

HYBES

D1.7.1 LIVING LAB PRACTICE CATALOGUE





(2026) D1.7.1 LIVING LAB PRACTICE CATALOGUE

Authors: Dr Martin Galvin, Prof Jason O'Shaughnessy, Ciara O'Halloran, Jose Ospina, Jedda Desmond (University College Cork)

This publication was supported as part of *HYBES*, an Interreg Northern Periphery and Arctic Project co-funded by The European Union.

You are permitted to print or download extracts for your personal use. Reuse of content of this publications is authorised, provided the source is acknowledged. You are not permitted to use any of the content for commercial purposes.



HYBES LIVING LAB PRACTICE CATALOGUE

Introduction

Living Labs for Decarbonisation

- Arctic Centre of Energy (ACE) | Sweden
- Bloxxhub | Denmark
- Dingle 2030 Living Lab | Ireland
- Sustainable Business Hub + Malmö Energy Lab | Sweden
- SWEET Lantern | Switzerland
- European Network of Living Labs | Global
- European Universities - European Living Lab Hub
- Missions-oriented Research and Innovation | Sweden
- Arctic Circle - Assembly and Mission Councils

Systems Levers: Dimension 1 – Policy and Funding Instruments

- EU Missions Oriented Research and Innovation (Horizon Europe)
- New European Bauhaus Compass – Working Principles
- EU Policy Lab
- JRC Partnerships for Regional Innovation Playbook
- Horizon Policy Support Facility - Mutual Learning Exercises
- Starting, Scaling and Sustaining Social Innovation
- Effective Results Frameworks for Sustainable Development
- United Nations Environment Programme – Copenhagen Climate Centre (UNEP-CCC) Overview and Recommendations for Replication
- Solar Installation Grant Pilot | Iceland
- Community Climate Action Programme | Ireland

Systems Levers: Dimension 2 – Education

- Carbon Club Schools Competition Pilot | Ireland
- HYBES Replicable 12-week Module for Post-Primary Education Settings
- Visualising Energy use in School Kitchens | Sweden
- National Programme and Resources for Energy in Education | Ireland
- Energy Technologies Pilots in Educational Buildings | Norway | Sweden
- Student Led Programme - Eco-Schools | Global
- School Food4Change | Europe
- European Education Area Green Education Initiatives
- Greening Apprenticeships Policy Brief | Europe
- European Alliance for Apprenticeships Recent Resources
- Future of Green Skills and Jobs in Europe 2050 Scenarios and policy implications
- Continuous Professional Development (CPD) for Municipalities | Ireland
- GreenComp
- CEDEFOP | Europe
- University Rankings



[Systems Levers: Dimension 3 – Technical Expertise and Solutions](#)

[Co-Creation Café Framework](#)

[HYBES Technical Reports](#)

[Systems Levers: Dimension 4 - Publics, Citizens and Communities](#)

[Citizen Guide to Decarbonisation | HYBES Partners](#)

[SEAI Sustainable Energy Communities Programme | Ireland](#)

[Positive Energy Districts | Europe](#)

[Transition Towns | Global](#)

[Deliberative Futures Toolkit | Ireland](#)

[15 minute city - KortEr App | Iceland](#)

[Delingpool Alidhem – Housing Association Sharing Pool | Sweden](#)

[Tools and Supports for Businesses | Ireland](#)

[Gridly simulation tool to make energy markets tangible and accessible](#)

[Systems Levers: Dimension 5 – Arts, Culture and Creativity](#)

[Creative Industries and the Climate Emergency | UK](#)

[EC Analytic Report Monitoring the twin transition of industrial ecosystems](#)

[Creative Ireland Climate Action Fund | Ireland](#)

[Byggåterbruksdagen Building Recycling Festival | Sweden](#)

[Schools, Artists and Cultural Exhibitions | Norway](#)

[Bristol Living Lab](#)

[Artists Roster | Europe](#)

[Greening the Creative Europe Programme \(2023\)](#)

[Aalto Siilo | Finland](#)

[Systems Levers: Dimension 6 – Development, Planning and Place-making](#)

[NEB Prizes Platform](#)

[Green in Cities – Co-Created Urban Regeneration | Europe](#)

[Placemaking Europe](#)

[Town Centre First - Town Regeneration | Cork | Ireland](#)

[New City District and Port Planning | Bodø | Norway](#)

[S3 Smart Specialisation](#)

[Circular Cities Declaration Report 2024 | Bodø | Europe](#)

[EIT Urban Mobility living labs](#)

As a knowledge-based resource - this catalogue expands on the six dimensions identified in the toolkit as key system levers for decarbonisation and provides a curated set of knowledge resources and practice examples to inspire ways of working with each dimension.

Practice examples were identified or developed during the project and come from our regions and elsewhere. We also reference useful reports, or other repositories as key knowledge resources and many of which inform the HYBES Living Lab work and Guide.

We recognise that this is a non-exhaustive compilation. It is not systematic review, but rather a learning report evolved from the Mutual Learning Exercise (MLE) approach and transnational learning framework embedded in HYBES .

It is an illustrative and curated set of practice-based knowledge and know-how shared and gathered by project partners experience and expertise over the three years of working together. The HYBES Capitalisation Plan provides more information on how we evolved best practice during the project, and more information on the MLE approach is included in our report on the effectiveness of the Living Labs model

The resources recognise the complexity of decarbonisation and the relationship between energy focussed work and other related efforts that intersect, where decarbonisation is a component part of a wider lens such as food systems and circularity.

We hope this is a useful compilation to signpost some relevant resources and demonstrate potential through illustrative cases that can serve to inspire ideas for action and encourage further exploration across the dimensions.

We also hope this is just a starting point.

We believe there is opportunity to deepen a transdisciplinary community of practice across the NPA to accelerate decarbonisation and support sharing knowledge and practice organised around these dimensions as systems levers.

Living Labs can be considered a movement – an emerging field where communities of practice are evolving new ways of working- creating collaborative, organisational strategies and boundary spanning infrastructures as an instrument to support open innovation eco-systems and co-creation practices in urban and peripheral region contexts.

This section highlights some examples of how **anchor institutional partnerships** are working to evolve sustained platforms and hubs for co-creating knowledge, learning, research and innovation – both as local approaches and through networked platforms and hubs to support multi-regional approaches. Often oriented around science with and for society – these typically involve public sectors (municipalities, energy agencies) and education and research performing organisations (Universities, Research Centres) as core anchor partners.

These resources are a useful starting place for regional actors wanting to begin to explore living lab approaches and evolve enhanced collaborative structures to better leverage, inform and mobilise policy, funding and behavioural change for transitions.

Arctic Centre of Energy (ACE) | Sweden

Sandbox - Arctic Center of Energy

- Arctic Centre for Energy is a global competence center that accelerates the electrification of society. Through research and education they aim to develop the knowledge and skills needed to succeed with the sustainable energy transition.
- ACE core partners are Luleå University of Technology, Skellefteå Kraft, and Skellefteå municipality.
- In addition to education and research the ACE Sandbox is a physical and digital platform for testing new energy technologies, exploring digital innovations, and utilizing regulatory flexibility.
- Due to open in 2027 as part of the Sandbox – the ACE Powerhouse will be a central testbed for innovation – equipped with labs, sensors, and smart energy systems. It will host real-world experiments, hands-on education, and collaborative projects that connect research, business, and the public sector.



Platforms and Hubs as instruments for Research & Innovation Eco-Systems

Bloxhub | Denmark

What is BLOXHUB? - BLOXHUB

- A Nordic Hub for Sustainable Urbanization – an ecosystem of approx. 350 member – a mix of companies, organisations, research institutions and public bodies.
- Eight agendas for sustainable urbanisation include circular economy, buildings and transport. Services include:
- Match Funding for those seeking an overview of funds and other support schemes for the realisation of development projects within the fields of construction, architecture, design, digitisation and urban development.
- Co-creation services for urban partnerships - tailored formats to facilitate effective partnership-based solutions for complex urban challenges including Ideation Workshop and Roundtable sessions.
- Science networks such as Circular Built Environment Network - an industrial research program that aims to revolutionize construction practices by utilizing applied science and circular economy principles. It comprises 15 industrial Ph.D. candidates and four research initiatives bridging the gap between academia and the industry.

Dingle 2030 Living Lab | Ireland

Corca Dhuibhne 2030: a sustainable future for the Dingle Peninsula by 2030

- Multi-actor project involving University Research Centre, Utility service provider, Community Development agency, local Business Hub. Coordinated by University College Cork.
- Initiated as a funded project - leveraged additional funds to establish a sustained living lab at Dingle Hub involving key public sector partners and funding programmes.
- Place Based - Remote, peripheral, rural peninsula.
- Purpose: Foster creative collaboration among citizens, government, industry and academia to develop innovative solutions to climate change challenges.
- Focus on intersection of sustainability, adaptation and resilience and 5 key areas: Tourism; Energy; Agriculture; Transport; Environment
- Member of European network of Living Labs (ENoLL)

Sustainable Business Hub + Malmo Energy Lab | Sweden

[English | sbhub](#)

[Malmö Energy Lab | sbhub](#)

- Cluster member based organisation and innovation hub for business, public sector and academia
- Place based – Southern Sweden region, sustainable cities
- Purpose - a neutral platform where companies, municipalities and knowledge institutions meet to accelerate green innovation and create business opportunities. A mix of projects such as knowledge-enhancing projects, acceleration and matchmaking projects, testbeds and export-oriented projects.
- Focus areas: sustainable energy, climate adaptation and circular resource management. Multiple projects including Mission-oriented approach in Malmo Energy Lab.

SWEET Lantern | Switzerland

Living Labs Interfaces for the Energy Transition

[SWEET LANTERN – Swiss energy research for the energy transition](#)

- National Energy Living Lab Association across five living labs in different regions.
- Research project sponsored by the Swiss Federal Office of Energy and hosted by the University of Applied Sciences and Arts Western Switzerland.
- Purpose is to accelerate innovations that are key to implementing Switzerland's Energy Strategy 2050 and achieving the country's climate goals.
- Focus areas for research: Smart Energy Users; Energy in the Workplace; Sustainable Mobility; Low-Carbon Leisure & Tourism; Energy Communities; Affordable & Efficient Housing.
- Member of European network of Living Labs (ENoLL).

European Network of Living Labs | Global

[Our Network - ENoLL](#)

- A diverse, global community of Living Labs—explore the member map to of 200 member living labs across 42 countries and 29 sectors including energy; environment/climate change; bioeconomy and circular economy.

Platforms and Hubs as instruments for Research & Innovation Eco-Systems

- Their website includes descriptions of their members and serves as an excellent repository of living lab case examples.
- ENoLL are recognised main providers of living lab labelling and certification in Europe and are progressing research to harmonise living labs practices.
- Useful knowledge resources from this hub include their publication on [Living Lab origins, developments and future perspectives](#) as a key milestone for the living lab movement.
- Also useful is the [Capacity Building Catalogue](#) about their training services and offerings and their recent reports on [Participation that matters: Expert insights on designing inclusive Living Labs](#) and on [Evaluating Living Labs' role in policy domain](#).
- ENoLL operate an [Energy and Environment Working Group](#).

European Universities - European Living Lab Hub

[European Living Lab Hub | University College Cork](#)

- The [European Universities alliances](#) are part of a flagship initiative of the European strategy for universities. They encompass 73 European Universities alliances with almost 650 higher education institutions of all types, from all across Europe.
- During the HUB23 event organized by the European Commission (EC), member universities of [European University Alliances](#) were encouraged to strengthen cooperation between Alliances and other members of the [Coalition of the Willing](#), to further the co-implementation of relevant innovation actions of the European strategy for Universities and the [New European Innovation Agenda](#).
- The European Living Lab Hub (ELLH) is one of the seven hubs created as a result and is a co-operative effort established to facilitate and strengthen collaboration between the Living Lab initiatives of the alliances.
- The ELLH will work alongside the [FOREU4ALL Consortium](#) and its Regional Innovation Ecosystem Topical Group to pursue activities in the domain of Living Labs as relevant and integral to the alliances' work.

Missions-oriented Research and Innovation | Sweden

[Vinnova | Sweden's Innovation Agency](#)

- Living lab approaches are oriented to problem or challenge-based working, to tackle complex

Platforms and Hubs as instruments for Research & Innovation Eco-Systems

- issues that require multiple perspectives, levels of engagement and transdisciplinary practices. Policy and research are promoting a shift from challenge-oriented to Mariana Mazzacuto's concept of missions-oriented working.
- Swedish Innovation Agency Vinnova are leading the way for designing mission-oriented innovation through the publication of their practice guide [Mission-oriented Innovation Handbook](#) – a useful knowledge resource for actors in this space, in keeping with the [EU NetZero Mission Cities](#).

Arctic Circle - Assembly and Mission Councils

Arctic Circle Mission Councils

- Arctic Circle is the largest network of international dialogue and cooperation on the future of the Arctic and our Planet and is therefore of particular relevance to NPA regions.
- It is an open democratic platform with participation from governments, organizations, businesses, universities, think tanks, environmental associations, Indigenous communities, concerned citizens, and others. It is nonprofit and nonpartisan.
- The Arctic Circle Assembly is the largest annual international gathering on the Arctic, attended by up to 2500 participants from over 70 countries.
- Arctic Circle Mission Councils deepen engagement with a designated theme of particular relevance and importance to the Arctic. The Councils bring together various experts that identify and address these pressing issues from a multi-dimensional perspective.



Key European Policy and Funding Instruments Relevant to Living Lab Approaches

This section highlights **policy fora supporting partnerships and collaboration**. A number of important European policy and funding spaces support key elements of the living lab principles and approach - including transdisciplinarity, participatory practices, missions-oriented research and innovation, policy and social innovation, innovation to drive regional development, mutual learning exercise as a policy support facility and impact by design through effective evaluation frameworks such as theory of change. These resources are useful to support local actors evolve local efforts for living lab approaches that be positioned to align with good practices and a wider funding and policy landscape beyond the primary decarbonisation policy context mapped by HYBES [\[insert link to DXX\]](#).

EU Missions Oriented Research and Innovation (Horizon Europe)

EU Missions in Horizon Europe - Research and innovation

- EU Missions are large-scale initiatives under Horizon Europe setting clear, time-bound goals that drive focused efforts towards some of our greatest challenges such as climate change, cancer, ocean restoration, soil health, and the development of climate-neutral and smart cities. By bringing together researchers, policymakers, citizens, and stakeholders, EU Missions pool the necessary resources to drive innovation and deliver concrete solutions for societal benefit. Informed by [Mariana Mazzacuto Report](#).
- NetZeroCities is part of the Horizon 2020 Research and Innovation Programme in support of [European Union's Green Deal](#). NetZeroCities has been designed to help cities overcome the current structural, institutional and cultural barriers they face in order to achieve climate neutrality by 2030.

New European Bauhaus Compass – Working Principles

Use the Compass - New European Bauhaus - European Union

- New European Bauhaus (NEB) is described as a policy and funding instrument and a transdisciplinary (design) movement. Through its Chapters and Academy, it can also be considered a community of practice.
- The NEB Compass is a guiding framework for decision and project-makers wishing to apply the NEB principles and criteria to their activities.
- The Compass identifies Three Working Principles as Participatory Process; Transdisciplinary Approach and Multi-level Engagement.



Key European Policy and Funding Instruments Relevant to Living Lab Approaches

EU Policy Lab

Homepage - EU Policy Lab - European Commission

- The EU Policy Lab is a space for cross-disciplinary exploration and innovation in policymaking. They apply collaborative, systemic and forward-looking approaches to help bringing the scientific knowledge of the [Joint Research Centre](#) into EU policymaking.
- Use design to research and gain insight into the problem, to create and test alternative solutions and to collaborate and co-create with policymakers, scientists and stakeholders all along the process.
- Use behavioural insights to support EU policymaking by identifying behavioural elements in policies and testing behavioural levers to increase policy effectiveness.

JRC Partnerships for Regional Innovation Playbook

JRC Publications Repository - Partnerships for Regional Innovation Playbook

- Partnerships for Regional Innovation (PRI) aspires to become a strategic framework for innovation-driven territorial transformation, linking EU priorities with national plans and place-based opportunities and challenges.
- The PRI Playbook is published together with the “Concepts and Rationales for the PRI Playbook”. This document includes the analytical background and the aims of the PRI initiative. The Executive summary provides a concise overview of the Playbook main concepts and approaches to co-creating Partnerships for Regional Innovation.

Horizon Policy Support Facility - Mutual Learning Exercises

Mutual Learning - PSF | Research and Innovation

- Mutual learning exercises (MLEs) as policy support instrument.
- Mutual learning exercises focus on specific R&I challenge of interest to several Member States and Associated Countries and draw on a hands-on project-based exchange of good practice. Its aim is to identify good practices, lessons learned and success factors based on robust evidence.



Key European Policy and Funding Instruments Relevant to Living Lab Approaches

Starting, Scaling and Sustaining Social Innovation

Evidence and Impact of the European Social Fund (ESF)

Executive summary: Starting, Scaling and Sustaining Social Innovation | OECD

- Social innovation is increasingly recognised as a tool to address complex social challenges, as it can identify new solutions for policy action. The sectoral and policy applications of social innovations are broad but encourages collaboration among many diverse stakeholders. These include public and private entities, citizens, philanthropic organisations, and local communities. Chapter 3 - introduces the “3S” framework—Start, Scale, Sustain—a tool to amplify the impact of the European Social Fund (ESF) on social innovation.
- Start presents existing levers and policy orientations for future ESF support to social innovation and presents existing tools such as seed funding, innovation labs, awards, research and development initiatives, and collaborative platforms. It also proposes levers such as preparatory grants, multi-stakeholder engagement, tiered payment models, academic partnerships, and dedicated incubator networks.
- Scale focuses on mechanisms such as growth financing, capacity building, transnational cooperation, policy integration, and ecosystem strengthening.
- Sustain addresses long-term viability through enabling policies, responsible procurement practices, institutional embedding, public recognition, and stable financing frameworks. The chapter examines the expansion of municipal roles, aligning social innovation with digital and green transitions, and using social innovation to foster social cohesion.

Effective Results Frameworks for Sustainable Development

Achieving Impact by Design

Effective Results Frameworks for Sustainable Development | OECD

- This toolkit provides insights and recommendations on how to design, monitor and use results frameworks for greater impact on sustainable development. It gives an overview of the different types of results frameworks that exist, explains how to enhance their design, monitoring and usage, and provides advice on how to integrate complex issues such as sustainable development, climate adaptation, locally led development and inclusion.
- By using this toolkit as a common reference, all governments and international development partners are better equipped for strategic, harmonised action towards a more sustainable future.

*Policy and funding instruments for incentivising citizen and community action*

These resources illustrate examples of **funding instruments for collaborative approaches** to incentivise and empower citizen and communities and other partners in decarbonisation ambitions. These include financial grants to individual home-owners as beneficiaries to accelerate technology take-up, grants to communities to empower local organisations as beneficiaries to lead initiatives at neighbourhood, district or town level and competitions with financial awards to promote participatory practices and learning between regions. In each instance the financial incentive is linked to communicating, informing and delivering policy ambitions.

**United Nations Environment Programme – Copenhagen Climate Centre (UNEP-CCC) Overview
and Recommendations for Replication**

**100 Good Practices of Sustainable Energy Actions in Cities - An Overview and
Recommendations**

- This collection of good practices indicates the remaining vast opportunities for energy-efficiency actions and the existence of rich local innovations in unlocking opportunities. It points to the need to further scale up and speed up the actions to deliver the full benefits of energy efficiency, especially under the current international background of high energy prices, high uncertainties of continuous energy supply, and the global imperative need for effective greenhouse gas emission reduction.
- Presents snapshots of the most common types of energy-efficiency actions that cities are taking, and clues on the innovative solutions that help some of those cities overcome the numerous barriers facing energy efficiency implementation.
- Suggestions for replicability emanating from the analysis of the 100 good practices categorised in terms of energy-efficiency programmes across: Government-led incentives, PPP and ESCO projects and looks at implementation of technologies in various actions areas (light, buildings, district energy, transport, lighting, water and cross-cutting).
- Includes useful view of Financial Instruments, financial mechanisms, and other financial aid used in different projects categorised by their type of funding.



Policy and funding instruments for incentivising citizen and community action

Solar Installation Grant Pilot | Iceland

Solar Cell Grant Program Strengthens Iceland's Energy Future

- Introduction of targeted grant programs combined with co-design of user-centred guidelines for installation, and collaborations to tackle challenges in connecting solar power to the national grid.
- Resulted in first domestic supplier receiving payment for contribution to grid.
- Informed new start-up company and additional collaborations for skills training provider to address labour shortages for installation.
- Linked to ongoing policy innovation and development for accelerating solar technologies in Iceland, and informing future planning for grant programmes.

Community Climate Action Programme | Ireland

Community Climate Action Programme (CCAP) | Cork County Council

- National programme to address climate change at a local level and support the delivery of low carbon and climate resilient communities.
- Administered at a local level by municipality, funded by an allocation from the national Climate Action Fund.
- Aims to support and empower communities as partners to shape and build low carbon, sustainable communities in a coherent way to contribute to national climate and energy targets.
- Supports small and large, rural and urban communities to take climate action and supports direct engagement with communities to both promote and assist in the scale up of community climate action from the respective starting points of the communities.
- Info days/clinics run in each municipal district.



Primary and Post-Primary Schools

These practice examples and resources highlight **collaborations with primary and post-primary schools**. In practice, partnership initiatives with schools¹ can involve student engaged curricular or extra-curricular activities, staff engaged behaviour change, direct efforts to enhance energy performance, use and management in schools buildings, or a mix of this components.

Carbon Club Schools Competition Pilot | Ireland

Home - The Carbon Club

- 10 Post Primary Schools get energy monitoring installed in their schools for free and compete against each other to see who can save the most kilowatts of energy and reduce their carbon emissions.
- A free Energy Monitoring system with a visual display screen will be installed so that all students can see live energy consumption in the school as well as the associated CO2 emissions
- Free Energy Audit for your school and winning school gets a Solar PV system
- Complemented by a 12-week education module for 15-16year olds
- Ongoing support, energy monitoring and recommendations for reducing energy.
- Participating students present projects and findings to third level architecture students.
- Post-primary and architecture student 'lab' workshop on decarbonisation in built environment, enhancing energy monitoring training in architecture curriculum and encouraging post-primary students to further learning pathways for working in sustainability and built environment.
- See HYBES Report on the potential for educational curriculum change for the delivery of decarbonisation goals for more information. [Deliverable 2.5.1 Report on the potential for educational curriculum change for the delivery of decarbonisation goals](#)

HYBES Replicable 12-week Module for Post-Primary Education Settings

- Informed by the Carbon Club School initiative, and co-creation sessions with partners, this 12-week model aims for a universal design principle, to enable take up by different regions with different educational and curricular contexts.

¹ Regions have diverse school systems. Here primary refers to education for approx. 5-12years old; post-primary as approx. 12-17 year old and third level as usually 17 year old plus. More info on education levels in Europe available at: [Education levels - European Education Area](#)



Primary and Post-Primary Schools

- Flexible decarbonisation curriculum plan as learning content that can be delivered as formal or extra-curricular learning. Structured as ‘building blocks’ to be suitable for delivery over a 12 week programme, however educators can re-arrange the blocks to suit their own local context.
- A summary of the tool is included in the HYBES guide and more information can be found in the HYBES output [insert link to Deliverable 2.4.2 - 12-week educational module]

Visualising Energy use in School Kitchens | Sweden

“Energy visualization” as a tool to influence the energy use in a municipality kitchen

- In many regions schools have kitchens and food services. In some instances, such as Sweden municipalities’ own and operate theses kitchens. There are 68 kitchens in the municipality of Umeå for example.
- This initiative explored if providing feedback to the kitchen staff on energy use could influence behaviour change to reduce energy use in these facilities. An “energy visualization” project was initiated in one of the kitchen: Nordstjärnan, which is a newly built kitchen equipped with separate meters for appliances that continuously record the energy use.
- Findings confirmed that kitchen staff think that energy visualization is an effective way to facilitate energy use reduction.

National Programme and Resources for Energy in Education | Ireland

[Home](#) | [Energy in Education](#)

- A collaboration between Sustainable Energy Authority Ireland (SEAI) and National Government Department of Education and Skills – this centralised effort supports school boards of management, principals, teachers, administrators, caretaking staff, pupils and parents to improve energy use practices, reduce school operating costs and protect the environment.
- Supports provided include guides, workbooks, training courses and an advice, mentoring and assessment service tailored specifically for schools.



Primary and Post-Primary Schools

Energy Technologies Pilots in Educational Buildings | Norway | Sweden

- Within HYBES Bodø partners piloted renewable energy technologies in school buildings to inform regional planning and policy for energy solutions in educational buildings. The Mørkvedbukta school and kindergarten pilot in Bodø combined geothermal energy wells, heat pumps, and a large rooftop solar installation with high-performance building envelope that meets passive house standards with results indicating that geothermal systems can cover most heating needs whilst advanced energy monitoring and control systems further enable continuous optimisation of energy performance over time. More information on the pilot can be found in the HYBES Technical report on geothermal energy solutions for decarbonisation (insert link Deliverable 3.3.1).
- Partners also learned from the Umeå experience of Passive House Standard New Build in the Hedlunda preschool that was selected for the Nordic Pavilion in Venice in 2016. [Case Hedlunda preschool – Construction school](#)

Student Led Programme - Eco-Schools | Global [Energy | Green-Schools](#)

- Eco-Schools is a fundamental initiative which encourages young people to engage in their environment by allowing them the opportunity to actively protect it. It starts in the classroom, it expands to the school and eventually fosters change in the community at large. Eco-Schools is currently operating in 62 countries worldwide with over 16 million students taking part.
- Promoting long-term, whole-school action for the environment Eco-Schools is known as Green-Schools in Ireland and is a well-established student-led programme with involvement from the wider community.
- The Irish Green Schools website provides case studies from schools offering a good repository of practice examples .
- Green-Schools / Eco-Schools, is coordinated by the [Foundation for Environmental Education \(FEE\)](#). FEE's programmes include: Eco-Schools, Young Reporters for the Environment, Learning About Forests (LEAF), Blue Flag and Green Key.



Primary and Post-Primary Schools

School Food4Change | Europe

SchoolFood4Change

- The SchoolFood4Change Triple Approach supports cities and schools in transforming food systems by focusing on an innovative procurement that prioritises sustainability, planetary health diets brought to life through skilled cooking, and a Whole School Food Approach that connects classrooms, kitchens and communities.
- Report on Innovative Criteria and Models for Procurement of Sustainable and Healthy School Meals Target #3 – The greenhouse gas emissions associated with the production, transportation, consumption and disposal of food will be measured and progressively reduced.
- Replication Cities Guidance is also available at: [Schoolfood4change-Terms-of-Reference-final.pdf](#)

European Education Area Green Education Initiatives

Green education initiatives - European Education Area

- Identifies Key challenges:
- despite progress, learning for sustainability often relies on individual schools or teachers, limiting its broader impact ([Education and Training Monitor, 2024](#))
- only 42% of young people report having had a meaningful opportunity to learn about sustainability in school ([Education and Training Monitor, 2024](#))
- teachers cite lack of time, space and suitable guidance and resources to integrate sustainability in their teaching ([European Commission staff working document, 2024](#))
- 84% of young people believe sustainability is important but less than one third take action for sustainability in their daily life ([Education and Training Monitor, 2024](#))
- schools face increased disruption due to climate change and extreme weather events, including flooding and rising temperatures ([World Bank report, 2024](#))
- many young people are keen to pursue studies and careers in sectors related to the green transition yet they are unaware of the opportunities available to them ([OECD working paper, 2024](#))
- Provides useful education resources - [Learning corner - European Union](#)



Higher Education – Higher Education and Future Skills for Green Transition

In addition to research performing organisations (Universities, Research Centres) acting as host or anchor partners to living labs (as illustrated in the Living Labs for Decarbonisation section), this section highlights the need for **collaborating with higher education for green skills and jobs** for the transition. This importantly includes vocational training and we signpost key knowledge resources in this space. We also signpost University Ranking metrics that can support decarbonisation efforts within higher education sector, buildings and campuses.

Greening Apprenticeships Policy Brief | Europe

European centre for the Development of Vocational Training

- Sector skills foresights informing policy brief that highlights Vocational education and training (VET) can be the main pathway for up- and reskilling workers and that VET has a crucial role to play in supporting transitions in the short-term (reactively, in the sprint race to address pressing skill needs), as well as in reaching a new sustainability paradigm in the longer run (proactively, in the marathon race to equip the future workforce) (Cedefop, 2022d)
- Cedefop has led the research on the potential role of apprenticeships for greener economies and societies. The more that apprenticeships are integrated in sectoral and company strategies to tackle the challenges of the green transition, the better the solutions they can provide at company and at system/society level (Cedefop & OECD, 2022).
- Includes examples collected by Community experts of approaches to ‘greening apprenticeships’. From grassroot initiatives to comprehensive approaches, structured collaboration helps unlock the potential of apprenticeships for the green transition. Apprenticeships are particularly well placed to develop the skills for the green transition, as they are at the intersection of the education system and the labour market.

European Alliance for Apprenticeships Recent Resources

A look back on EAfA’s 2025 achievements and a preview of EAfA’s 2026 roadmap - Employment, Social Affairs and Inclusion

- Practical factsheets for practitioners – in 2025 EAfA released three factsheets covering innovative technical knowledge and inspiring good practices:
- The attracting and nurturing in-company trainers factsheet, published in April, offers advice and best practices for companies to recruit and support trainers, helping apprentices to build skills and transition into work.



Higher Education – Higher Education and Future Skills for Green Transition

- The [basic skills in apprenticeships](#) factsheet, published in September, provides practical information on how apprenticeships contribute to developing basic skills, including assessing learners' needs, using learner-centred teaching methods and collaborating with VET providers and employers.
- The [higher-level apprenticeships \(HLAs\)](#) factsheet, published in December, shares how HLAs offer a path to high-skilled professions through advanced qualifications, strong involvement from employers, and direct links to sectors where demand for expertise is rising.
- A practical toolkit to boost the uptake of adult apprenticeships – EAfA released a [toolkit](#) to guide policymakers and relevant stakeholders to build support frameworks for adult apprentices. The toolkit includes practical advice, examples and self-assessment tools tailored for VET providers, companies and public employment services. This new resource complements the existing toolkits on digital skills in apprenticeships and the mobility of apprentices, all of which are available on the [EAfA toolkit webpage](#).

Future of Green Skills and Jobs in Europe 2050 Scenarios and policy implications

[futures-of-green-skills-and-jobs-in-europe-in-2050-KI0623096ENN.pdf](#)

- A future foresights report on potential scenarios for green skills and jobs. Includes for example insights such as:
- As the understanding of green changes, the skills ecosystem for green skills needs to be continuously reconfigured. This requires resources and political attention to the need for adaption.
- Collaboration between various fields such as engineering, environmental science, social sciences, and policy development are essential to address the complex challenges of sustainability.
- There will be no green transition without a strong, VET-trained skills base. Strengthening VET and VET systems should therefore be an important part of European STI policy to support the green transition.
- Since societal needs change, and since the understanding of 'greenness' is moving, it will also be required to prioritize skills monitoring and adaptation.
- Policymakers need to be better at talking up the critical 'green' contributions of many traditional occupations from waste collection over bicycle repair to forest stewardship.



Higher Education – Higher Education and Future Skills for Green Transition

- Articulating ‘green jobs’ as something new and, by definition, safe and well-paid might be doing the green transition a disservice.
- innovation policies should also stimulate low tech, easy-to-adapt solutions.
- There is a need to address gender imbalances and issues of diversity, inclusion, and vulnerable groups within the green job labour market.
- Green development paths are shaped by emerging technologies; emerging technologies should also be shaped by green skills.

Continuous Professional Development (CPD) for Municipalities | Ireland

AP5405: Behavioural Change for Sustainability and Climate Action in Public Administration | University College Cork

- Collaboration with Association of Irish Local Government as CPD to allow for flexibility to complete this programme in line with their other duties and commitments.
- Designed specifically for elected members and municipal staff in local government in Ireland. The curriculum covers up to date policies and initiatives such as the Climate Action and Low Carbon Development (Amendment) Act and the Climate Action Plan, amongst other pressing climate related issues.
- Both online and offline delivery of this programme allows for students from around Ireland’s 31 municipalities to interact with each other through peer-to-peer learning, with a view to building relationships and networks between participants, and expertise in the issues related to the climate crisis.
- This course is the only university bearing credit CPD programme of its kind in Ireland offering a recognised qualification in this sector.

GreenComp

European sustainability competence framework - Joint Research Centre

- GreenComp is a reference framework for sustainability competences. It provides a common ground to learners and guidance to educators, advancing a consensual definition of what sustainability as a competence entails.
- It responds to the growing need for people to improve and develop the knowledge, skills and attitudes to live, work and act in a sustainable manner. It is designed to support education



Higher Education – Higher Education and Future Skills for Green Transition

- and training programmes for lifelong learning. It is written for all learners, irrespective of their age and their education level and in any learning setting – formal, non-formal and informal.
- Sustainability competences can help learners become systemic and critical thinkers, as well as develop agency, and form a knowledge basis for everyone who cares about our planet's present and future state.
- Several competencies align with living lab principles and approaches including systems thinking, problem framing, futures literacy, adaptability, exploratory thinking and collective action.

CEDEFOP | Europe

- CEDEFOP has a number of other useful practice-focussed publications, insights and foresights on skills for the green transition including:
- [Meeting skill needs for the green transition | CEDEFOP](#) - policy needs to focus on extensive accelerating of up- and reskilling and providing guidance and support to workers who will need to change occupation, sector or geographic location. As well as targeted investment, developing transition-oriented skills matching approaches should also be a policy priority.
- [The green employment and skills transformation | CEDEFOP](#) - The guide highlights the value of sound skills intelligence and smart governance in supporting the green transition, showcasing how VET can make a practical impact. It explains how skills anticipation and governance can drive greening efforts, and how apprenticeship, upskilling, reskilling, validation, and micro-credentials can contribute to a greener future.
- Includes - Good practice examples from Europe and beyond illustrate how to translate green ambitions for VET and skills into policy implementation. The insights and examples in this publication complement the strategies and resources jointly showcased by UNESCO-UNEVOC and Cedefop in an accompanying guide, further supporting the vision of a greener and more innovative VET system.

University Rankings

- The [UI GreenMetric World University Ranking](#) is a ranking on green campus and environmental sustainability initiated by Universitas Indonesia in 2010.



Higher Education – Higher Education and Future Skills for Green Transition

- The Rankings have seen a dramatic increase of participants from 95 universities in 35 countries in 2010 to 1147 universities in 95 countries in 2024.
- In the current performance evaluation tool there are 39 indicators and 6 criteria i.e. Setting and Infrastructure (SI), Energy and Climate Change (EC), Waste (WS), Water (WR), Transportation (TR), and Education (ED).
- University Ranking - Green Education is a scholarly acknowledgment of educational institutions standing at the forefront of Education for Sustainable Development (ESD) and leading the Green Education Transformation (Education 6.0).
- World Green University Ranking classifies universities based on the six pillars of the Holistic Green Education Framework, including leadership governance, curriculum, innovation, facilities, human capital, and community partnerships.
- Times Higher Education Impact Rankings, which ranks 2,526 universities from 130 countries or territories based on their progress towards the United Nations' Sustainable Development Goals (SDGs).
- Impact Rankings are provided for each individual SDGs



Working with this dimension assumes decarbonisation living labs involve **energy disciplines, expertise and specialists as core partners** who are driving research, knowledge and practice to evolve tools, technologies and techniques for energy efficiency and renewable energy. This Practice Guide assumes that energy experts have access to and are already active in existing professional knowledge and practice fora. Through HYBES however, we identify two key challenges for energy experts wanting to accelerate adoption of innovative technical decarbonisation solutions. The first is collaborations with non-specialist partners. The second is an issue of knowledge transfer and replicability, when in practice, solutions are inherently site and context specific. We include in this section our Co-Creation Café Framework, a proposed methodological approach for Trans-regional Mutual Learning Exercises to support transdisciplinary dialogue and potential for scaling (wide or deep), diffusion or acceleration of innovation adoption. Otherwise we point to the HYBES technical report for more information on the technical knowledge and practice evolved during the HYBES project pilot activities.

Co-Creation Café Framework

- The HYBES Co-Creation Café Method (HCCCM) is an extended MLE format, involving a knowledge brokering and virtual dialogue platform as a transnational environment where the virtual format of the Cafés allows for the inclusion of all partner regions and additional participants.
- This tool is included in Page 47 of the Guide and supported by the Deliverable D1.5.1 Report on Implementation of Three Co-Creation Cafes.

HYBES Technical Reports [Insert Links]

- Deliverable 2.1.1 - Technical report on macro energy analysis for delivery of Decarbonisation Zones (DZs) in Umea and Bodø Deliverable 2.3.1 - Technical report on energy Monitoring and Management tool for social housing
- Deliverable 3.1.1 - Report on solar energy solutions for decarbonisation
- Deliverable 3.2.1- Technical report on the benefits of energy retrofit to facilitate fossil fuel replacement



- Deliverable 3.3.1 - Technical report on geothermal energy solutions for decarbonisation
- Deliverable 3.4.1 - Report: Create an energy system for storage and energy sharing in city districts for EV
- Publication on Urban Building Energy Modelling: [Archetypes-based calibration for urban building energy modelling - ScienceDirect](#)



This section highlights tools and practices aimed at publics as end-users, **mobilising individuals, businesses and communities as partners** in the transition. The emphasis is on population interventions as civic-level interventions, community-based interventions or service-based intervention and enabling generative or transformative bottom-up action.

Citizen Guide to Decarbonisation | HYBES Partners Insert Link

- The target audiences are individuals, small businesses and communities. The guide proposes a one-stop-shop approach for communicating to end-users the value of implementing decarbonisation measures at an individual and organisational level. Designed to be flexibly applied to region specific details as an online website for publics to navigate and access the range of information and support tools available to them in their region.
- Developed in HYBES informed by literature review, trends that influence individuals' behaviours to decarbonisation are; their stage in life, costs associated with carbon reduction and barriers to implementation and practice experience from partner regions.
- During the development existing tools that have been implemented across the project partner regions to support citizens to change their behaviour and actions towards decarbonising our societies were identified. Examples include:
 - Codema – 100 Ways to Save Energy at Home Citizen's Guide – supporting citizen's on their pathway to decarbonisation (Ireland)
 - National Olympic and Sports Association of Iceland (ÍSí) - Bike to Work (Hjólað í vinnuna) – an annual campaign (for the month on May) encouraging citizens to use active travel options (cycling, walking, running, etc.) to commute to work other than by fuel-based motor vehicles (Iceland)
 - Umea Kommun – Climate Podcasts (Poddar med Klimatekot) – a climate action podcast providing knowledge on related topics, such as electric cars, food waste, solar PV, circular economy, etc (Sweden).
- [Insert link Deliverable 2.6.1 - Citizen's guide to decarbonisation: An end-users guide to influence behavioural change]

**SEAI Sustainable Energy Communities Programme | Ireland****Case Studies | SEAI**

- This programme is focussed on enabling energy citizens to work together as local energy communities and as part of a nationwide network. Over 1000 communities are working together on local energy goals to become more sustainable in how they use energy for the benefit of their community.
- Coordinated by the national energy authority, it supports communities to avail of the range of grants, tools, services and expert advice available.
- Each Sustainable Energy Community forms a Steering Committee and completes local Community Energy Masterplan. Energy communities look at projects across homes, transport, local business and community buildings such as schools, community centres, and sports facilities.
- Communities realises energy upgrades to public and private buildings – leveraging national grants and support mechanisms.
- The programme also links to awareness raising programme in partnership with other initiatives such as schools through their engagement with An Taisce Green Schools/Green Flag programme.
- Website provides more information and useful case studies.

Positive Energy Districts | Europe**Positive Energy Districts (PED) | JPI Urban Europe**

- Urban development must move from mere building solutions to Positive Energy Districts and Neighbourhoods and similar innovative concepts to reach the European energy and climate targets. The Programme “Positive Energy Districts and Neighbourhoods for Sustainable Urban Development” supports the planning, deployment and replication of 100 Positive Energy Neighbourhoods by 2025.
- The PED reference framework provides definition: “Positive Energy Districts are energy-efficient and energy-flexible urban areas or groups of connected buildings which produce net zero greenhouse gas emissions and actively manage an annual local or regional surplus production of renewable energy. They require integration of different systems and infrastructures and interaction between buildings, the users and the regional energy, mobility and ICT systems, while securing the energy supply and a good life for all in line with social, economic and environmental sustainability.”



- Updated PED Reference Framework are now available in the [White Paper – Reference Framework for Positive Energy Districts and Neighbourhoods](#).
- Booklet of Positive Energy Districts in Europe - [EUROPE towards POSITIVE ENERGY DISTRICTS](#)

Transition Towns | Global About - Transition Network

- The Transition Movement began in Britain and Ireland in 2006 and is now an international network of communities spanning 67 countries.
- Transition emphasises local, community-led actions. It explores new ways we can work together to create communities that are fair, strong, and healthy for everyone.
- In practice, Transition groups reduce fossil fuel dependence, create renewable energy projects, support local food production, encourage new businesses, bring nature back into cities, and build strong connections between people and organisations.
- Each Transition group chooses activities based on what local people need and want. This helps make sure the activities are useful and relevant for each community.
- Practice website shares Practices of change that have been already shared through Practising Transition: [Transition Characteristics](#)
- Co-founder Rob Hopkins has useful resources including books, talks and podcast on his website [Rob Hopkins – Imagination taking power](#).

Deliberative Futures Toolkit | Ireland [Imagining 2050 Toolkit - MaREI](#)

- This toolkit on Deliberative Futures: Toward ‘Future-Oriented’ Communities and Decision-Making offers practical advice and guidance on future-thinking engagement drawing from deliberative and participatory processes.
- It integrating (i) transition and public engagement (deliberation) and (ii) climate mitigation and adaptation to develop and implement innovative approaches for climate dialogues using mini-publics to co-construct visions and pathways for a low-carbon and climate-resilient society.
- The toolkit invites novel communication methods to enhance engagement and stimulate dialogue on climate action.



15 minute city - KortEr App | Iceland Korter

- Developed in Iceland, the KortEr app shows the area that takes 15 minutes to walk or cycle, based on your location. All you have to do is open the app and you will immediately see the surrounding area for 15 minutes. You can switch between walking and cycling or show both at the same time, you can also check to show the bus route system. There is also a bar in the app that can be dragged and shows different areas according to the number of minutes selected.
- The website provides links to download the app for both Android and iPhone.
- In Iceland this app has been used as part of wider programmes aimed at changing travel habits, engaging residents and schools in reducing emissions and linking the app to education projects.
- To support take up of this app by partner regions, during the HYBES Project, the Icelandic app developer team adapted the technology to make it possible for partner regions to subscribe to activate it in their own regions.

Delingpool Alidhem – Housing Association Sharing Pool | Sweden Broschyr-A4_Delningspool.indd

- Bostaden is a public housing company that builds a better Umeå through sustainable community and housing development. Bostaden has introduced a cost-effective car and bike pool system in Ålidhem that aims to provide residents with affordable, shared transportation options.
- This initiative fosters community connectivity, reduces individual carbon footprints, and promotes sustainable urban mobility by encouraging the efficient use of vehicles, thereby contributing to a greener neighborhood and enhanced accessibility for their residents.
- This is a good example of how housing organizations and residents associations can be key partners to support engagement with citizens.

Tools and Supports for Businesses | Ireland

- Green for Micro and EI Climate Action Voucher Programmes 'Green for Micro' and Enterprise Ireland 'Climate Action Voucher' programmes supports small and start-up businesses to engage sustainability consultancy services to reduce carbon footprint and embed



sustainability practices. Available via national network of Local Enterprise Offices and Enterprise agencies.

- National Energy Agency provide free energy training and free energy audits for businesses. [Energy Audits for SMEs | Business | SEAI](#)
- National ministry provides a Climate Toolkit for Business - [Climate Toolkit 4 Business | Zero Carbon Journey](#)

**Gridly simulation tool to make energy markets tangible and accessible.
Making the energy transition tangible with Gridly – SWEET LANTERN**

- Helping people & users to understand how energy systems work and empowering them to actively engage with new energy models.
- Gridly is a hands-on simulation tool designed to make the concept of local energy markets tangible and accessible. It allows users to explore innovative models such as peer-to-peer energy trading and energy flexibility, using a playful, scenario-based approach.
- Gridly helps demystify complex energy dynamics. It invites users to experiment, make decisions, and see the consequences all within a simulated local energy ecosystem.
- It helps foster energy literacy and citizen engagement and encourages users to think critically about how energy is produced, consumed, shared and how their choices can support a more flexible and decentralized energy system



A key area of exploration during HYBES was to consider engagement with arts, culture and festivals. This section highlights knowledge resources on the role of creative and cultural sectors as part of the net zero transformation and highlights practice examples that support **collaborations with arts, culture and creative partners**. We particularly highlight these partnerships as an important interface and broker for engaging with publics and communities, whilst also signposting key reports demonstrating that CCI sector is seen by European policy makers as catalyst in the digital and green transition of society at large.

Creative Industries and the Climate Emergency | UK
Creative industries and the climate emergency - Creative Industries Policy and Evidence Centre

- Highlights Roles for the Creative Industries as part of the Net Zero transformation as:
- Decarbonisation Reducing - greenhouse gas emissions directly and indirectly caused by creative industry operations and business activities in line with UK and global greenhouse gas (GHG) emissions reductions targets.
- Tangible contributions activities towards Net Zero transformations - Ways in which Creative Industries skills, outputs, and work will directly shape Net Zero communities, products and infrastructure (such as architecture, design, digital technologies).
- Intangible contributions towards Net Zero transformations - Ways in which Creative Industries will influence cultural shifts, attitudes, behaviours, education and engagement linked to societal Net Zero transformations.

EC Analytic Report Monitoring the twin transition of industrial ecosystems
CULTURAL AND CREATIVE INDUSTRIES | Europe (2024)
monitoring the twin transition of industrial ecosystems-EA0623091 ENN.pdf

- The CCI industrial ecosystem is characterised by a wide range of diverse subsectors that are all based on cultural values and creative expression. They include architecture, archives, libraries and museums, artistic crafts, audio-visual (including film, television, video games and multimedia), tangible and intangible cultural heritage, design (including fashion design), festivals, music, literature, performing arts (including theatre and dance), books and publishing, radio, and visual arts. They are mostly composed of a high number of small and micro-companies and freelancers.
- According to Eurostat, the CCI employed 7.7 million people across Europe in 2022,



representing 3.8% of total employment.

- CCI are seen as a driver in a resilient recovery (e.g. the role of CCI in health, wellbeing and social cohesion) and as a catalyst for the digital and green transition of society at large.

Creative Ireland Climate Action Fund | Ireland

€5.8M funding announced new Creative Climate Action Fund II - Creative Ireland Programme

- A collaboration between two ministries and roll out supported by programme staff based in local municipalities.
- This funding initiative supports creative, cultural and artistic projects that build awareness around climate change and empowers citizens and communities to make meaningful behavioural changes.
- Practice examples available on their website here: [Creative Pillars - Creative Ireland Programme](#).
- We highlight this example '[Decarbonising Together](#)' ran in collaboration with a municipal-university partnership living lab [Citizen Innovation Lab](#), building on previous collaborations including [Future Limerick Climate Arts Festival](#) a week-long, multi-disciplinary festival to explore the climate crisis through the arts.
- Additional Key Findings and Recommendations from this research [Evaluation Report](#) provides useful practice insights for considering the role of the arts, cultural and creative sectors in supporting climate action and the just transition towards a sustainable and net-zero future.

Byggåterbruksdagen Building Recycling Festival | Sweden

Succé för Byggåterbruksdagen - Umeå kommun

- HYBES participated in the Byggåterbruksdagen in Umeå, Sweden, a public festival formatted event attracting over 500 visitors and demonstrating practical applications of circular construction, material reuse and sustainable building practices. The event functioned as an open, real-life testing and dialogue arena, bringing together citizens of different backgrounds and gender, practitioners and public organisations in a shared learning environment.
- Through its presence, HYBES contributed to knowledge exchange, co-creation and awareness-raising around reuse-based solutions in the built environment. The event illustrated how festival settings can support behavioural change, stakeholder engagement



and the scaling of circular solutions.

- The Building Reuse Day was organized by Umeå Municipality, ABC Umeå Economic Association, in collaboration with Fairtrade City Umeå, Hybes, Thriving Northern Buildings and Umeå Climate Roadmap.
- The festival was an initiative supporting Byggåterbruket - Umeå's new circular builders' merchants and construction recycling centre. A new and unique collaboration between Umeå Municipality and the construction industry that is providing carefully selected and quality-assessed recycled building and civil engineering materials – perfect for those who want to build sustainably, uniquely and cost-effectively.

Schools, Artists and Cultural Exhibitions | Norway

- As part of Bodø Capital of Culture programme – this HYBES initiative focus on education, natural materials, and indigenous knowledge and culture delivered over multiple days in January/ February 2025.
- Throughout January and February 2025, 5th grade classes (11 year olds) from all primary schools in Bodø were organised through Bodø Kommune to visit an art-based Sámi exhibition, which centres Sámi culture and the cultural values embedded in Sámi artistic expressions.
- The theme of this exhibition was use and re-use with a central focus on engagement with natural materials, how to leverage what is available and accessible, and what can be effectively and efficiently reused.
- The initiative fostered collaboration with Sámi perspectives, artists, culture and indigenous knowledge, demonstrating how art and creativity are interwoven with environmental stewardship and sustainability.
- Engagement with students was structured to move students from awareness to action, using participatory approaches to encourage lasting behavioral change.
- A collaboration between municipality and Sámi artists and institutional partners to nurture dialogue, positioning children as active participants and for benefits of sustainability education.



and the scaling of circular solutions.

- The Building Reuse Day was organized by Umeå Municipality, ABC Umeå Economic Association, in collaboration with Fairtrade City Umeå, Hybes, Thriving Northern Buildings and Umeå Climate Roadmap.
- The festival was an initiative supporting Byggåterbruket - Umeå's new circular builders' merchants and construction recycling centre. A new and unique collaboration between Umeå Municipality and the construction industry that is providing carefully selected and quality-assessed recycled building and civil engineering materials – perfect for those who want to build sustainably, uniquely and cost-effectively.

Bristol Living Lab

Bristol Living Lab - ENOLL

- This living lab is run by a non-profit arts organisation with 20 years' experience of working with communities and individuals to understand how creativity and digital technologies can be utilised to meet local needs and address system change.
- It is a community based 'enabler- driven' Living Lab and acts as a 'broker' between citizens and organisations.
- Areas of work include energy, environment and climate change.

Artists Roster | Europe

ENOLL Artists Roster

- A useful resource from ENOLL providing a curated selection of artists from diverse disciplines who are ready to collaborate with Living Labs and innovation ecosystems.
- Each artist has been selected based on their experience in collaborative, cross-disciplinary projects that align with the Living Lab methodology.
- The ENOLL Artists Roster includes artists from various fields, such as:
 - Visual Arts (painting, sculpture, digital art)
 - Performing Arts (theatre, dance, music)
 - Media Arts (film, photography, interactive media)
 - Literature & Storytelling
 - Design & Sustainable Innovation



Greening the Creative Europe Programme (2023)

Greening the Creative Europe Programme - Publications Office of the EU

- For a deeper dive on the direction of travel for Greening the Creative Europe Programme and Practice Guides for Creative European beneficiaries - this report is useful. It is part of EC effort to mainstream climate actions into the Creative Europe Programme and contribute to the Green Deal and informing successor programmes.
- It provides recommendations, considers mutual learning activities and provides a Good Practice guide targeted at Creative Europe beneficiaries with to reduce climate and environmental impacts of their work or to contribute to environmental and climate awareness { Good Environmental Practice Guide for the Programme).
- Report recommendations form three documents:
 - Creative European Programme Greening Strategy
 - Good Environmental Practice Guide for the Programme
 - Creative European Monitoring Guide for Programme Greening.

Aalto Siilo | Finland

aaltosiilo.com: Home page |

- Aalto Siilo is a practice example of partnerships with creative and cultural industries (including architects) for cultural infrastructure, programming and culture-led renewal and strategic development. Based in Oulu, Finland AaltoSiilo will be the central legacy project for Oulu, European City of Culture 2026.
- The 258 m² modernist industrial building, standing 28 metres tall, is being transformed into a versatile public space for cultural events, performances, and exhibitions in partnership with key collaborators from Finland and the rest of Europe.
- An important piece of industrial heritage, the silo reflects Aalto's architectural philosophy that has influenced generations of architects and urban planners.
- This [2024 Living Spaces peer-learning report](#) shows how Aalto Silo positions culture as a foundation for sustainable development and as a vector for a more inclusive, innovative and responsible model of urban planning.
- It considers the role of industrial heritage, culture and the creative industries in catalysing urban renewal and reanimating approaches to socio-economic development. This has implications for spatial planning, partnerships and approaches to ethical, responsible and sustainable development.
- It also considers the complexity of cultural partnerships, programming and planning.



This section signposts resources and practice examples for embedding interventions through **partnerships with urban and regional planning, development and place-making**. Anchored within place-based planning and development contexts, these examples intersect with built environment concerns including public realm, housing, transport infrastructure. They involve multi-level engagement strategies and can interact with industry sectors, supply chains, service providers and citizens. We can view them on a spectrum from low-regulatory to higher regulatory development contexts, from more flexible place-making to longer term statutory urban or regional spatial and socio-economic development planning and delivery.

NEB Prizes Platform

New European Bauhaus Prizes 2025 | New European Bauhaus Prizes

- Annual competition (NEB Prize and NEB Boost for Small Municipalities) with financial award that provides a platform for creativity, talent, and innovative ideas to the benefit of local communities and society as a whole.
- Running since 2021 – the website provides a catalogue of winners as an excellent repository of inspiring practice examples for transdisciplinary, participatory practices for green transition in built environments.

Green in Cities – Co-Created Urban Regeneration | Europe

Solutions — GreenIncities | Tools — GreenIncities

- GreenInCities aims to build a new co-creative, integrated, and collaborative approach for planning urban climate regeneration in deprived and dysfunctional areas through the development and testing of innovative co-analysis, co-designing, and co-monitoring tools and methodologies for people, technicians, and decision-makers.
- GreenInCities reimagines urban space through Nature-based Solutions (NbS) that are inclusive, multifunctional, and climate-resilient. Co-designed with citizens and experts, these interventions regenerate public space, strengthen ecological connectivity, and support both human and non-human wellbeing.
- Nature based solutions play a key role in decarbonisation.
- The GreenInCities Catalogue of Solutions, Practices and Support Systems presents an initial set of interventions, structured into four categories: solutions, practices, support systems, and integrated systems. Each entry reflects the New European Bauhaus pillars — beautiful, sustainable, and together — and provides a clear framework for comparison and replication.



- Their Toolbox provides information on the co-creation process in local interventions deployed following a series of tools, methodologies and resources divided into eight different categories.

Placemaking Europe

Placemaking Europe – Creating better cities together

- Placemaking Europe is a European network that connects practitioners, academics, community leaders, market players and policy makers across the field of placemaking.
- They develop and share knowledge; contribute to designing and testing tools; create the ground to exchange ideas; and actively advocate for better public space policies.
- Their Toolbox is a collection of curated placemaking resources for all to access, learn from, and practice.
- Their Podcasts dive into the dynamic world of placemaking and urbanism through engaging conversations with thought leaders, architects, city planners, and community innovators.

Town Centre First - Town Regeneration | Cork | Ireland

Town Centre First

- Town Centre First is a major cross-government policy that aims to tackle vacancy, combat dereliction and breathe new life into town centres. It advocates for a holistic, place-based approach to sustainable rural development. Irish towns are facing significant challenges and opportunities that require a coordinated and comprehensive response.
- It aims to create town centres that function as viable, vibrant and attractive locations for people to live, work and visit, while also functioning as the service, social, cultural and recreational hub for the local community.
- The Cork Town Regeneration Office (TRO) is responsible for mobilising Town Centre First Plans with local communities. A key legacy from HYBES will see a co-ordinated approach for climate action and decarbonisation embedded in the process which will build on the initial pathfinder. This brings together learning from the pathfinder and HYBES to evolve a living lab approach in collaboration with University College Cork and building on the HYBES model and guide.



- Their Toolbox provides information on the co-creation process in local interventions deployed following a series of tools, methodologies and resources divided into eight different categories.

New City District and Port Planning | Bodø | Norway

- The large “New City / New Airport” district in a major long-term urban development project in Bodø. There are three main actors: the military, Avinor airport and the municipality however successful implementation requires engagement with all stakeholders from the outset. Lead partners have experimented with living lab approaches through HYBES through engagement focussed on decarbonisation and pilots for using energy data to shape the future. They have also experimented with living lab approaches through other initiatives such as CityLoops.
- This Stakeholder engagement CityLab Guide was developed as part of the CityLoops initiative is a useful resource that highlights 11 steps for how municipalities can effectively engage citizens in urban planning processes, leading to more responsive urban environments. These can be adapted specific context of their cities.
- Additionally Energihub at the Port of Bodø has created master plan for the Energy Hub Port of Bodø as a roadmap that shows how the Port of Bodø, together with Fjuel, will create an energy hub that cuts emissions, streamlines operations and opens up new business opportunities.
- The port is part of Potent-X project (Ports and Energy Transition Hubs) which aims to aims to transform European maritime ports into energy hubs by establishing Living Labs across Europe.

S3 Smart Specialisation **Inforegio - About S3 Smart Specialisation**

- The Smart Specialisation Strategy (S3) is a key framework within the European Union’s Cohesion Policy aimed at promoting regional development through targeted investment in innovation and research. The S3 leverages the unique strengths and assets of each region to drive economic growth, competitiveness, and job creation.
- Smart specialisation is a place-based approach, it builds on the assets and resources available on the territory. S3s require stakeholders from the quadruple helix (public sector, research, private sector and civil society) to engage throughout the strategy-cycle. Local actors need to



support the definition, review, monitoring and implementation of S3 investment priorities.

- At the heart of the S3 is the concept of identifying and prioritizing strategic areas for innovation and investment based on a region's comparative advantages and potential for growth based on participatory processes.
- S3 supports a Community of Practice [Inforegio - S3 Thematic Platforms and Partnerships](#) and has Energy as one of Thematic Platforms [Inforegio - Energy](#)

Circular Cities Declaration Report 2024 | Bodø | Europe **[Circular Cities Declaration | CCD Report](#)**

- The CCD Report is the widest ever assessment of the circular economy practices across Europe's cities and highlights how cities are harnessing the potential of the circular economy to achieve climate goals, as well as build resilience and enable a just transition.
- 42% of signatories said city climate 42% goals are driving circular actions whilst 63% of actions target specific value chains, with built environment and food and bioeconomy most prioritised.
- The majority of reporting cities have circular economy strategies in place and are now focused on implementing these, with over 200 different actions being identified across cities in all value chains, with a key focus on food and the bioeconomy, as well as the built environment.
- The report provides a detailed overview of the strategies and actions implemented in each contributing city, key priority actions to accelerate the transition to a circularity, and chapters on how cities are measuring progress and leveraging the circular economy to regenerate nature.

EIT Urban Mobility living labs **[EIT Urban Mobility living labs report published | EIT](#)**

- Highlights living labs as a key strategic instrument within EIT Urban Mobility to boost the uptake of innovative sustainable urban mobility solutions and accelerating the transition to scale by engaging directly with the citizens and the local community, and all stakeholders in a real-life environment.
- This report illustrates the operational setup, local urban mobility strategies, as well as the goals of the main key stakeholders that have led in practice to a large variety of urban mobility living labs in Europe.