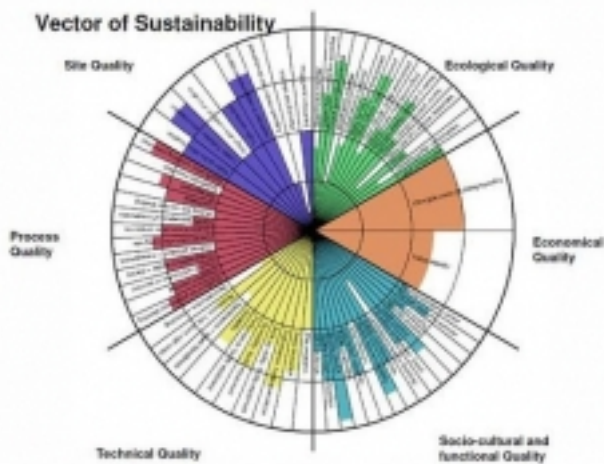


# Will sustainable construction avert the doom of the oil civilization?



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Issues of energy are a priority of politicians, economists and sociologists today. Until the 18th or 19th century, humanity covered its energy demands from renewable resources, but the steam engine, as the driver of industrialization, changed it all. Coal was gradually replaced by other fossil fuels, but the problem is that oil deposits - exploited at a dizzying pace - are not endless. And should the "rest" of the world achieve a lifestyle (and energy consumption) comparable to developed countries (defined roughly by membership in OECD) within the foreseeable future, the world's oil reserves will be exhausted even faster than generally expected - i.e. in the second half of this century. Something has to happen - all economically advanced countries agree on that. There are many recipes for remedy, sometimes hard to believe. For example there are suggestions to atomize society into more or less autarchic economic and energy units, so that for instance in the a third of the population of the United States should return from cities to the hinterland. Another logical, yet unfeasible idea was also presented at the conference - taking into account the lifetime of most buildings, which is about 50 years (after that it is necessary to reconstruct its interiors and installations), the lifetime of buildings should be planned accordingly - demolitions are cheaper than reconstructions. More sober people talk about what cannot be tolerated in the long run: for example massive shifts of people between their homes and workplaces; the utilization of the potential energy of the oil consumed in cars is merely 10% - yet there are no real instructions to eliminate these drawbacks and problems. From this point of view, the concept of sustainable construction is much more practical. Construction is one of the greatest consumers of energy, raw materials and transport capacity, and participates in the destruction of the environment more than enough. Sustainable construction moves the construction sector from mere rational construction in terms of energy and environment to buildings close to the ideal in all regards, also from the point of view of the user, because of whom the building is primarily erected. The power industry will also benefit - sustainable construction should save 16% of all consumed energy.

## Sustainability = necessity

"People know exactly, how much gas their car uses, but have a very poor awareness of the energy consumption of their house," says Gerd Hauser, of Fraunhofer Institut für Bauphysik, and is probably right. In Germany he is a pioneer of sustainable construction, which looks at more than only energy savings and environmentally friendly design. In essence, this marks return to the basic purpose of architecture and construction as such: produce buildings needed by the society. They divided these needs into five

categories in Germany; each of them has many criteria which buildings have to (or should) meet.

“Sustainable” buildings should have environmental qualities in terms of their impact on their immediate and broader vicinity and the requirement on minimizing the production of pollutants and waste. Once again there is emphasis on economic quality; it is meaningful to build top-quality buildings that will succeed among competition. The return to the roots of construction constitutes a complex of socio-cultural and functional criteria (incl. use of graphical arts), when the quality of processes associated with the construction and operation of the building (planning, management, monitoring) is a cross-sectional measure of quality. And to top it all, the four mentioned factors are supplemented with the quality of the location - this clearly shows that urban planning should be more important for sustainable construction than ever before.

Germany is not alone in this field, similar trends are gaining grounds - theoretically and organizationally - in other advanced countries. So far, however, these efforts have not collected much support in legislation, and the same is true of practice. “In Germany, sixteen buildings have been built in line with these principles so far,” Hauser explains the actual situation in sustainable construction. The European model of sustainable construction is found in Brussels - Berlaymont, seat of the Commission of the European Union.

Unfortunately, it was not emphasized at the representative meeting of the domestic construction sector that in the Czech Republic, at least in academic circles, the concept of sustainable construction is nothing new. For several years this concept has been studied at the Czech Technical University, and we also have the Czech Society for Sustainable Construction, and Czech representatives are also active in the International Initiative for Sustainable Built Environment. Not a single word was heard at the conference about these facts, maybe because it rather focused on general and declaratory assumptions for sustainable construction; however, a general lack of information could be another reason. This is not just a mistake of the organizers, but also our players in the field of sustainable construction. “We know about it, we have to improve promotion,” says Professor Petr Hájek, Faculty of Construction, Czech Technical University.



## How companies see it

This poor situation reflects in the condition and directions of thinking among the managements of domestic companies in construction. At the suggestion of a professional organization of builders, this situation was surveyed by Incoma Research; yet it focused mostly on energy-saving houses. The results of the survey are neither cheerful, nor catastrophic. “Energy-saving construction is just starting in the Czech Republic - i.e. with an excellent growth perspective,” said Radovan Mužík, of Incoma Research.

Over a half of the respondents consider the trend of low-energy construction as exaggerated or even “fashionable”, while a fifth of them ignore it completely. The poll has also shown, however, that 60% of the firms in the sector consider investors are the main drivers in the industry - but only a third of all investors have sufficient knowledge about the current trends. 25% of all investment and development companies do not perceive them at all. However, construction firms expect an increased demand for energy-saving construction and very positively evaluate the supply of the relevant materials and technology (73% of the respondents consider it sufficient). The results of the survey of barriers to low-energy construction in the Czech Republic are particularly interesting and important. High prices of materials and technology are first (35%), followed by absence of supporting legislative instruments (23%) and insufficient engagement of investors (18%). The fact that only few companies (9% and 8%, respectively) consider the lack of the necessary know-how among architects and builders as fatal can be seen positively, especially in connection with the mentioned evaluation of the material base. The results therefore hint that if the state gives an impulse that would increase the economic attractiveness of low-energy buildings for investors, the sector as such is prepared to respond to the ensuing demand promptly. However, our practice and lives and the progress of this year’s construction forum puts a lot of question marks over the first assumption, i.e. active state policy in this area.

## With and without the state

“In the Czech Republic we generally don’t have long-term strategic concepts,” says Jaroslav Kovář, adding that the role of the state in the development of sustainable construction is irreplaceable. The thing is not to copy foreign models, which apply to areas much more advanced than the Czech Republic, while the post-Communist Europe will be in a similar position to ours. State influence is needed because it is the state that sets the basic economic parameters, e.g. tax rates, which can stimulate the needed changes in the behaviour of developers and builders. “The idea of sustainable construction has to be turned into a business opportunity, which is not the case in the Czech Republic,” adds Kovář.

Talking about the state, there are other instruments at play as well: the coveted subsidies, but also for example technical standards. The development in the neighbouring Germany is interesting in this respect, as it is moving away from the system of large subsidies from public budgets to much stricter standards, in other words: from incentives to orders. The Czech Republic seems to be in the first stage - attention is paid especially to subsidies, while principal steps are being postponed. We could hear many critical words about our executive in many speeches at the Czech Construction Forum. The state, namely its representatives, opposed against these words remarkably. “You could say it could be launched in April,” said in a highly colloquial Czech - that is the way that the state policy was presented to the captains and tycoons of the Czech construction sector. To apologize the speaker, we should note that he was as last-minute replacement, because the original politician, i.e. Secretary to the Environmental Minister Bízková, excused herself. The truth is that her replacement’s oratorical performance did not spoil much - the speech was an instant presentation with which ministerial representatives have attended many conferences in the recent years. At a forum that attempted to map the long-term perspectives of the economy’s key sector, the state (paradoxically through its content and the representation of the “green” ministry) offered only a list of subsidies - domestic and provided by the Community. “Public administration did not disappoint,” said Matyáš, President of the Association of Building Entrepreneurs, with irony.

# Stavební forum

