Sustainable construction guidelines for public authorities

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26/06/2020

AGENDA

- Guidelines introduction
- EU policy background
- Sustainable construction practices
- Conclusion

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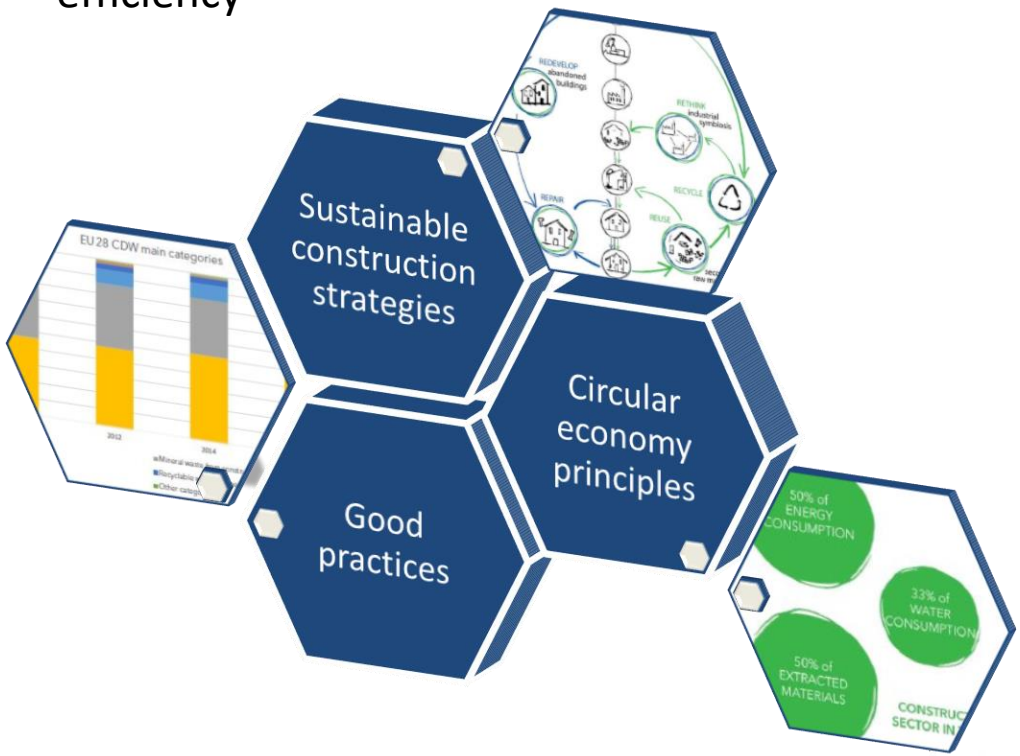
Guidelines

Target: local and regional authorities as they play a crucial role in the whole construction life cycle

Focus: circularity and material resources efficiency



Construction sector figures

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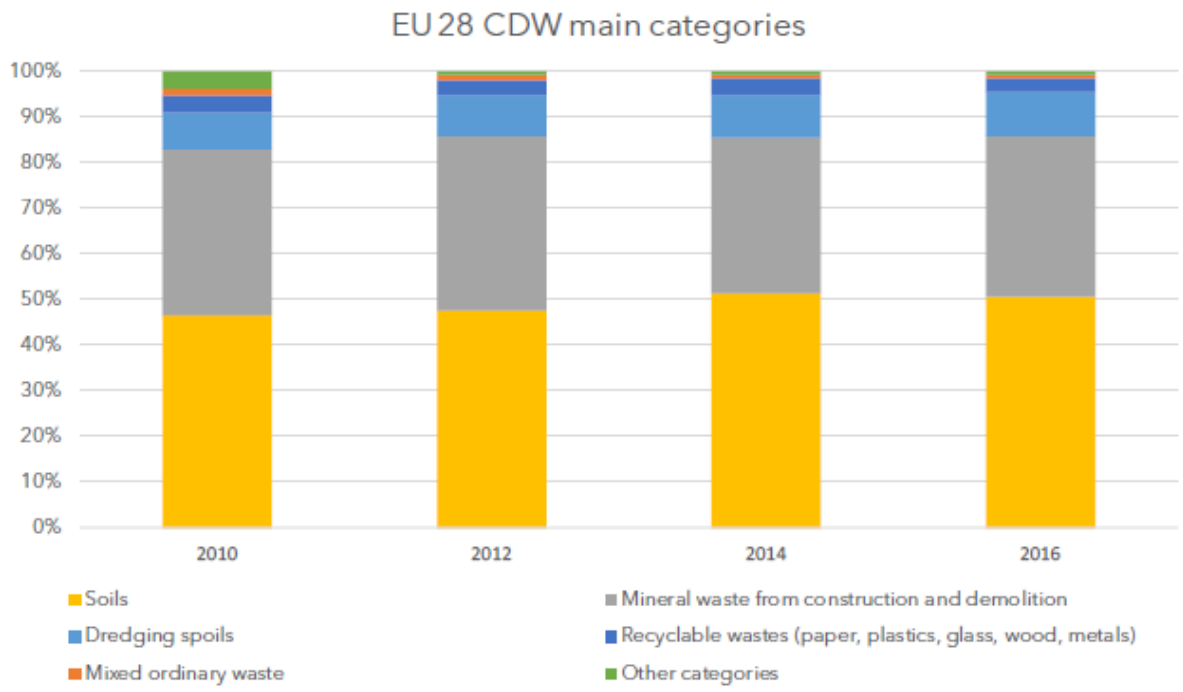
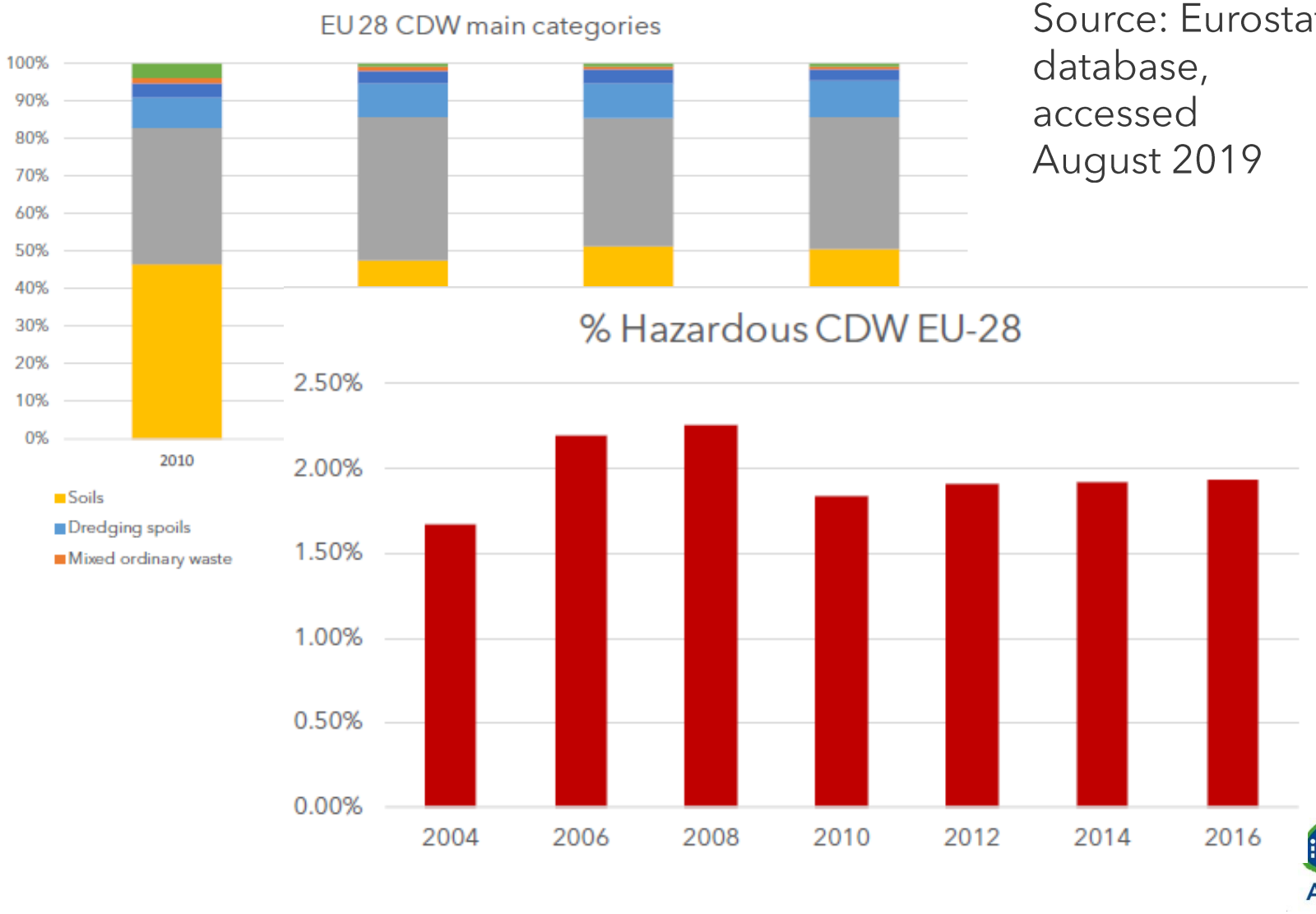
EU CDW



Source: Eurostat database, accessed August 2019

EU CDW



Source: Eurostat database, accessed August 2019

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EU policy background

Green Deal

- The construction sector plays an important role - **renovation wave** for the building sector in 2020

Circular Economy Action Plan

- Strategy for a Sustainable Built Environment in 2021

Recovery plan

- Renovation wave, is seen as an opportunity for job-creation

Climate law

- EU carbon neutrality by 2050

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EU initiatives

2011	• Roadmap to a Resource Efficient Europe (COM/2011/0571)
2012	• Strategy for the sustainable competitiveness of the construction sector and its enterprises
2014	• Resource Efficiency Opportunities in the Building Sector (COM/2014/0445)
2017	• Resource Efficient Use of Mixed Wastes - Improving management of construction and demolition waste
2018	• EU Construction and Demolition Waste Protocol and Guidelines
2018	• Guidelines for the waste audits before demolition and renovation works of buildings
2019	• LEVEL(S) - Taking action on the TOTAL impact of the construction sector

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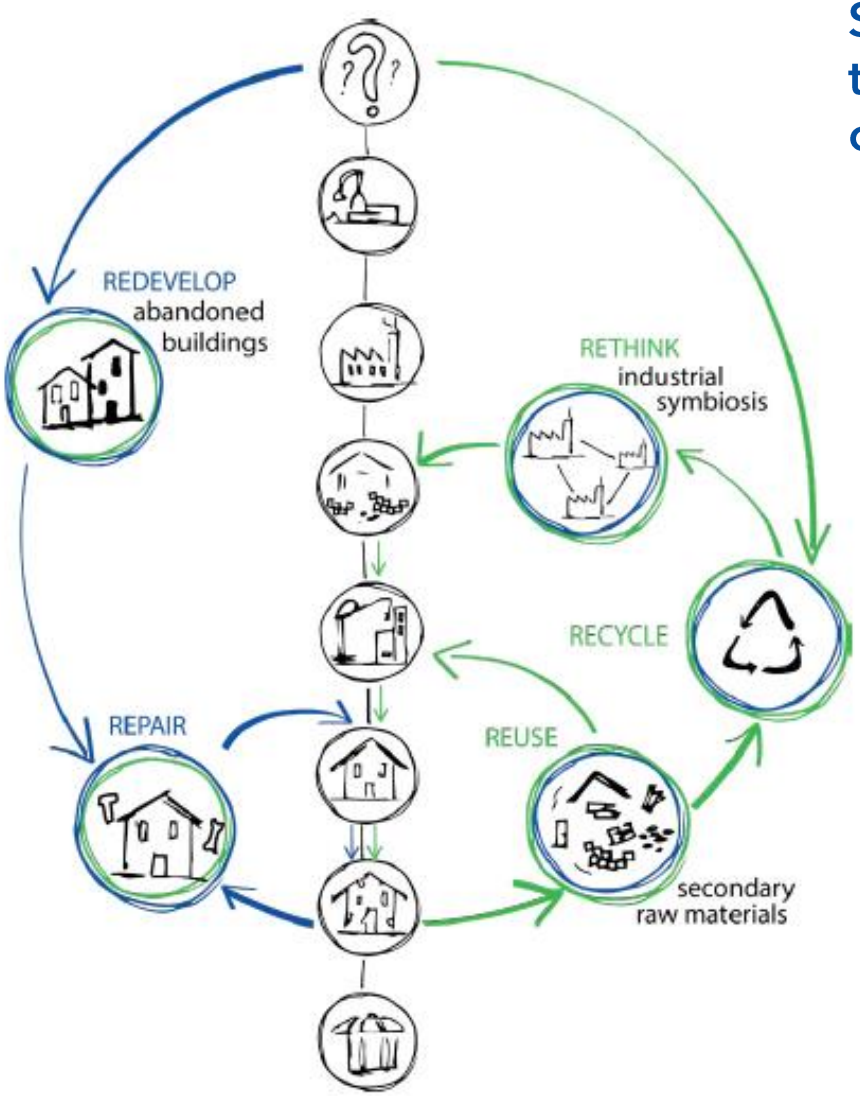
Sustainable construction: what does it mean?



Sustainable construction principles in the perspective of a circular economy

Resource preservation

Territorial hierarchy

Shared governance

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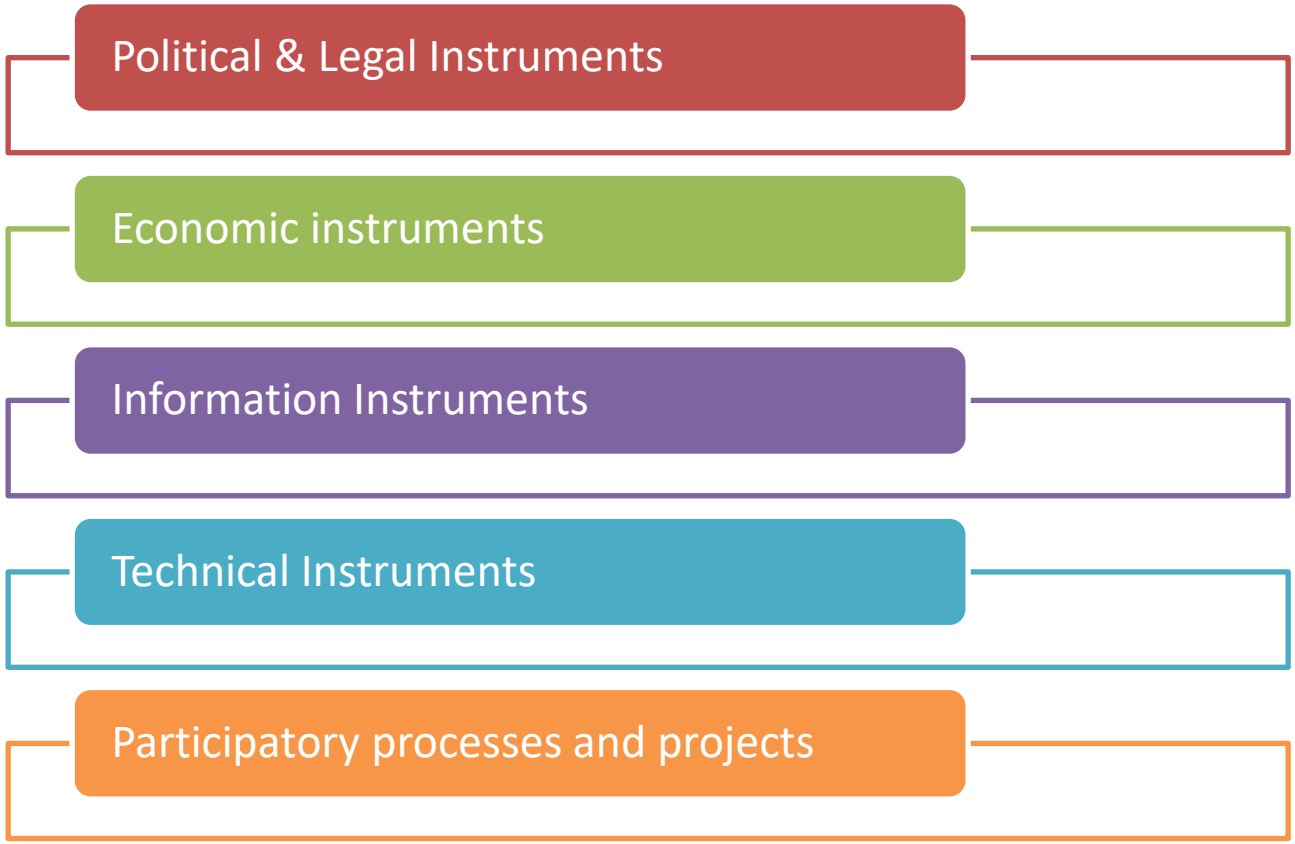
Instruments to design strategies



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Cross-cutting themes

Guidelines layout – good practice boxes

Material Passports in the BAMB project

Theme: Research & Innovation

Type of instrument: EU funded project

Funded by: H2020 programme

Implemented by: BAMB Consortium

The BAMB (Building as **material bank**) project brought together 16 partners from eight European countries, and from different places in the value chain, for one mission - to move the building industry towards a circular economy. BAMB developed and integrated tools to enable the shift to a circular building sector, supported by business models, policy propositions and a management and decision-making model. BAMB created ways to increase the value of building materials. Dynamically and flexibly designed buildings can be incorporated into a circular economy - where materials in buildings sustain their value, that will lead to waste reduction and the use of fewer virgin resources. The electronic **Materials Passports** developed in BAMB are sets of data describing defined characteristics of materials in products that give them value for recovery and reuse. BAMB Materials Passports aim to:

- Increase the value or keep the value of materials, products and components over time;
- Create incentives for suppliers to produce healthy, sustainable and circular materials/building products;
- Support materials choices in Reversible Building Design projects;
- Make it easier for developers, managers and renovators to choose healthy, sustainable and circular building materials;
- Facilitate reversed logistics and take back of products, materials and components.

Voluntary measures, such as performance labels and guarantees for products and services can also be developed to address barriers, such as the mistrust in recycled construction products. Voluntary agreements and commitments can also be used to boost eco-innovation. In the Netherlands, the Dutch government opted for the Green Deal approach to stimulate sustainable innovation. A Green Deal is an innovative model of a public-private partnership that unites a coalition of companies, civil society organisations, and the territorial government in a mutual agreement or covenant under private law.

Product-service systems (PSS) are business models that provide an integrated mix of products and services. Together, they will fulfil a particular customer demand based on innovative interactions between stakeholders of the value production system, where, in a sustainability context, the economic and competitive interest of the providers will lean towards continuously more environmentally-beneficial solutions.

In certain cases, the PSS will be more **product-oriented**. Customers own the product and services are provided to ensure product performance over a certain period of time – such as with warranties and maintenance contracts. However, in other cases, the service provider retains ownership rights related to the product. The customer can then purchase the use of this product over a specified period of time. This **use-oriented** form of PSS applies to renting, leasing, and sharing. But there is also a **result-oriented** approach, whereby customers purchase the outcome, the result of service provision, specified in terms of performance. A well-known example of this is the case of a company offering customers to pay for light instead of buying light bulbs and paying the energy bill. In this scenario, the service provider has a very strong incentive to maintain the energy bill as low as possible, by installing highly efficient light bulbs. This was, for example, implemented in the National Union of Student houses in London and in the Shiphol airport (Amsterdam). This form of PSS is exactly what circular procurement promotes: innovative performance or usage-based business models, focused on access to services and products, rather than ownership.

A low carbon, circular economy approach to concrete procurement in the City of Zurich (Switzerland)

Theme: Procurement & market development

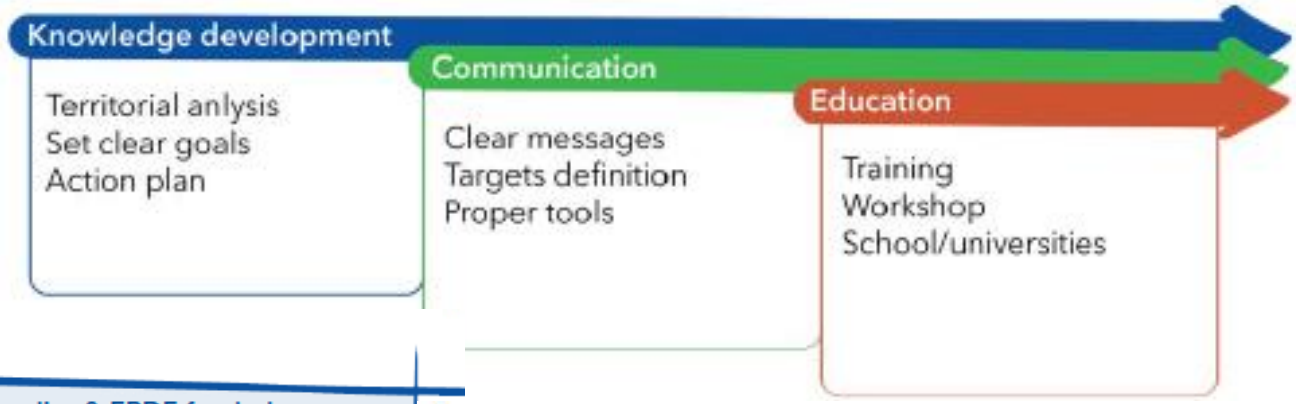
Type of instrument: Local authority green public procurement

Funded by: City of Zurich

The local authority set out a **mandatory use of recycled concrete for public building** in 2005. The requirement refers to SN EN 206:2013 and SIA 2030 standards. This means that concrete products must contain at least 25% recycled aggregates in total mass. Furthermore, the local authority includes in the tender specifications that recycled concrete should reach the RC-C quality as a minimum, (concrete with 50% virgin and 50% recycled aggregates). However, RC-M concrete (concrete with 50% virgin and 50% recycled aggregates) is preferred, where technical feasible. These requirements have been allowing the development of a local market for CDW materials. This case is included as a best practice in the Circular Europe Network (CEN).

Knowledge development, communication and education

Knowledge development, communication and education



Brussels territorial studies & ERDF-funded BBSM project (Belgium)

Theme: Knowledge development and communication

Type of instrument: Study/analysis and ERDF-funded project

Funded by: Brussels Capital Region and European regional development funds (2014-2020 ERDF)

Implemented by: Brussels Capital Region, BBSM consortium

The COLLECTORS project

COLLECTORS
WASTE COLLECTION SYSTEMS ASSESSED AND GOOD PRACTICES IDENTIFIED

Theme: Knowledge development and communication

Type of instrument: EU funded project

Funded by: H2020 programme

Implemented by: COLLECTORS Consortium

Amsterdam City Circle Scan and circular construction impact study (The Netherlands)

Theme: Knowledge development and communication

Type of instrument: Action Agenda and Studies

Funded by: Municipality of Amsterdam

Implemented by: Municipality of Amsterdam

The URBANWINS project

URBAN WINS

Theme: Knowledge development and communication

Type of instrument: EU funded project

Funded by: H2020 programme

Implemented by: URBANWINS Consortium

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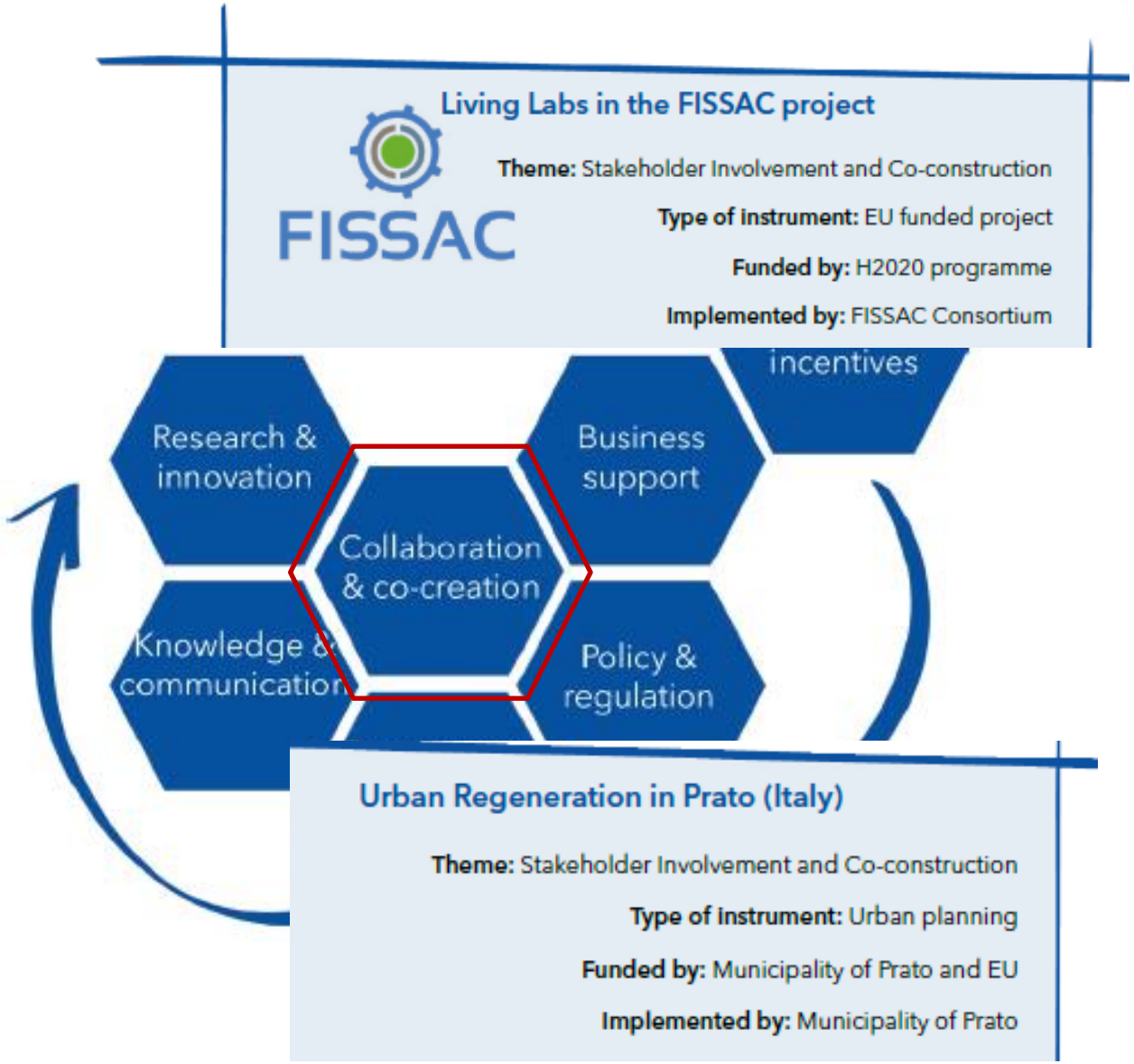
Collaboration & co-creation

Co-construction is key, both with external stakeholders but also within the **internal layers and services of public administrations**



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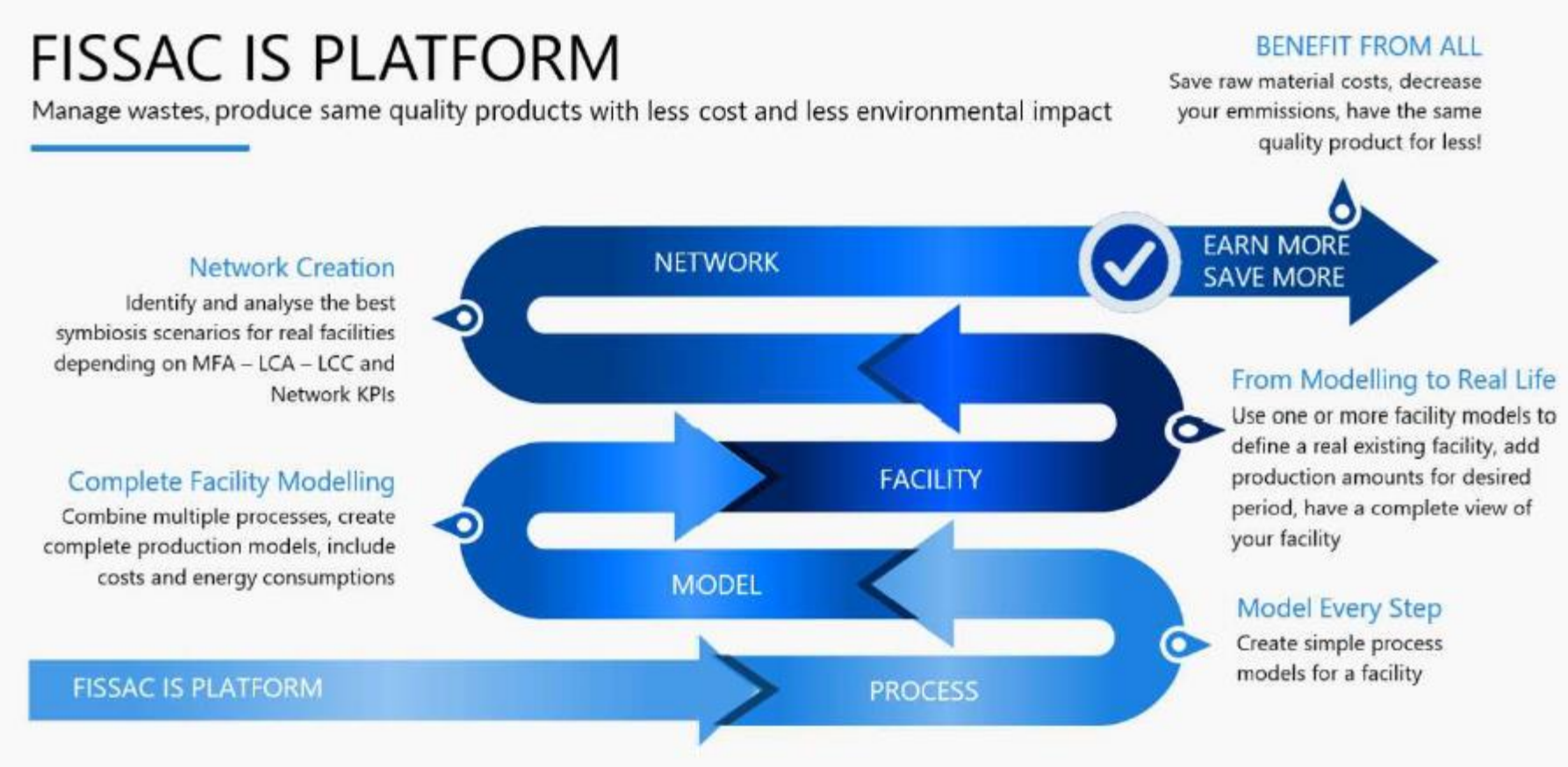
FISSAC industrial symbiosis platform



[Webinar](http://platform.fissacproject.eu/)
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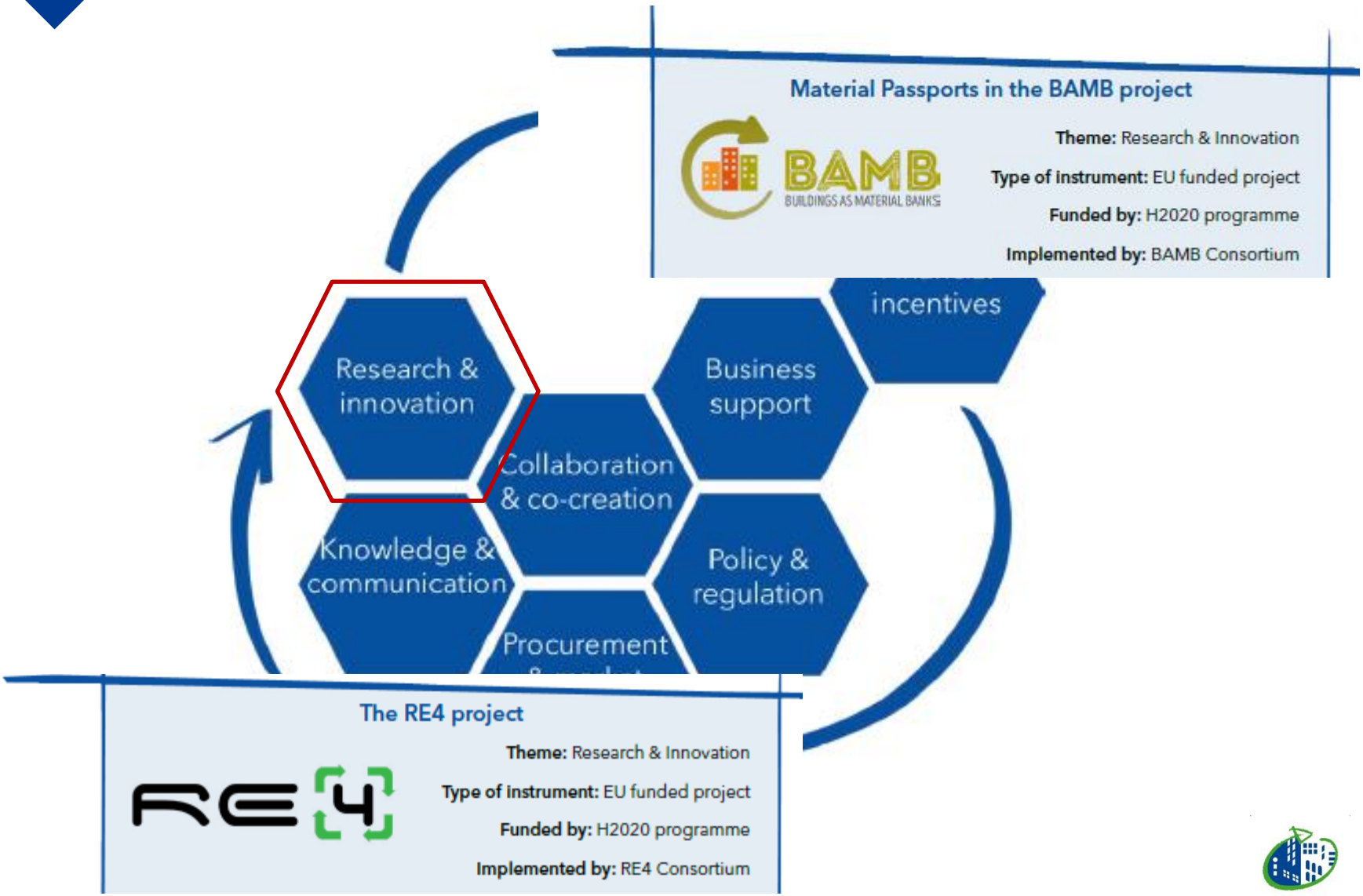
Research & innovation



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Business support

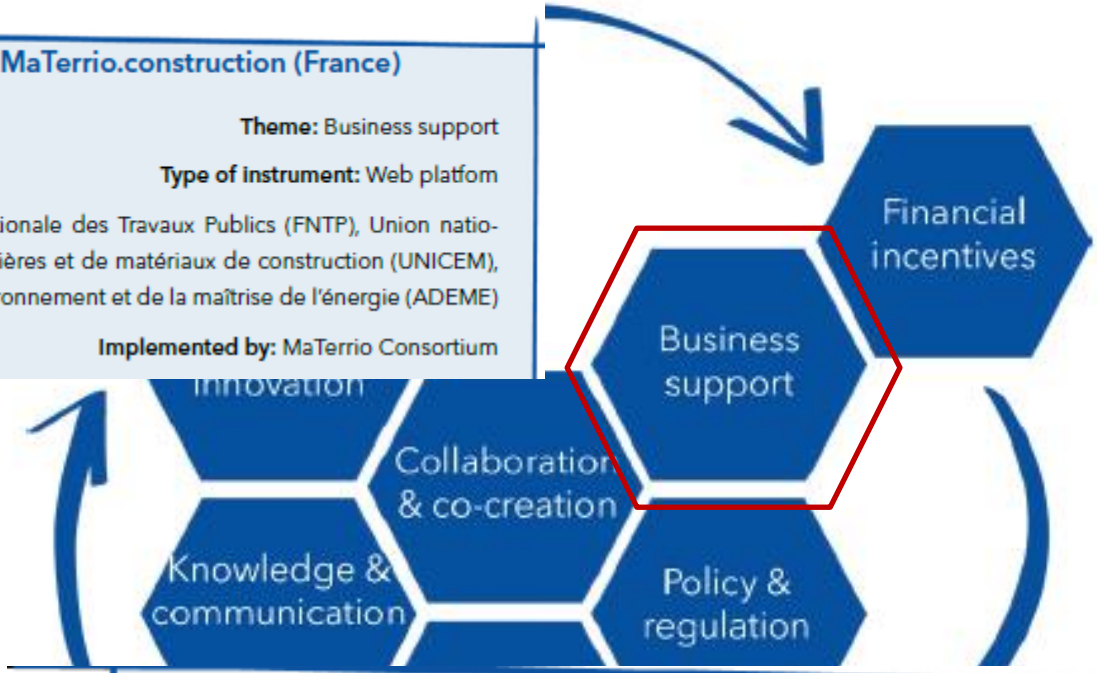
Web Platform MaTerrio.construction (France)

Theme: Business support

Type of instrument: Web platfom

Funded by: Fédération Nationale des Travaux Publics (FNTP), Union nationale des industries des carrières et de matériaux de construction (UNICEM), Agence de l'environnement et de la maîtrise de l'énergie (ADEME)

Implemented by: MaTerrio Consortium



Circular Glasgow (United Kingdom)

Theme: Business support

Type of Instrument: Network

Funded by: Glasgow Chamber of Commerce

Implemented by: Glasgow Chamber of Commerce

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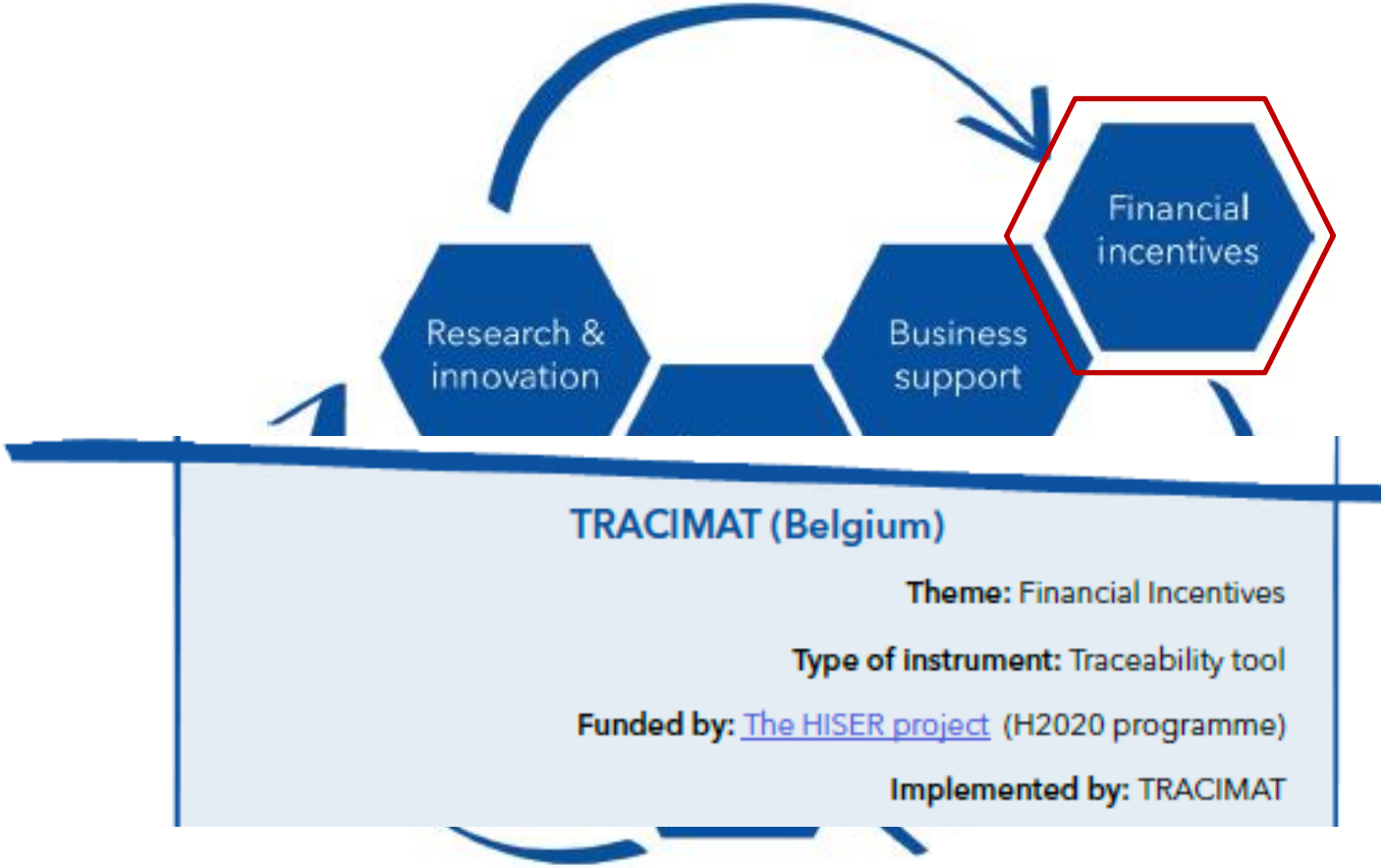
Financial incentives



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Policy & Regulation

PRECAT 20 - Catalonia government's program for prevention, waste and resource management (Spain)

Theme: Policy and Regulation

Type of instrument: Regional programme

Funded by: Generalitat de Catalunya

Legislation on CDW management in the Basque Country (Spain)

Theme: Policy and Regulation

Type of instrument: Regional Order

France: pre-audits compulsory on demolition sites

Law 2009-967 of 3 August 2009, known as "Grenelle I" law, and Law 2010-788

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Procurement & market development

A low carbon, circular economy approach to concrete procurement in the City of Zurich (Switzerland)

Theme: Procurement & market development

Type of instrument: Local authority green public procurement

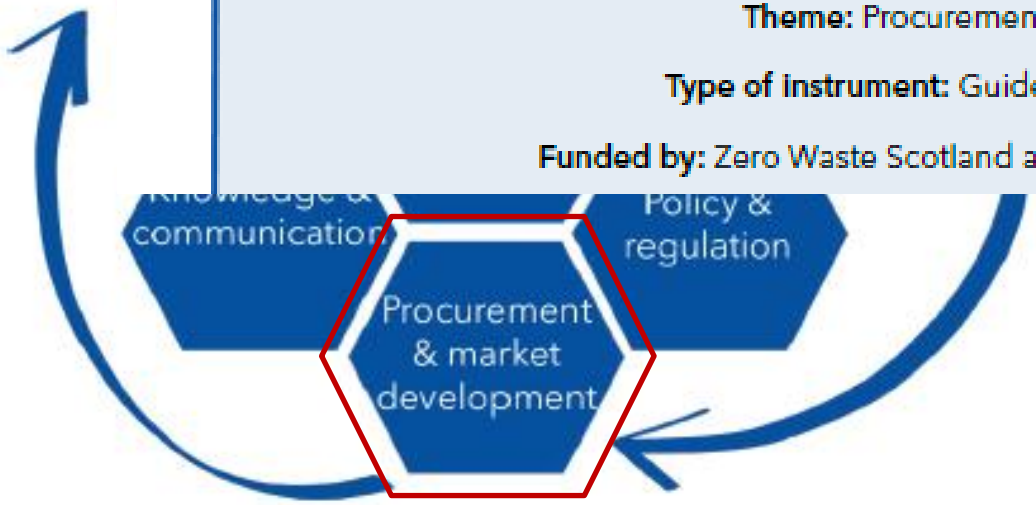
Funded by: City of Zurich

Construction Sustainable Procurement Guidance (United Kingdom)

Theme: Procurement & market development

Type of instrument: Guide on public procurement

Funded by: Zero Waste Scotland and Scottish Government



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Conclusion

- A strong political commitment, with clear goals, is an effective starting point to set up a strategy
- Various cross-cutting elements should be put in the focus, considering the local priorities
- Circular economy models and principles have an enormous potential to design proper action plans striving for material resource efficiency.
- Renovation wave is a great challenge and opportunity

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FISSAC
Fostering Industrial Symbiosis for a Sustainable Resource Intensive Industry across the extended Construction Value Chain

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