Trend paper

From construction to built environment policies

This paper is a contribution to the development of an EU Strategy for a Sustainable Built Environment. It was developed for the European Commission’s unit “Circular economy and Construction” in the Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, and was finalised by Ioannis Giannelos and Simone Snoeijenbos of Ecorys in December 2019. If you have any questions, please write to GROW-INVEST-INNOVATE@ec.europa.eu.

Objective of this research paper

This research paper looks at the development of EU MS, industry and international organisations perception on the relation between construction and broader urban and built environment policies and in some cases, on the transition from one to the other. Specifically, it presents evidence from European and international experience for the need towards more integrated policy making for the built environment, encompassing construction policies.

Setting the scene:
The construction sector and the built environment – two parallel universes?
The construction sector plays a strong role in the economy and society. It contributes an estimated 9 per cent of the EU’s GDP and provides at least 18
million direct jobs. Furthermore, it is serving other industries by providing constructed assets and thereby improving — or hindering — their productivity. Firms do derive their competitive edge from being able to use modern infrastructure.

The **built environment, in turn, is the backbone of a functioning society.** The built environment encompasses everything people live in and around — be it housing, transport infrastructure, services networks or public spaces. The design, set-up and functioning of these built assets greatly influence the quality of life of citizens and society depends on goods infrastructure to ensure equal opportunities and equal access to services for citizens. While traditionally the term ‘built environment’ referred to places created or modified by people to serve their needs of accommodation, organisation and representation, it has since evolved to a wider concept including attributes linked to physical health or mental health (through accessibility, bikeability and walkability). It has also gone beyond describing the **places** and their **attributes** to a more holistic description of the process involved in building the environment. This includes the process of working with land, planning and designing its use, managing existing structures and final stages of demolition and recycling.

Despite their interrelatedness, the role of the construction value chain in the built environment has not been at the forefront, with focus being more on compliance with technical aspects than contribution to the creative process of building more liveable spaces. Despite its strong role in the economy and society, the **construction sector has been recovering** in different pace\(^1\) in the 27 EU MS since the financial crisis. It has struggled with its own productivity, being slow on the uptake of new technologies and on attracting and developing its human capital. There are however, tools that could assist the industry in living up to its potential and in improving its productivity and efficiency — such as the increase in digitalisation of its processes, the use of new technologies and the adoption of innovative construction techniques.

As it steps into its full potential, the construction sector can also play a larger role in the development of a better-quality built environment. The **construction industry has the opportunity to transition** towards being a more active player embracing the global trend of recognising the importance of the built environment on human quality — and policy makers have taken note.\(^4\)

**Increasing overlap of built environment and construction sector policies**

The world has been increasingly aware over the past decades, of the role buildings and infrastructure have in human lives. While the recognition of

\(^1\) Internal Market, Industry, Entrepreneurship and SMEs – Construction Sector, at: 

\(^2\) Real Estate and Built Environment Life Cycle Stages — REBE Factsheet 2016, at: 
[https://www.enhr.net/documents/REBE%20factsheet%202016.pdf](https://www.enhr.net/documents/REBE%20factsheet%202016.pdf)

\(^3\) Country fact sheets for all EU MS are available at [https://ec.europa.eu/growth/sectors/construction/observatory_en](https://ec.europa.eu/growth/sectors/construction/observatory_en)

\(^4\) For example, the 2016 Farmer Review of the UK Construction Labour Model was a report commissioned by the British government to identify failings of the current construction sector and draft recommendations. It noted that the construction sector is. It is often seen as a ‘necessary evil’ in the value creation chain and noted that the sector needs to improve its standing as part of the wider built environment planning, creation and operation cycle. See: 
the importance of the built environment is not a new development in policy fields, its linkage to construction policy has been a more recent trend. In this context, the approach of international organisations with regard to the link between the construction sector and the built environment has been made increasingly more explicit.

Traditionally, construction policies have focused on industry, value chains, building processes, and materials. The scope has largely been the sector’s performance and regulations and at most, improving its competitiveness and productivity. Often the focus is a step of the lifecycle of the asset, the actual construction, with less importance given to operation or recycling and less notion of the broad construction sector (according to NACE F). Built environment policies, on the other hand focus on public space and its users as well as quality of the built environment at the level of districts/areas. We see that these are increasingly merging in a number of ways.

The OECD made the link between cities, good governance and urban development explicit in the early 2000s. Its publication “Shaping the Urban Environment in the 21st Century”, recognised that cities hold the potential for providing healthy and safe living environments and that good urban governance can ensure that investments made in construction match the priorities of citizens and businesses, which requires transparent and participatory processes. This already provided a recognition that government and the construction sector can cooperate to develop better living environments.

Continuing through the 2000s, the OECD created the Sustainable Building Project, aimed at assisting its member countries to develop policies to reduce the environmental impacts of the construction sector. While this incorporated sustainability principles into the construction policy field, it still very much focussed on managing levels of emissions and waste. Over time, sustainability became increasingly interwoven in the link between cities and building, integrating urban planning and construction principles.

Moving forward to the OECD Principles on Urban Policy of 2019, this document consolidated the lessons from the past 20+ years of work on cities to guide policymakers in building smart, sustainable and inclusive cities. Principles include avoiding fragmented governance by promoting synergies across resources and capacities. It underlines the importance of setting a clear vision for one integrated national policy addressing the impact of globalisation, urbanisation, ageing, migration, population growth and decline, the production revolution, digitalisation, climate change, and other transformative trends on cities. This also applies to governance structures – in which it is important to coordinate responsibilities and resources across levels of government to meet urban needs and objectives. Under this integrated approach, the principles also call for the inclusion of the private sector, calling for policies that harness the potential of the private sector to...
bolster technological, social, public sector and civic innovation, including through a smart city approach.

UN-Habitat has developed a holistic and global approach towards urbanization that embraces much more than just technical considerations. Beyond its traditional core areas — such as city planning, infrastructure development, and participatory slum upgrading — UN-Habitat, today, also focuses on urban legislation and risk management, as well as gender, youth and capacity building for all actors involved in the urbanisation process.

UN Habitat’s 2016 Guidelines for Developing Eco-Efficient and Socially Inclusive Infrastructure brings built environment concepts back to infrastructure policies. It calls for an urgent shift in the way urban infrastructure is planned, designed and managed. It sets forth guidelines for policy makers in the planning, designing and managing of urban infrastructure with a central message is an integrated approach, considering principles and criteria of eco-efficiency and social inclusiveness.

The World Economic Forum report, Shaping the Future of Construction (2016) is the first publication of a multi-year project guiding and supporting the current transformation of the engineering and construction industry. The publication recognises the construction industry’s potential for positively influencing society, the barriers it currently faces to be able to do so and puts forward an industry transformation framework, with good practices and measure both for the private as well as the public sector.

The focus of the transformations in construction policies are on achieving benefits for the wider society through the reduction of costs and social impacts and for the environment by improving the use of resources. The benefits also spill into the economy, by boosting economic development in general. The framework set out by the WEF puts the government’s role in this transition as both a regulator as well as a project owner. One of the issues identified is that, despite the economic significance of the construction sector, R&D investments in it is surprisingly small. In terms of policy, governments are recommended to create a more fertile environment for developing technological innovations by providing appropriate support to companies and academia in construction.

The construction industry’s call for change
Construction stakeholders have been calling upon the European Commission to strengthen the current construction policy context by creating a new vision for the built environment. The way of working of the construction sector can be optimised, thereby improving both the quality of life of citizens and the assets available for other industries.

The FIEC Manifesto of 2014-2019 already identified some major channels through which this vision of the built environment could come to fruition. It includes points touching on widening the scope of the policies affecting construction to incorporate elements more commonly approached through the broader built environment focus. The FIEC manifesto also goes beyond the traditional scope of construction and includes Smart Cities as one of its main points – calling for the development of a framework for standardisation to promote effective solutions.
In a common position paper *Construction 2050: Building tomorrow’s Europe today*, a series of construction stakeholders\(^5\) came together to reflect on the future challenges facing the European construction sector. Specifically, the challenge to fully integrate the construction sector in the urban dimension in the context of smart urban development and management is considered as an enabler for improving mobility of goods and people and affordability of housing. The paper calls the European Commission to build upon the results of the Construction 2020 initiative and further strengthen the current policy context by creating a new vision for the built environment. The proposal calls, amongst others, for the development of a single political responsibility within the European Commission for the built environment ensuring the coordinated involvement of all relevant Directorate Generals in future construction policy initiatives.

**Blending construction and built environment policy approaches**

A number of existing and developing policy frameworks that “adopt” the construction sector into a wider built environment focus have been identified. This is reflected in the increasing importance of built environment elements in national and international policies related to construction. Four broad approaches have been identified in international, national and industry-led policies that blend the approaches to the built environment and the construction sector.

Firstly, we have seen strategic policies or development plans for the construction sector that *address construction service needs but also its potential to have an impact on society* and specifically, on people’s wellbeing. These plans attempt to place construction in a longer-term vision, rather than merely as a sector that requires specific support for its own productivity.

The UK Construction Sector Deal of 2018, for example, recognises that the construction sector has an important role to play in both strengthening the foundations of the economy as well as in *achieving the Grand Challenges* of participating in the global shift to clean growth, becoming a world leader in the future of mobility; and *meeting the needs of an ageing society*.

Secondly, we see that policies are more often *integrating construction sector into processes involved in developing the built environment*, for example, at the earlier stages of spatial and urban planning, or by examining construction not only at a national level but also at regional and local level.

We see this in the OECD’s 2019 *Principles on Urban Planning*, which call for a national and multi-level urban policy approach and also highlights the importance of aligning sectoral policies across urban planning and construction. Another illustration is the Irish Construction 2020 policy, which was developed by the Department of Housing, Planning and Local government, also responsible for the built environment.

Thirdly, we see policies that also reflect a *horizontal merging across government structures*. This is seen in aiming for more cross-sectoral collaboration, tying construction closer to the topic of quality of life or

---

\(^5\) Stakeholders signing the position paper: FIEC, EBC, EFBWW, CECE, UIPI, EURIMA, Build Europe, RICS, CEMBUREAU, GCP EUROPE, EDA, ECCE, ECCS, EAPA, European Concrete Platform, EU PAVE and EFCA
societal development. Rather than seeing construction as a specific and separate industry, its strategic value in delivering changes in the quality of life is brought about by treating it as nearly a synonymous to the built environment.

UN Habitat’s 2016 Guidelines for Developing Eco-Efficient and Socially Inclusive Infrastructure brings built environment concepts back to infrastructure policies, calling for an urgent shift in the way urban infrastructure is planned, designed and managed. The guidelines call for change among local governments and other actors in the field of urban development in the planning, designing and managing of urban infrastructure. The goal is to encourage an integrated approach.

In a more concrete example, the Dutch Ministry of Infrastructure and Water Management (Rijkswaterstaat) reflects this blending of concepts in its mission statement, “the Ministry of Infrastructure and Water Management is committed to improving quality of life, access and mobility in a clean, safe and sustainable environment.”

Finally, we see that to empower the construction sector to take on a larger role in the built environment the appropriate tools are required. Efforts into modernising and promoting innovation in the construction sector, traditionally expressed as ways to improve its productivity, are increasingly being framed as ways to harness the sector’s ability to improve quality of life. This include R&D policies for the construction sector that put people’s well-being at the forefront, e.g. on materials that are not only more durable or cheaper but also improve indoor air quality. Innovation in construction can refer to innovative materials, robotics and 3D printing but also improved architecture and design.

The proposal for the European co-programmed Partnership Built4People under Horizon Europe brings together stakeholders from construction and building management. It will provide a cross-cluster structure, bringing together public and private sectors to create research and innovation pathways for sustainability and better living.

The International Business Machines Corporation (IBM), an information technology company, has been pushing for a transformation through digitisation and smart solutions. Its 2016 White Paper espouses the role of technology in confronting the pressures faced by the organisation responsible for the construction of the built environment—the Engineering, Construction and Operations sector. The advantages of digitising the built environment are set to be better economic performance, improved social outcomes and reduced environmental impact.

From the public sector, this also comes through in innovative methods and procurement. Regarding methods, there have been repeated call for more use of a Life Cycle Approach. For example, LCA was named as an important part of the focus area sustainable building in the Danish government’s

---

building policy strategy from 2014. In addition to direct R&D funding and calls for new methodologies, one of the best ways the government can allow the construction sector to innovate is through innovative procurement processes that provide more flexibility and encourage innovative solutions. This has been supported in some cases by the industry itself. For example, RAKLI, the Finnish Association of Building Owners and Construction Clients, has set up a ‘procurement clinic’ which uses open, interactive workshops to facilitate market dialogue between potential service providers, consultants, contractors and investors.

To summarise, the approaches in blending construction and built environment policies can be distinguished by these four broader criteria:

**C1. Policies with long-term strategic visions and specific goals that address construction service needs**, keeping at the forefront the complex issues of construction, which cut across multiple stakeholders, sectors and interests and have a long-term impact on society and citizen’s wellbeing.

**C2. Policies integrating construction elements into general spatial and urban planning**, coordinating between the construction industry and spatial planning processes. Likewise, policies coordinating across different levels of government, bringing together national planning and regional development down to the construction implementation level.

**C3. Policies or government structures that show cross-sectoral merging of construction with the topics of quality of life or societal development.** This can include government structure cooperating on construction and inclusion or inclusive consultation processes with local communities for construction projects.

**C4. Policies explicitly targeting the modernisation and innovation of the construction sector** and its ability to improve quality of life. This include R&D policies for the construction sector that put people’s well-being at the forefront, e.g. on materials that are not only more durable or cheaper but also improve indoor air quality.

Table 1 at the end of the papers presents international, national and private sector examples of policies were these approaches can be exhibited.

What’s next: how can the Commission incorporate this trend in a future Strategy?
Below, a few recommendations towards the Commission are provided in order to update the approach to construction sector policies considering the international trend of increasing integration with built environment elements.

- Strengthen dialogue between the European Commission and international organisation such as UN Habitat or the OECD to ensure exchange of information on good practices and trends flows between partners. Although, the Commission is already in dialogue with these international organisations, it needs to be ensured that this covers all
relevant built environment aspects bringing together in a structured way inputs from all relevant policy areas.

- Create a forum for policy dialogue between the private sector, civil society stakeholders and EU and Member States policy makers, focusing on the integration of construction and other sectoral policies within a broader spectrum addressing a holistic vision for the built environment. This could be in the context of an EU wide Strategy for Sustainable Built Environment to succeed the Construction 2020 Strategy.

- When it comes to R&I, partnerships and calls under Horizon Europe could reinforce such dialogue, as well as the exchange between policy and R&I for the decade to come. Research on innovative and technological solutions for the construction sector could also be supported.

- Continue building awareness with the public and private sector on how the construction industry can contribute to achieving broader policy goals for the built environment, such as further incorporation of the Life Cycle Approach in the industry.

- Continue supporting the digitalisation of the construction sector with the focus transitioning from increasing the efficiency and productivity of the sector to also achieving a better living and working environment for EU citizens.

- Improve knowledge sharing amongst public authorities of all levels on how innovation can be harvested to improve the quality of life and how this can be promoted through innovative procurement. A study on good practices from public and private sector procurement can support this action.

- Identify possible channels of cooperation with stakeholders on an EU Member State level, going beyond national associations and national authorities. The discussion should include key industrial leaders from adjacent sectors, civil society and municipalities. Identifying said stakeholders is an exercise that will need to be carried out, along with the research into how these would be successfully engaged.

- Identify linkages between the Construction 2020 agenda and other Commission initiatives targeting the built and urban environment and align the policy approach. For example, examining the actions and recommendations developed by the Urban Agenda Partnerships (e.g. Partnerships on Digital Transition, Circular Economy and Urban Mobility) and consider the potential implications for construction policy and the role of the construction sector to achieving them.
<table>
<thead>
<tr>
<th>International reflections</th>
<th>National policies</th>
<th>Industry-led initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>• C1. Policies with long-term strategic visions and specific goals that address construction service needs, keeping at the forefront the complex issues of construction, which cut across multiple stakeholders, sectors and interests and have a long-term impact on society and citizen’s wellbeing.</td>
<td>- The UK Construction Sector Deal (2018) recognises that the construction sector has an important role to play in achieving the vision set out in our Industrial Strategy: strengthening the foundations of our economy and achieving the great challenges of maximising the advantages from the global shift to clean growth; becoming a world leader in the future of mobility; and meeting the needs of an ageing society.</td>
<td>- Construction stakeholders call upon the European Commission to strengthen the current construction policy context by creating a new vision for the built environment: “Construction 2050: Building tomorrow’s Europe today” builds on principles such as a holistic approach towards policy making.</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>International reflections</th>
<th>National policies</th>
<th>Industry-led initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>environment, seeing the construction industry and the built environment as interlocked.</td>
<td>- The OECD’s 2019 Principles on Urban Planning call for a national and multi-level urban policy approach that sets incentives to align and integrate sectoral policies to jointly promote development and well-being in cities. - The Irish Construction 2020 policy has been developed by the Department of Housing, Planning and Local government which is also responsible for the built environment. - The Estonian Planning Act (Planeerimisseadus) sets out the principles and requirements for planning, so as to achieve long-term sustainable and balanced spatial development, land use, and built environment. Importantly, planning principles are defined at the national, regional and local government levels.</td>
</tr>
<tr>
<td>C2. Vertical policies integrating construction elements into general spatial and urban planning, coordinating between the construction industry and spatial planning processes. Likewise, policies coordinating across different levels of government, bringing together national planning and regional implementing down to construction.</td>
<td>- UN Habitat’s 2016 Guidelines for Developing Eco-Efficient and Socially Inclusive Infrastructure brings built environment concepts back to infrastructure policies, calling for an</td>
<td>- The Dutch Ministry of Infrastructure and Water Management puts quality of life central to its mission: “the Ministry of Infrastructure and Water Management is committed to</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- FIEC’s 2019-2024 Manifesto calls for further integration of construction into other relevant EU programmes as well as coherence with other existing policies and legislation.</td>
</tr>
<tr>
<td>C3. Horizontal policies or government structures that show cross-sectoral merging of construction with the topics of quality of life or societal</td>
<td>- The Dutch Ministry of Infrastructure and Water Management puts quality of life central to its mission: “the Ministry of Infrastructure and Water Management is committed to</td>
<td>- FIEC’s 2019-2024 Manifesto calls for further integration of construction into other relevant EU programmes as well as coherence with other existing policies and legislation.</td>
</tr>
</tbody>
</table>
International reflections | National policies | Industry-led initiatives
--- | --- | ---
This can include government structure cooperating on construction and inclusion or inclusive consultation processes with local communities for construction projects. urgent shift in the way urban infrastructure is planned, designed and managed. It sets forth guidelines for policy makers in the planning, designing and managing of urban infrastructure with a central message is an integrated approach, considering principles and criteria of eco-efficiency and social inclusiveness. improving quality of life, access and mobility in a clean, safe and sustainable environment.” The structure of the ministry reflects the thorough integration of construction and built environment principles. It contains a Directorate General for the Environment and International Affairs, responsible for policy development in the fields of a clean, safe, healthy and sustainable human environment. Similarly, the Directorate General for Mobility in the Ministry of Infrastructure is responsible for policy development in the fields of roads and public transport but also mobility and accessibility in general.
- The revised National Planning Policy Framework (2019) sets out government’s planning policies for England. It dismantled the regional planning apparatus and introduces neighbourhood planning in order to - The World Built Environment Forum (WBEF) launched by RICS, aims to build and manage the core elements of the global society’s daily interaction with the world, from the homes they live in, their places of work, to the places they play and the infrastructure that underpins it all. The WBEF brings together all those working at a global, regional and local level to debate, discuss, share ideas and innovate to ensure that we are creating sustainable places for all to live, work and play. The WBEF is for all built and natural environment professionals and for those working with or alongside the profession who are bringing about real change in the way that we finance, create and manage places.

---

10 https://www.rics.org/es/wbef/
<table>
<thead>
<tr>
<th>International reflections</th>
<th>National policies</th>
<th>Industry-led initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>create ‘... a framework within which local people and their accountable councils can produce their own distinctive local and neighbourhood plans, which reflect the needs and priorities of their communities.’ The framework states that the purpose of planning is to help achieve sustainable development. It defines three mutually dependent dimensions to sustainable development: economic, social, environmental.</td>
<td>- The inclusion of innovation as a policy objective in public procurement has increased significantly at public organizations over the last years. RAKLI Procurement Clinic aims at facilitating dialogue between procurers and industry, which is often seen as a key factor in implementing successful public procurement schemes. RAKLI, the Finnish Association of Building Owners and Construction Clients, has set up the so called ‘procurement clinic’ which uses open, interactive workshops to facilitate market dialogue between</td>
<td>The proposal for a co-programmed European Partnership on the Built Environment proposes a holistic approach that recognises construction as being at the crossroads of different economic sectors and essential to all human daily activities. This includes the three pillars of Horizon Europe, including (i) developing and applying innovative techniques to better preserve European cultural heritage; (ii) integrating different technologies, increase construction productivity and provide higher value with fewer resources; (iii) integrate energy</td>
</tr>
</tbody>
</table>

- **C4. Policies explicitly targeting the modernisation and innovation of the construction sector** and its ability to improve quality of life. This include R&D policies for the construction sector that put people’s well-being at the forefront, e.g. on materials that are not only more durable or cheaper but also safer.
<table>
<thead>
<tr>
<th>International reflections</th>
<th>National policies</th>
<th>Industry-led initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential service providers, consultants, contractors and investors. Finland also has three Business Finland programmes (Witty city, Smart procurement, Built environment) focusing on co-creation and innovative procurement.</td>
<td>Efficiency technologies to boost circularity and build smart cities.</td>
<td>- Professional services arms of information technology companies (such as IBM or Siemens) have increasingly been offering the construction sector solutions that aid its innovation. One strong focus is that of planning process will take place on an exclusively digital and fully networked basis. For example, Siemen’s has been focusing part of the construction’s digital revolution on Building Information Modelling (BIM)(^1) which buildings to be planned and tested in advance, in parallel with other associated trades—further integrating the construction sector to the built environment.</td>
</tr>
<tr>
<td>Sweden has a Formas-funded project for Procurement for Sustainable Innovation in the Built Environment. This project establishes a strong trans-disciplinary platform for research and innovation related to procurement in construction, facilities management and urban development. As explained: “procurement is a fundamental driving force for innovation in the built environment but may also be an obstacle to change. Today, it is a problem that traditional price-focused procurement strategies are too often used when new goals for economic, ecological and social sustainability call</td>
<td>- CECE’s 2018 ‘Smarter Construction, Stronger Economy, Inclusive Society: The European Construction Industry</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^1\)SIEMENS, Interview: Construction goes digital: “The complete revolution, 2017
<table>
<thead>
<tr>
<th>International reflections</th>
<th>National policies</th>
<th>Industry-led initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>for more flexible and innovation-oriented approaches.”</td>
<td>- The Danish Transport, Construction and Housing Authority <em>Introduction to LCA of Buildings (2016)</em> stresses the importance of further incorporating a Life Cycle Approach in construction.</td>
<td>Manifesto for Digitalisation’ asks for support for the construction sector to embrace the digital transformation across the entire value chain. Digitalisation of the construction industry responds to the sector’s main challenges such as lack of skilled workforce, energy efficiency, lagging productivity as well as the built environment challenges of energy efficiency, circular economy, climate change, demographic changes, health and safety, education. Building on Europe’s strength in the field of engineering and design, a strong network facilitating transfer of knowledge, expertise and capabilities needs to be put in place at the European level.</td>
</tr>
</tbody>
</table>