

SPIRE-SAIS Policy Recommendations: Table of contents

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Skills Alliance for Industrial Symbiosis –

A Cross-sectoral Blueprint for a Sustainable Process Industry
(SPIRE-SAIS)

POLICY RECOMMENDATIONS

Deliverable D7.1 (2024)

Project acronym: SPIRE-SAI:

Project title: Skills Alliance for Industrial Symbiosis: A Cross-sectoral Blueprint for a Sustainable

Process Industry

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Coordinator: TU Dortmund University (TUDO)

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Work package: WP 7 - Policy Recommendations, Communication and Dissemination

Work package leader: RINA

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Dissemination level: Public

SPIRE-SAIS Policy Recommendations: Objectives



SPIRE-SAIS mission is to enable industry-driven proactive adjustment of future skills with the industry and for the industry.

SPIRE-SAIS Blueprint provides a framework to proactively upgrade the workforce skills to meet the IS & EE needs of the energy-intensive industries, by:

- Adjusting the workforce in a proactive manner to deploy and implement new technologies to optimize the production process,
- Monitoring and accelerating the implementation of industry relevant qualifications and training,
- Successful cross-sectoral upskilling schemes and efficient management of related knowledge
- Making careers in the green transition of energy intensive industries more attractive,
- Implementing strategies to attract and retain talented people.

SPIRE-SAIS Policy Recommendations: Structure



During the project's implementation and the roll-out of the Blueprint for Energy Intensive Industries and Industrial Symbiosis, specific policy recommendations have emerged to support the integration of skills adaptation into strategies and policy support measures. Several solutions have been developed and tested to support addressing these recommendations.

Policy recommendations have been divided according to the level of addressed stakeholders.



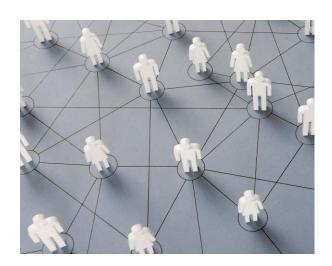
SPIRE-SAIS

Skills Alliance for Industrial Symbiosis –
A Cross-sectoral Blueprint for a Sustainable Process Industry

Policy Recommendations

Abridged Version 21 May 2024
Working draft for the SPIRE-SAIS Final Conference

OVERARCHING



EUROPEAN



NATIONAL & REGIONAL

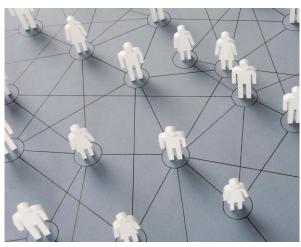


COMPANIES & ORGANISATION



SPIRE-SAIS Policy Recommendations: Overarching





- 1. Increase the level of awareness of Industrial Symbiosis (IS) practices and relevant (green) skills
 - a. The **IS term should be established** by policy makers and sectoral associations to have a **common terminology** across the different sectors and stakeholders.
 - b. **Increasing the level of green skills awareness** and **training in companies** by organizing dedicated workshops. Showcase **successful case studies**.
 - c. Develop systematized information on good practices for VET institutions.
- 2. Increase attention to sector specifics within cross-sectorial approach. Europe's diverse sectors require tailored strategies, also regarding policies to promote resource sharing and circular economy practices. By integrating sector-specificities, policy makers can harmonize efforts while addressing unique challenges.
- 3. Ensure a regular monitoring of skills demand and supply and adaptation of strategies to pro-actively address the emerging needs.
- 4. Integrate Industry 5.0, human-centricity and sustainability provisions.
 - a) Human-Centric Approach: trainings should emphasize the human side of digital technologies, focusing not only on automation, but also on enhancing human capabilities.
 - b) Digital Skills Upgrade: European workers need continuous training in digital skills.
 - c) Sustainable Industry: As part of the circular economy transition, process industry should be resource-efficient and environmentally friendly.

SPIRE-SAIS Policy Recommendations:

European





- 1. Develop a European coordinated strategy that integrates cross-sectorial and sector specific aspects covering IS and EE
- 2. Green skills strategy in VET
 - a) Develop the "green skills"-specific strategic policy documents through multistakeholder cooperation
 - **b) Develop dual VET systems** in a European compatible format and increase the **focus on the practical component** of VET for green skills training.
 - c) Investment in strengthening existing dual VET systems
 - d) Encourage collaboration between VET system, companies and key stakeholders.
- 3. Definition of new strategies should be aligned with relevant stakeholders and existing training programmes, platforms and schemes, such as Pact for Skills, CEDEFOP Skills Intelligence Platform; European Skills, Competence, and Occupation Database (ESCO), Industry 5.0 Community of Practice, European Partnerships, training providers and other stakeholders.
- 4. Establish an integrated course structure and tools for IS/EE.
- 5. Implementation of instruments and providing funding to support the development of green skills and required training.
- 6. Develop an open online training and support platform such as SPIRE-SAIS SKILLS4Planet Online Training Platform

SPIRE-SAIS Policy Recommendations: National / Regional





- **1.National policy makers** should engage in a **collaborative dialogue** with sectors, VET institutions and providers, **encourage schools to cooperate with industry organisations** and **provide incentives** to promote green skills and to train teachers.
- **2.Develop monitoring and evaluation tools** that allow to:
 - a) Assess the existing green skills delivery instruments.
 - b) Assess educational programs' effectiveness for IS and EE new skills using empirical data, systematically collected and analyzed to obtain a consolidated and uniform strategy to replicate good practices. National VET systems require a developed toolbox of monitoring and evaluation tools.
- **3.Incorporate green skills into the national secondary education systems timely** through broad strategic policy documents and operational documents (e.g. subject curricula). **Include regional specificities** in CVET programmes.
- **4.Create a unified skills recognition system**, adjusting sector-specific qualifications and occupational standards within national catalogues.
- 5.Ensure the integration of EE, IS and online training tools in the qualification processes at national and VET school level.
- **6.Develop training for intersectoral transitions** (e.g. from energy-intensive sectors to circular-based ones) and for intrasectoral transitions contributing to circularity (e.g. from landfilling to circular waste management).
- 7. Develop a train the trainer strategy to increase educators' readiness.
- 8. Incentivise employers to provide training opportunities to employees.



SPIRE-SAIS Policy Recommendations: Company & Organization





- **1.Design internal HR and training strategies** that increase the level of green skills awareness and training within companies.
- **2.Establish collaboration with training providers**, providing feedback on industry needs to the national policy makers, VET institutions and other stakeholders.
- **3.Raising the company staff awareness and readiness** for implementation of IS through self-assessment, training programmes and good practice exchange.
- 4. Spotlight image of IS and EE and increase recruiting and retaining of young talents.

5. Facilitate workers involvement in training program via support instruments:

- a) Increase company training offers and facilitate interaction with workers to shape the training portfolio (upskilling and reskilling) to the needs of the company and of the workers.
- b) Provide financial and non-financial support system at several levels (i.e. institutional fundings, company benefits etc) to incentive workers to participate to training programs). Companies, trade unions and national associations, can also make use of fundings and programmes opportunities such as ESIF, ESF+, JTF.
- c) Promote apprenticeships to gain hands-on experience.
- d) Offer various training formats (e.g., workshops, blended learning, e-learning, on-the-job training)
- e) Promote peer learning. This is particularly important for green skills, since training paths, guide documents on IS and EE are still lacking, and essential know-how is often gained through on-the-job experiences. To address this need, one-to-one mentor-led learning initiatives should be developed at several levels, such as training providers and company levels.

 SPIRE-SAIS Final Conference, 23 May 2024

SPIRE-SAIS Policy Recommendations

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- 1. Increase the level of awareness of Industrial Symbiosis (IS) practices and relevant (green) skills
- 2. Increase attention to **sector specifics** within cross-sectorial approach
- 3. Ensure a **regular monitoring** of skills demand and supply and adaptation of strategies to pro-actively address the emerging needs.
- 4. **Integrate Industry 5.0**, human-centricity and sustainability provisions.
- 1. National policy makers should engage in a collaborative dialogue with sectors, VET institutions and providers, encourage schools to cooperate with industry organisations and provide incentives to promote green skills and to train teachers.
- 2. Develop monitoring and evaluation tools that allow to:
 - a) Assess the **existing** green skills delivery instruments.
 - b) Assess **educational programs' effectiveness** for IS and EE new skills
- 3. Incorporate green skills into the **national secondary education** systems timely
- 4. Create a unified skills recognition system
- 5. Ensure the integration of EE, IS and online training tools in the qualification processes
- 6. Develop **training for intersectoral** transitions and for **intra- sectoral transitions**
- 7. Develop a **train the trainer strategy** to increase educators' readiness.
- 8. **Incentivise employers** to provide training opportunities to employees.

- 1. Develop a **European coordinated strategy** that integrates cross-sectorial and sector specific aspects covering IS and EE
- 2. Green skills strategy in VET
 - a) specific strategic policy documents
 - b) Develop dual VET systems
 - c) Encourage collaboration between VET system, companies and key stakeholders.
 - d) Investment in strengthening existing dual VET systems
- 3. Definition of **new strategies should be aligned** with relevant stakeholders and existing training programmes, platforms and schemes
- 4. Establish an integrated course structure and tools for IS/EE.
- 5. Implement instruments and funding to **support the development** of green skills and training.
- 6. Develop an **open online training and support platform** such as SPIRE-SAIS SKILLS4Planet Online Training Platform
- 1.Design internal HR and training strategies that increase the level of green skills awareness and training
- 2.Establish collaboration with training providers
- 3. Raising the company staff awareness and readiness
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- 5. Facilitate workers involvement in training program via support instruments
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 - d) Offer various training formats
 - e) Promote peer learning



