Paving the way for a green transition of the construction sector through new mind-set

Retain. Maintain. Renovate. Repeat.

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The Nordic Council of Ministers has a vision for the Nordic region to be the most sustainable and competitive by 2030. This requires fundamental changes in the societal structure of the Nordic countries, particularly within the construction industry.

Our programme partner, SUSTAINORDIC, has held workshops with officials, grassroots organisations, and stakeholders in the construction industry across the Nordic region to identify barriers and potentials for accelerating a more sustainable Nordic construction sector. The conclusion of this knowledge gathering process is that changing our practices and procedures is a gigantic challenge, and it requires innovative thinking, a change of mindset, and legal changes. The following article sums up different ideas and opinions from these debates.

Finite resources – looking at buildings with new eyes

Construction consumes large amounts of raw materials in the pursuit of building new structures. We keep excavating for gravel, mixing concrete and burning new bricks instead of utilising the materials we already have. If we are to achieve our sustainable ambitions, we need to become much better at reusing existing buildings for new purposes, maintaining and renovating our building stock and constructing with circular or biogenic building materials when the introduction of virgin material is unavoidable. And, equally importantly, we should make better use of existing buildings by using the same square meters for multiple purposes instead of leaving them empty for the majority of the time.

Looking at the old with new eyes, the Nordic countries have some of the highest emissions per capita in the world. In the Nordics, we occupy far more square meters than the global average, and we have become accustomed to a lifestyle that takes a toll on the Earth's resources. Therefore, one of the opinions from the debates, is that we need to consider it well when we build new construction. Further it was proposed in the debates that perhaps it is an option to consider implementing a halt to new construction permits, unless it serves a clear social purpose such as a school, a hospital, or an institution? This would significantly reduce our CO_2 emissions and environmental footprints.

Instead of tearing down and building new, we need to learn to look at our old buildings with new eyes. Maybe the concrete building from the 1960s can be transformed into a sparkling office building like we have seen in the old cargo hotel at Kalvebod Brygge in Copenhagen or the Varvsstaden project in Malmö? Perhaps we could learn to live comfortably even with only one bathroom instead of two if this is what is needed to keep the old beautiful villa rather than clearing the lot and garden for a new, standardised house? Or how about using old industrial buildings in new ways, like we are seeing in the case The Suvilahti Cultural Centre in Helsinki where a former electric power and gas plant has been transformed into a cultural hub?

Need for legal change

There are plenty of good examples of transformations that bring value to society. Yet, buildings that could have been given new life if owners and developers had thought more creatively, long-term and sustainably are demolished every year.

Another take away from the debates is that if we want to move away from our use-and-dispose culture, one way could be to look towards a more holistic approach to legislation. In the debates, it was highlighted that there is a need for legislation that supports the whole process and all implicating aspects around preserving, transforming, and using biogenic materials. This includes property taxation, fire regulations, CO_2 calculations and legislation around cultural heritage.

Another option mentioned during the debates, is to include demolitions in the life cycle assessment (LCA) for new construction. Although demolitions account for 6-20% of the construction industry's total climate impact, they are not considered in our current LCA analyses. As such, there is no carbon cost associated with demolishing instead of preserving.

A preserving approach to city planning

At the debates, it was also suggested that municipalities could become much better at working with a preserving approach to city planning. Driven by a general demand for more space and modern comfort, we have seen entire old neighbourhoods across the Nordics, and beyond, being demolished and replaced by standardised houses due to short sighted city planning. An idea would therefore be to replace this culture with a respect for old quality buildings and locally indicative aesthetics as well as a general understanding of embodied carbon across the whole lifecycle.

Some municipalities are leading the way on this front: Stavanger municipality, for instance, has implemented strict regulations and guidelines to preserve and protect historic buildings, including old villas. The city encourages the preservation of architectural heritage and promotes adaptive reuse rather than demolition, and we see similar strategies in several cities across the Nordics.

Paving the way for a green transition

Another input was to look at how we tax buildings. Currently, renovation and new construction are not treated equally for tax purposes in Denmark. Here renovation projects are generally taxed as renovations, while new construction is not taxed since there is no existing building. This means that it is not economically sustainable to

renovate rather than building new. Take, for example, "Tunnelfabrikken" in Copenhagen, an old factory building which is currently being transformed into a new cultural hub. The team behind Tunnelfabrikken has estimated that they will be taxed DKK 20-25 million per year during the development and construction period. This entails, that the price for reusing the old factory building will amount to 60-80 million kroner in taxes before the building is ready to welcome users in 2027. They have opted to renovate rather than demolish despite the economic disadvantage because of climate concerns.

But it doesn't have to be this way. Municipalities have the possibility, but are not obliged to, levy coverage fees. Many municipalities in the provinces do not use this opportunity because it enhances their competitiveness. In Copenhagen it is a different story, but, t is essential to solve this problem to pave the way for the green transition.

Consideration and respect

The conclusion from the debates is that there are many areas whRere we can intervene to bring more consideration into our construction practices and show greater respect for what already exists. We need that. Not only to reduce our CO_2 emissions and consume fewer resources but also to remember where we come from.

As a part of the Nordic Sustainable Construction programme, SUSTAINORDIC has gathered knowledge from a long list of stakeholders within and around the construction sector during debates in 2021-2023. The purpose was to learn about the opportunities and barriers for adopting and implementing sustainable practices in the construction sector as well of the role of the architect in driving this change.

This knowledge gathering tour has indicated four central focus areas for change, which will be addressed over the following months. The focus areas are:

- Material hierarchy in construction – stop building new!
- Underrepresented interests in construction policy and decision processes (Planet, nature and future generations)
- Place-based development and architecture as community building
- Regulation and limit value requirements for emissions in construction

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