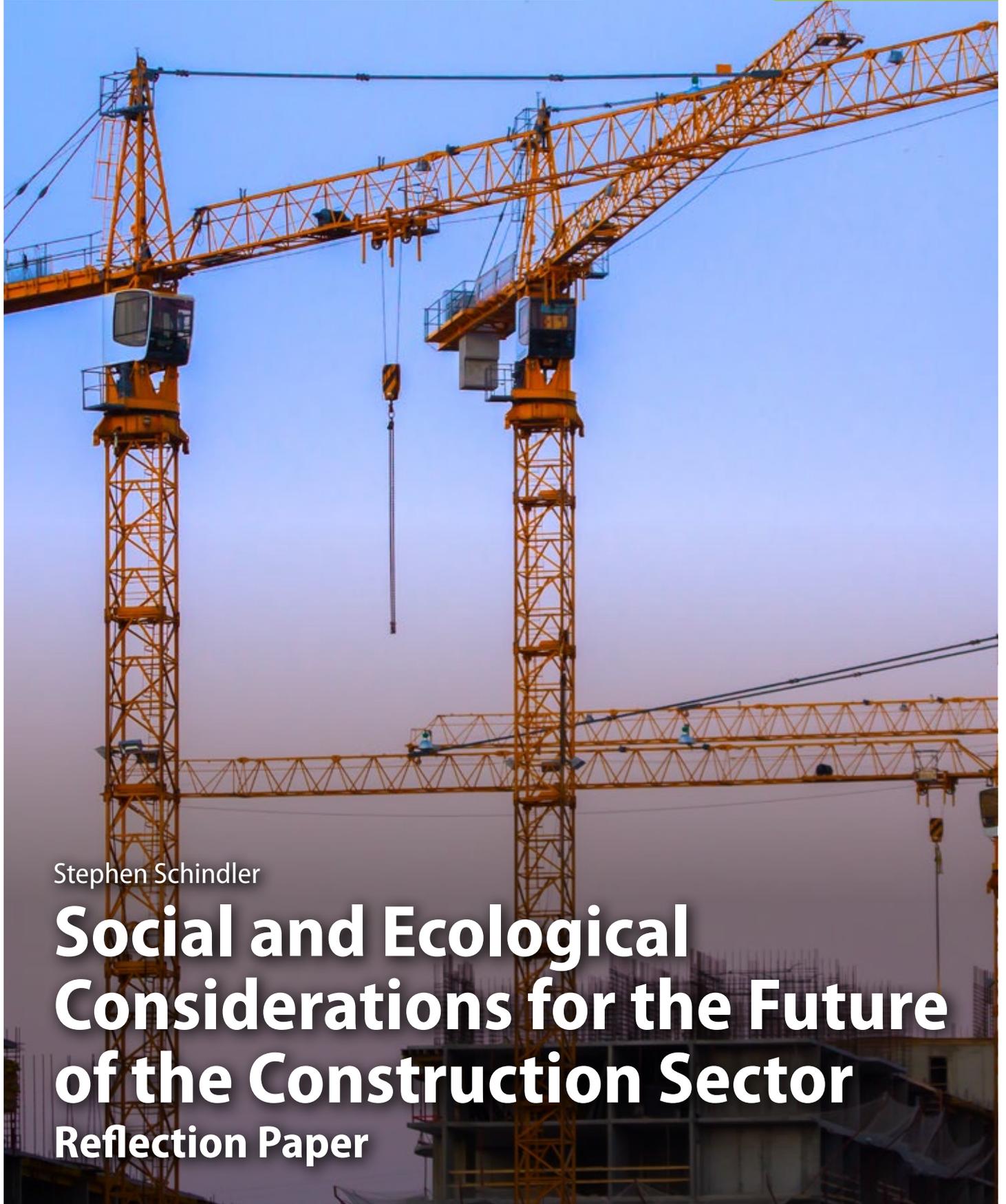




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Stephen Schindler

Social and Ecological Considerations for the Future of the Construction Sector

Reflection Paper

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Stephen Schindler worked as policy adviser for the European Federation of Building and Wood Workers (EFBWW) from 2015 to the end of 2018. He has a BA in history and Political Science from Culver-Stockton College, USA; and a MA in European studies from Lund University, Sweden.

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Preface by Roland Kulke

Without the construction sector, there can be no productive transformation and no Socialist Green New Deal

We are living in interesting times. Social movements advocating a fair standard of living for all are gathering momentum, and the right to housing is one of their priorities. Indeed, the topic of living and housing structures is gaining currency within the European Left's political discourse.

However, houses and apartments do not materialize out of thin air. The construction sector is one of the largest in our European economies, providing employment to millions of workers, many of which are unskilled or poorly trained. At the same time, this sector is responsible for 40 percent of Germany's waste and for alarmingly high cancer rates of its employees. Furthermore, in the wake of

the European Commission's climate policy and the Green Deal program, it has become clear that almost the entire EU housing portfolio has to be renovated to address the energy wastage generated by poorly insulated buildings. Massive renovations of buildings can also help lowering the cases of people suffering from "energy poverty". Both in its strengths and its shortcomings, the housing sector remains key to our endeavour to build a fair and just society. *transform! europe* is grateful to Stephen Schindler, who, in providing his knowledge, has set himself the task of providing an introduction to the many important aspects of this economic branch. In this primer Schindler shows why it is so important for the Left to familiarize itself with the construction sector and to push it to the centre stage in the discourse for the productive transformation of our European societies.

Introductory words

Climate change is the great societal challenge of our day, which received some additional impetus at the EU political level since the Paris agreement of 2016. The impact of climate change will be felt most severely in developing countries; however, European societies will not go unscathed and must brace themselves, especially with a view to mitigating their own contribution to global warming. One sector that is sometimes neglected in this regard is the construction sector. Although there are many challenges associated with this sector when developing solutions to stop climate change, it is not always necessary to reinvent the wheel. Stakeholders such as the European Commission pay considerable attention to the construction sector and introduce initiatives, which will have a significant impact on the energy performance of the European building stock. Such measures include legislative instruments such as the revised energy performance of buildings directive (EPBD). Unfortunately, Member States of the EU resist more ambitious measures, prevent a determined roll out of policy initiatives and do little to support the large-scale implementation of private sector innovations. While we can ob-

serve some positive developments on a technical level, the construction sector is not a "sexy" topic for politicians in the debate about climate change. Likewise, public awareness of the issues and possible solutions is insufficient. This reflection paper should contribute to mainstreaming construction in the Left's political discourse about climate change, especially with a view to social considerations.¹

¹ This reflection paper is part of transform! europe's productive transformation project. Facilitator of the productive transformation working group: Roland Kulke, Brussels, kulke@transform-network.net

Economic and environmental performance of the sector

Buildings are responsible for 40% of energy consumption in Europe today and construction and demolition waste constitute about a third of all the waste generated in the EU. These numbers vividly illustrate that the construction sector plays a crucial role when considering measures to address climate change and when promoting an ecological transformation. Policy-makers and stakeholders have to take a wide range of considerations into account when defining the future of the construction sector. The sector provides a large number of jobs and is crucial to local economies, as most construction

enterprises are small- to medium-sized companies. In addition, the sector is susceptible to economic cycles, which lead to booms in employment and economic activity during periods of economic growth and busts during downturns. Special attention also has to be paid to concrete as a building material and cement as its key component. Concrete production is highly energy-intensive and, although estimates vary, cement production accounts for anywhere between 5-8% of global greenhouse gas emissions, making it one of the biggest single sources of CO₂ emissions.

Social role of the sector

Apart from the environmental considerations that will be a driving factor in transforming the sector, it is worth noting that it also performs an important social role. The construction sector provides 18-20 million direct jobs and approximately double that number of indirect jobs in Europe and generates 9% of EU GDP. The sector features a wide range of skills and qualifications as well as a variety of high- and low-paying jobs. There are 3 million construction companies in Europe, the large majority (99.9%) of which are small- and medium-sized companies, which are by and large local, constituting an important contribution to the availability of local workplaces and regional development. Most enterprises employ fewer than 10 workers (including owners) with an average workforce of 4 employees. However, the large number and small size of workplaces also make trade union organizing more difficult. As a result, trade union membership in the sector is comparatively low in most Member States of the EU, albeit with some exceptions.

Direct employees in large construction companies often enjoy better employment conditions and health and safety standards than their colleagues in smaller enterprises. In addition, the former can more often benefit from collective agreements and social dialogue. Nonetheless, large companies in the sector are directly involved in undermining working conditions and health and safety standards through questionable sub-contracting practices. While many large companies prefer to work with a small core workforce while outsourcing the majority of the work to sub-contractors, some even go so far as to limit themselves to a project man-

agement role and rely almost exclusively on sub-contractors. In some instances, their sub-contractors do the same thing, creating long sub-contracting chains that often involve letterbox companies, bogus self-employed workers and fake posting of workers. This remains an issue despite the latest revision of the EU posting directive. In this way, wage levels are suppressed and social contributions and taxes avoided. Another effect of this practice is that the main contractor often has little oversight over working conditions and compliance with health and safety rules in their own projects. Policy-makers have a responsibility to close the legal loopholes in EU single market legislation that facilitate such practices, and public authorities can help by improving their public procurement practices.

The construction sector is very labour-intensive and often features comparatively low entrance barriers, which makes it indispensable in providing workers who have low formal qualifications with a livelihood and a career outlook. From this perspective, it is important to strike a balance between developing skills and qualifications in the sector to tackle the challenges of the ecological transformation without excluding job seekers with low formal qualifications. Lifelong learning opportunities and career development strategies catered to workers with low initial qualifications should be considered and promoted. The social partners at national and European level are key to a socially inclusive transformation of the sector.

Skills and qualifications

Social considerations should also be given to the quality of employment in the sector and to promoting the health and safety of workers, which continues to be a considerable challenge. This is not least due to the wide range of potential health risks hidden in building sites such as the legacy of asbestos and other harmful substances.

The European social partners in the construction sector are identifying future skills needs and should be supported in the implementation of necessary changes. The requirements of green construction can lead to changes in job profiles. Typically, this does not lead to the creation of new occupations (although this can happen); instead, existing professions adapt to the needs. Transforming existing jobs can have some advantages in terms of maintaining good working conditions and existing social partnerships and collective agreements, which can be challenging to establish from scratch when creating new job profiles. Chimney sweeps in Germany, for example, use their ample knowledge related to harmful substanc-

es (which can be found in building heating systems) as well as their knowledge of the energetic performance of buildings to transform their traditional role, instead providing their customers consultative services on measures to improve energy performance and remove harmful substances.²

Another way to transform job profiles in the sector, and to cater to young women and men in particular, is to combine vocational training with tertiary education. Not only does this meet the educational and career expectations of a better educated generation, but it can also help to provide young workers with both practical and theoretical knowledge that can help to breach the traditional social divide in the workplace between, for example, architects/engineers and manual labourers.³ In some countries, such as Italy, social partners are now negotiating issues related to green construction and climate change in the sectoral social dialogue. This is a good practice that should be promoted and supported everywhere in Europe.⁴

Harmful substances in energy renovation

Health and safety are always a major concern for trade unions and employers in the construction sector. Currently, only 3% of the European building stock is considered highly energy efficient. The European Commission estimates that 75% of the European building stock is currently energy inefficient and will be eligible for renovation to improve its energy performance before 2050.⁵

One of the major challenges during this transformation of the European building stock is the presence of harmful substances that were used in the past. The legacy of asbestos in particular has serious repercussions, not only for workers but also for inhabitants of homes and work-

places. Asbestos continues to be the number one source of occupational cancer in the EU today. According to the International Commission on Occupational Health (ICOH), asbestos will claim an estimated 88,000 lives annually well into the 2020s and 2030s, accounting for anywhere between 55-85% of work-related lung cancers. In the absence of comprehensive registries for harmful substances in buildings, it is difficult to estimate the number of buildings that are affected; however, in principle every structure built before the ban (EU-wide ban in 2005, but earlier in many Member States) is a potential source of asbestos. Although the safe removal of harmful substances from buildings poses a major challenge, it is also a one-time

2 VET4LEC Social Partner project: <http://www.efbww.org/default.asp?Issue=VET4LEC&Language=EN>

3 Brockmann, M., Clarke, L. and Winch, C. (ed.) 2010. Bricklaying is more than Flemish bond: bricklaying qualifications in Europe. Brussels/London CLR.

4 BROAD project: <http://greendialogue.altervista.org/168-2/>

5 EuroACE Guide to EPBD Implementation: <https://euroace.org/euroace-positions/energy-performance-buildings-directive-epbd/>

opportunity to remove these hidden killers once and for all and to create healthy living spaces. This legacy should not be left to the next generation to deal with.⁶

Public procurement

Public procurement can be a driver for social and environmental innovation. The revised EU public procurement directive (2014/24/EU) offers new opportunities by departing from the dogma of lowest price as the guiding principle in awarding public tenders. This single-minded focus often came at the detriment of the quality of the final product as well as the overall worsening of environmental performance, working conditions (including health and safety) and in some instances, social dumping. The revised directive finally provides public authorities with the possibility to introduce quality criteria that can include social and environmental considerations. Unfortunately, lack of awareness on the part of public authorities translates into an insufficient uptake of this possibility. Awareness and capacity building of public authorities is crucial to fulfil the full potential of public investment as a driver for positive change.

Public investment can help to achieve a wide range of goals. For example, it can have a direct impact on energy consumption through more energy-efficient public buildings and can help to reduce energy poverty by providing

high quality social housing. Poor quality and low energy performance of housing is a major cause of energy poverty. Investment in energy renovation should benefit energy poor and low-income households without penalizing tenants with subsequent rent increases.⁷

Introducing green infrastructure, such as transport infrastructure in urban and rural areas, is another important factor in fighting climate change and creating a high quality of life. In addition, public procurement can be used as a leverage to improve working conditions and environmental performance through tender specifications.⁸

There are also examples where public procurement contracts helped to promote rural development and job opportunities for vulnerable groups including, for example, the promotion of female employment in the sector and a more diverse workforce in general. This is also relevant because the construction sector is ageing because of the demographic change in Europe.

Resilience to economic cycles

However, it is important to note the importance of a diversified economy. Leaving such crucial functions entirely to state spending creates vulnerabilities to political change. Social innovation must take place in the private sector as well. Social enterprises and workers' cooperatives, for example, are underrepresented in construction compared to other sectors. The potential of housing cooperatives and

workers' cooperatives could be explored further with a view to alleviating the housing crisis currently facing many communities in Europe. Particular emphasis could lie on support for the creation of not-for-profit housing societies/cooperatives and citizen/consumer empowerment, for example through on-site renewable energy generation.

6 EESC own initiative opinion on Working with Asbestos in Energy Renovation (CCMI/166)

7 For more on causes of energy poverty strategies to alleviate it see work of the Right2Energy coalition: <https://righttoenergy.org/>

8 EFBWW project on the implementation and application of the European Public Procurement directive including good practice examples: <http://www.efbww.org/default.asp?Issue=2016%20-%20Public%20Procurement&Language=EN>

The construction sector is heavily dependent on both private and public investment, making it very vulnerable to economic cycles. In the past, this created periods of job growth, particularly for those with low formal qualifications, as was the case in countries such as Spain and Ireland prior to 2008. During these boom cycles, very little attention was paid to improving the skills and qualifications of the workforce, which had devastating effects when the boom was followed by the 2008 bust. The financial and economic crisis hit the construction sector hard, and low formal qualifications left said workers ill-equipped to find work elsewhere. This is another argument for promoting

lifelong learning opportunities in the sector. In addition, austerity measures forced on Member States by European policy-makers did their share to prevent a swift recovery. Given the crucial role of the construction sector in the ecological transformation of our society, policy-makers should consider how to guarantee sustainable employment in the future. Counter-cyclical investment can be a leverage for sustainable employment and help prevent the loss of skills and know-how that is necessary for a speedy transformation to an energy and resource-efficient building stock in Europe.

Building materials and building techniques

More has to be done to promote and mainstream a life-cycle approach to buildings and building materials in order to waste reduction during the building stage, renovation and demolition. In order to meet the EU objective of creating a circular economy, it is also important to reduce the overall raw material input and develop products with recyclability and secondary use in mind from the initial design stage. This is particularly true for the building material sector, where few products nowadays consist of homogeneous materials. Although this fact is partially linked to technical processes during production and installation, it has the drawback that these materials cannot be easily separated, recycled or re-purposed after their initial use.

The selection of building materials can determine the overall environmental impact. Concrete, alongside cement as its key component (see below), is popular but energy-intensive in the production phase, and recyclability is limited. There is a noteworthy trend towards using sustainable building materials and building techniques. This includes innovation in timber framed construction (as long as the wood comes from sustainable sources), straw-bale construction and 3D printing, as well as natural materials such as hempcrete and sustainable wood-based products, to name a few. Builders are also beginning to re-discover largely forgotten building techniques such as traditional timber frame houses, which offer excellent energetic and environmental performance without some of the drawbacks associated with modern insulation materials. Modern materials sometimes have the disadvantage that mois-

ture from the outside can enter and become trapped in otherwise hermetically sealed structures when they are not installed properly by qualified workers, which in turn can lead to mould and subsequent respiratory diseases. In principle, it is desirable to increase the use of sustainable building materials throughout the building sector. However, this should be done with a forward vision to their large-scale feasibility. The use of hempcrete, for example, is limited by the availability of agricultural land to grow the raw material (hemp); likewise, the use of wood is linked to the capacity of sustainably grown forests. Given the competition of space for sustainable building materials with agricultural land, it should be a priority to achieve an overall reduction of raw material input. This is especially true with a view to the decline of agricultural land in developing countries as a result of climate change. In addition, raw materials such as wood and stone should come from sustainable local sources in order to reduce the negative side effect of transport. After all, building materials tend to be heavy and bulky and consequently resource intensive in their transport. This is in part a consequence of the modalities of our economic system, which defines cost in terms of monetary value rather than a product's impact on the environment or finite resources. This is in itself an issue that deserves more attention from policy-makers and researchers.

3D printing is a new technology in the construction sector, primarily driven by start-up companies but with large players catching on quickly. 3D printing offers some advantages such as time and cost reduction, which can be attractive

for social housing projects. Importantly, from an ecological perspective 3D printing makes more efficient use of construction material because it can reduce waste. A drawback is that currently the most commonly used printing materials are cement or cement-based. While other environmentally friendly materials are being tested, their feasibility on a large scale has yet to be established.

Cement

Constituting a key component of concrete, cement is one of the biggest sources of CO₂ emissions globally. Although cement use has been relatively stable in Europe following a post-2008 drop in production, in other parts of the world its use has increased, driven by economic development and infrastructure investment. The cement and concrete industry employs between 300,000 and 400,000 people in Europe, constituting a significant stakeholder group that policy-makers need to include in discussions about an ecological transition. Engaging with trade unions is crucial in this respect.

It is noteworthy that cement and concrete producers adopt different practices in order to lower their sector's carbon footprint, such as recycling concrete, using waste materials from other sectors in its production, producing locally to reduce the impact of transport, using more en-

ergy efficient equipment, etc. However, cement remains highly energy-intensive in its production, and reducing its environmental impact requires a long-term strategy, particularly when considering the social consequences. Such a strategy could include different aspects, such as efficiency gains both in production and end use, prioritization of cement and concrete use in projects that tackle climate change, while reducing its use in other areas. In Scandinavia, for example, positive experiences were made in building high-rises from wood rather than concrete.

In the final instance, policy-makers and stakeholders, including trade unions, have to face the fact that the sector needs to be transformed, which means anticipating and managing the social consequences in a pro-active manner.

Some waste reduction can already be achieved in prefabricated houses that are produced off-site in factories and subsequently assembled on site. Digitalization also plays a role in reducing waste: building information modelling (BIM) is a digital tool that helps to streamline processes on building sites and holds additional potential for promoting resource efficiency during the construction phase of a building as well as during maintenance and renovation.⁹

Construction and demolition waste

Construction and demolition waste is a major source of landfill waste. Much of it is toxic, not least due to the legacy of asbestos as a prominent building material. Too little attention is paid to reducing waste in the design phase of a building. For example, architects will not take common product measurements into account when designing a building, which creates additional waste on building sites where construction materials have to be custom fitted.

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⁹ Building Information Modelling (BIM) is a digital tool to manage construction projects containing graphical and non-graphical information on a shared platform. BIM is used in the design, building and maintenance stage of a building, allows better coordination of work stages and helps to instruct different actors on their respective tasks.

At the EU level, the European Commission has developed a construction and demolition waste protocol to promote good managing and recycling practices. This will be part of

EU soft law, which is more or less voluntary in its application. It would be up to political actors at national and European level to establish binding standards.¹⁰

Going forward

The sheer scope of the challenge and the many different facets that were outlined in this article in brief should not distract from one simple fact: **The ecological and social transformation of the construction sector requires the political will to do so!**

is crucial for the future of our planet, while acknowledging the social challenges and promoting social innovation. Below you will find a preliminary list of questions and challenges to be considered as a living document that should evolve along with the political debate.

The intention of this reflection paper is to stimulate a political engagement of the European Left with a sector that

Questions and challenges for policy makers and stakeholders of the Left

- First and foremost, policy-makers and stakeholders of the Left need to engage with ongoing initiatives. In many areas, the question is not so much about inventing new ideas or thoughts from scratch, but rather rolling out existing good practices on a large scale. As positive initiatives take shape across the sector, it is up to political pressure and the political will to mainstream and implement innovation.
- The economic reality is that companies and consumers do not pay the real cost of a product in terms of its environmental impact or use of finite resources. The same is true for the construction and building material sectors. A principle challenge for the future will be to promote a real cost approach that can give priority to actual resource efficiency over contemporary cost calculations. This approach should also promote recycling and secondary use of materials.
- Buildings are responsible for a large portion of overall energy consumption, making energy efficiency and energy savings a policy priority in the construction sector. A particular challenge for the sector will be to avoid that energy savings, which are generated by more energy-efficient buildings, are not offset by the environmental impact of the construction activities that make buildings more energy-efficient in the first place.
- Reduction of construction and demolition waste is a key challenge.
- Support for small- and medium-sized enterprises is important in order to tackle social and environmental challenges facing the construction sector. Equally, social entrepreneurship should be promoted in the construction sector to meet the needs of e.g. low-income households or local authorities in developing regions.
- Building material producers need to improve their resource efficiency, and recyclability and the use of sustainable construction materials must be promoted. What can policy-makers do to advance such a development?

¹⁰ For construction and demolition waste protocol see: https://ec.europa.eu/growth/content/eu-construction-and-demolition-waste-protocol-0_en

- Skills and qualifications as well as job profiles in the construction sector need to adapt to the challenges of the social and environmental transformation. At the same time, entrance barriers to the construction sector must remain low to enable job seekers with low formal qualifications to pursue a career in the sector, while receiving life-long learning and career development opportunities.
- Social considerations are often neglected in discussions about green construction. It is important to manage change in a socially responsible way in order to offset the effects of potential job losses, while also proactively taking advantage of making a positive social impact. This can include tackling energy poverty, creating social housing, safer and healthier workplaces, the creation of better working conditions and better pay by promoting lifelong learning and up-skilling of workers.
- Currently, social enterprises and cooperatives play a minor role in the sector. With a view to transforming the sector, policy-makers and stakeholders should consider the potential of these business models in achieving environmental and social goals. It is necessary to evaluate what obstacles stand in the way of promoting social enterprises and cooperatives, as well as how policy-makers can create a conducive environment to support their creation and success.



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Contact us

transform! europe
www.transform-network.net
office@transform-network.net
+43 1 504 66 86
Gusshausstraße 14/3, 1040 Vienna, Austria

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