material exchange

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Governance models

Self organised

A bottom-up approach resulting from direct interaction among industrial actors, without external coordination, generally motivated by business concerns arising from context including resource risk, pending legislation, and economic gains.

- No formal governance
- Ad-hoc/serendipitous
- Impact – largely not reported
- Timescale – reflects priorities of parties
- Poster child - Kalundborg

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Facilitated

A third-party intermediary coordinates the activity, working with organisations to identify, assess and advance opportunities and help bring them to fruition. Facilitators coordinate the various stakeholders and may come from the private sector, the public sector, academia or the third sector

In-house or 3rd party facilitator

Key role in removing barriers/market failures

Impact quick/medium/long-term

Question? long term sustainability

Poster child(ren) – NISP®, WISP, Rewin, INI RMS etc.

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ICT Enabled

Mechanisms that improve information flow between actors. Industrial symbiosis activity is supported by an ICT system to capture and manage data on resource availability and potential synergies.

- Resource matching platforms
- Advanced systems emerging (AI, NLP, trading)
- Missing human element
- Question? long term sustainability
- Poster child(ren)–SYNERGie®, Marketplace, Recircular
- Delivery model or support mechanism?

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Strategic or planned

A top-down approach where networks are formed following a central plan or vision that includes attracting new businesses to regeneration sites or purpose-built developments

- **Place-based approach**
- **Development of clusters**
- **Focus on capital investment**
- **Benefits typically for the ‘few’**
- **Poster child – South Korean EIPs**
- **Delivery model or enabling activity?**

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Barriers addressed by models

IS Model	BARRIER						
	Policy & Regulation	Information Flows	Skills & Capabilities	Behaviour & Stakeholder Engagement	Organisational & Governance	Commercial & Market	Financial
Self-organised	Low	Low	Low	Low	Low	Low	Low
Facilitated	Moderate	Moderate	High	High	Moderate	Moderate	Moderate
ICT enabled	Low	Moderate	Moderate	Low	Low	Low	Low
Strategic or planned	Moderate	Moderate	Low	Low	Low	Low	Moderate

Mapping of Non-Technical Barriers/Enablers for the 4 Models of I-US Implementation

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KPIs for Industrial Symbiosis

What is a KPI?

Critical tools for measuring and managing performance in organisations/projects

- **Well defined**
- **Quantifiable**
- **Relevant**
- **Aligned with strategic goals**

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H4C KPI development

H4C Europe

- Assess suitability of region, industrial area to implement I-US (not comparison but assessment)
- Technology and materials/energy/water, Environmental, Business, Legal and ethical, Societal and Organisational (25 topics, 108 sub-topics)
- Create manual for self-assessment

H4C ECOP

- Create standard set/sector specific sets
- Assess performance of projects/companies/activities
- Work alongside Demo sites

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Development

Main objectives

- SMART methodology for creating IS KPIs
- Core set of KPIs – environmental, economic, social
- Define each KPI – remove ambiguity

Process

- Review projects
- Sensemaking event
- Presentation to Regions and cities

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Projects under review

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NISP®
NATIONAL INDUSTRIAL SYMBIOSIS PROGRAMME

Circ Lean

UNIDO
UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION
Progress by innovation

China National EIP Framework

South Korea National EIP Framework

CITYLOOPS

H4C EUROPE

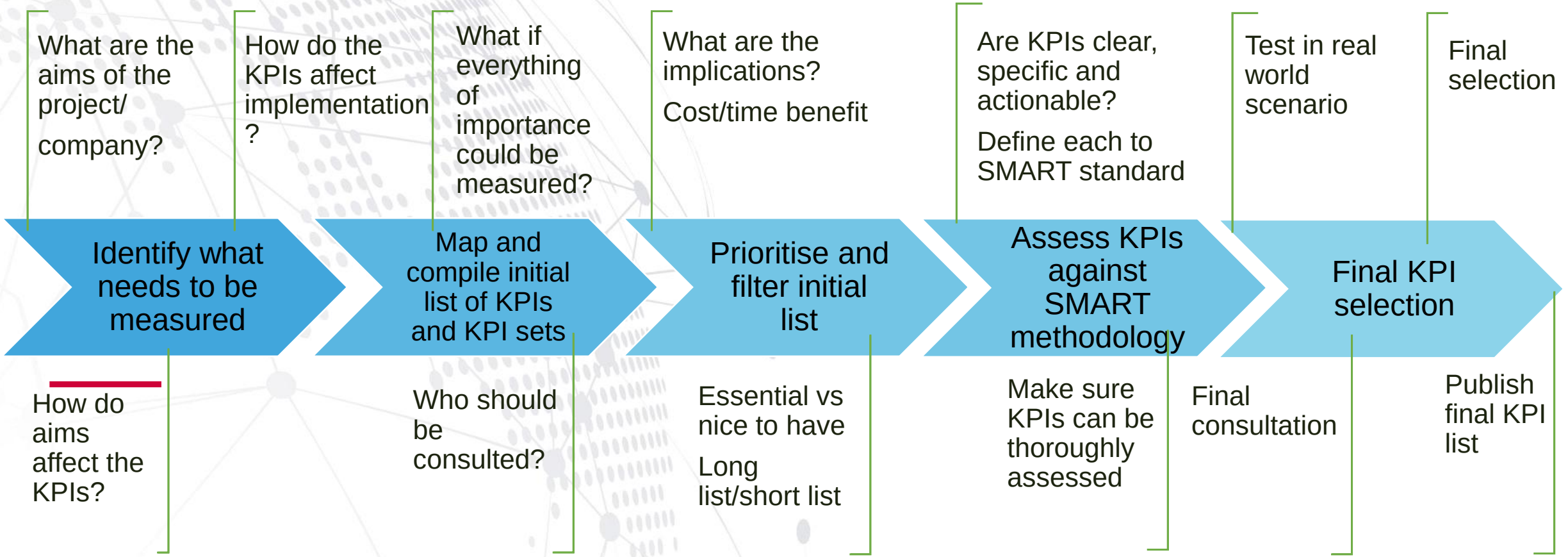
FISSAC
FOSTERING INDUSTRIAL SYMBIOSIS FOR A SUSTAINABLE RESOURCE INTENSIVE INDUSTRY ACROSS THE EXTENDED CONSTRUCTION VALUE CHAIN

CORALIS
Industrial Symbiosis
in Energy Intensive Industries

ID of Common KPIs

THEME	KPI	NUMBER OF PROJECTS CITED
Environmental	Landfill avoided	9
	Waste processing avoided	6
	GHG saving (CO2 equivalent)	11
	Energy saving	9
	Renewable energy saving (kWhr)	8
	Reduced water usage	7
	Percentage resources reused	8
Economic	Additional sales	5
	Cost savings	4
	Private investment	2
Social	New jobs	5
	Training or learning	4
Community/other	Infrastructure based KPI	6
	Green spaces	5

Development of a SMART KPI set



ID of Common KPIs

THEME	KPI	NUMBER OF PROJECTS CITED
Environmental	Resources raised through the waste hierarchy	The actual tonnage of material involved in I-US activity where the end point is at a higher waste hierarchy level than had the I-US activity not taken place
	GHG saving (CO_2 equivalent)	NET CO_2 emission reductions resulting from I-US activity. Carbon equivalents. The emissions reductions could be as a result of actual reduction of CO_2 from an industrial process. Equally a CO_2 reduction figure can be claimed as the result of material being diverted from landfill (reduction of emissions from landfill), raised through the waste hierarchy or if transportation modes or routes change such that the net effect is a reduction in CO_2 emissions. GHG saved from alternative energy sources and Scope 3 carbon should also be included in the calculation
	Energy saving (kWhr)	Energy savings through reduced or substituted energy use as a result of the I-US activity

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ID of Common KPIs

THEME	KPI	NUMBER OF PROJECTS CITED
Economic	Additional sales	The new business and revenue generated by the sale of a product or service attributed to I-US activity
	Cost savings	Savings made through the elimination of waste disposal costs, reduction of transportation costs, landfill gate fees and the cost saving related to the sourcing of additional processed and raw feedstock at lower costs
	Private investment	The investment in new or existing processes, equipment and infrastructure as a result of I-US activity
Social	New jobs	Jobs created directly related to the I-US activity. These can include both temporary and permanent jobs
	Training or learning	Number of people engaged in new learning or training due to the I-US activity
Community/other	To be created by projects	Project, regional, technology or sector specific KPIs developed during the specific I-US activity

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Funding options

D6.1 Your way through funding I-US in the EU

- Navigate the financing landscape
- Guides for different organisations
- Overcoming funding and financial barriers
- Blending financing
- Overview of different EU funding schemes
- Banks
- Commercial finance instruments

DELIVERABLE 6.1

Your way through funding I-US in the EU

WP6 – Exploitation: Planning for H4C and ECoP Continuity

T6.1 – Assessment of funding schemes relevant to the H4C ECoP and to future H4Cs

Date: 31/08/2024

Dissemination level: Public

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Your Way Through Funding I-US in the EU (H4C ECOP D6.1)

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- Financial aspects of implementing industrial symbiosis projects
- Lays out an overview of available funding mechanisms, opportunities and financial strategies.
- Introduces various funding and financing instruments
- Highlights concrete sources targeting the circular economy and/or specifically I-US
- Provides an overview of instruments and programme providers
- Offer direction to different fund-seekers on suitable funding and financing options.

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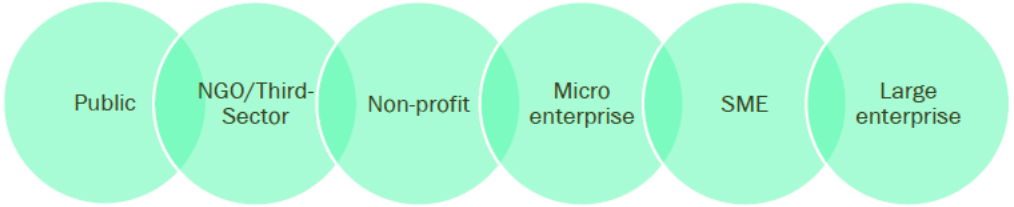
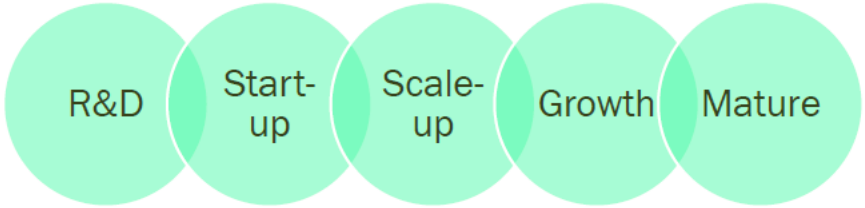
Examples of support schemes

- Introduction to each scheme
- Funding suitability
- Eligibility criteria

HE funding scheme is suitable for the following types of organisations



and project stages (i.e., maturity)



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National/Regional investments

Aspects of IS delivery

- Investment could be grant or contract for services
- National, regional, mix
- Metrics aligned to funder’s objectives (Green Growth, Carbon reduction etc)
- Generally aligned to policy objectives
- Generally free at the point of delivery
- Need to identify continuity funding

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Objectives for IS delivery

- Resource efficiency
- Competitiveness
- Innovation
- Environment/ Landfill
- Energy security
- Economic development/ diversification
- Waste management

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Where should funding be sought?

Government departments
- Align to department targets – competitiveness, innovation, waste management

Cross funding model
- National coordination through government funds
- Local delivery through grants or local funding

Single or multiple delivery bodies
- National coordination, separate local delivery teams

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Thank you for listening

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