efca Position Paper

EU Blue Deal
18 January 2024

The European Federation of Engineering Consultancy Associations (EFCA) has member associations in 27 countries, representing more than 10,000 companies from the European engineering consultancy industry and related fields. Based in Brussels, EFCA is committed to facilitating constructive dialogue with European Institutions on issues impacting our industry; and engaging with international stakeholders on shared interests.

The European Economic and Social Committee recently called for an EU Blue Deal, with a separate European Commissioner. This paper explains the view of Europe's consulting engineering firms, on those aspects of water policy that need the support of the industry for effective implementation.

EFCA's position in brief

1. *We need an EU wide, coordinated approach to water policy, including a Blue Transition Fund. We agree with the EESC that "given the link between energy, water and critical raw materials, water should be seen as a fundamental element of the EU's industrial strategy."*
2. *An EU Blue Deal should be handled in the overall context of environment and climate policy, with the European Commissioner for environment taking the lead and a Vice-President coordinating the relevant group of Commissioners.*
3. *A Blue Deal should focus not only on the human right to clean and drinking water and industry and energy production's need for vast quantities of water; but also on the urgent climate adaptation measures needed for nature's own water infrastructure, namely Europe's coastal areas, rivers, water basins, flood plains etc., with some crossing EU borders.*
4. *A Blue Deal should facilitate the urgent maintenance and repair of ageing, leaking water supply infrastructure and blocked and hazardous wastewater infrastructure. Both of these problems, widespread across Member States, are exacerbating the shortage of clean water, the cost of water and flooding and the ability of drains to cope in excessive rainfall.*
5. *A Blue Deal should urgently accelerate water-based renewable energy sources, which need solutions to ensure upscaling will be both feasible and accepted by the citizens who will benefit.*
6. *We support EESC's emphasis on a circular water economy.*
7. *An EU Blue Deal needs to be a policy commitment of the new political term 2024-2029.*

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Blue Deal in the existing policy framework

Water in the EU Industrial Strategy

The EU's industrial autonomy, as well as its ability to support its citizens, depends on having adequate water supply and effective water management policies. Water is a cross-border issue for the European Union, which needs a European approach, further harmonisation of standards and certification and a strong partnership with the Member States.

Central to good design of the necessary infrastructure and to urban management technical solutions, are consulting engineers. Increasingly, these highly qualified and innovative experts are working not only on the "traditional" water infrastructure for supply and waste, but also on solutions for industry and increasingly, on climate adaptation projects.

Water infrastructure has been neglected in many countries, because maintenance is not given sufficient priority by public authorities. The results of maintenance are not necessarily seen or appreciated by citizens, but the results of inadequate maintenance are seen immediately. The consequences of such neglect are serious and sometimes catastrophic as homes, roads and bridges are lost to floods, droughts affect health as well as normal functioning of industry and the economy and blocked sewers require emergency intervention. Paying for the repair costs after a catastrophe can be avoided with proactive, sound investment in water solutions, including maintenance of infrastructure.

Less obvious, but with highly damaging consequences, is the neglect of water transportation systems, in particular rivers. In order to prepare for more frequent and longer droughts, alternative transportation, such as improved rail infrastructure and capacity must be put in place to avoid the completely counterproductive, but currently necessary switch to road transport during extremely low water levels, which render the use of barges impossible. At a time when we are trying to reduce emissions from road vehicles, this use of fossil-fuel-dependent means to carry essential supplies is senseless. Moreover, it highlights the need for integrated approaches to ensure that industry flourishes, without exacerbating the very climate emergency we are trying to tackle, when the consequences of the same emergency disrupt production, including of energy.

With all the objectives of any potential Blue Deal, a Blue Transition Fund will be required and EFCA supports the growing calls for a Blue Deal, as a central instrument for the implementation of the EU Industrial Strategy. This package will need to address the spiraling impact of the cost of water supply, infrastructure improvements, disaster response and alternative and emerging water capture and storage solutions, on the cost of living for EU citizens and the costs for EU industry and energy production.

Water in the context of existing environment and climate policy

With the majority of existing EU legislation on water falling under the remit of the relevant European Commission department for Environment (DG ENV), a Blue Deal would appear to be best managed by the same department. However, the European Green Deal was launched as a flagship initiative at the beginning of the current European Commission's term. The Green Deal has a number of facets, with the involvement of more than one department.

Given the importance of this emerging initiative, EFCA believes that its launch should be accompanied by the same level of attention, as a key commitment for the new EU political term 2024-2029. That said, we believe that it is not necessary to have a dedicated European Commissioner with responsibility for water. Instead, we would like to see this fall under the remit of the new European Commissioner responsible for Environment, Oceans and Fisheries, (or the new equivalent if the title is changed), who should again be working in a grouping that includes the Commissioners for Energy, Transport, Agriculture and Climate Action. As is the case now, the Vice-President overseeing the above Commissioners should ensure the co-ordination of the Blue Deal with all other relevant policy areas, to ensure that water is integrated into all relevant legislative and non-legislative initiatives.

What should be addressed by a Blue Deal

Shoring up nature's own supply and defences

Nature is resilient and although the climate emergency risks destroying our landscape, when engineers work with the natural environment, there are innovative ways to adapt to the harsh consequences of flooding and drought.

The dichotomy of severe flooding versus drought, often in the same country in the same year, can be tackled with a co-ordinated approach, to ensure that excess rainfall and floodwater are captured, channeled to appropriate natural storage sites and eventually recycled to ensure adequate water supply in dryer conditions; and more stable year-round water levels. Flood water can be used for irrigation of agricultural land and recharging aquifers. When green infrastructure is used in cities, these cities become more absorbent. Indeed, the concept of "sponge cities" created by a landscape architect, enables groundwater to be replenished. Adapting urban planning to cope with heavy rainfall requires good design and collaboration between urban planners, architects and engineers. We need to accelerate climate adaptation measures to stop the flood/drought cycle. Applying these in urban areas will also reduce the heat island effect, reducing day time temperatures and pollution, which are consequences of climate change.

Working with nature-based solutions, engineers are also reinforcing water basins, restoring wetlands and re-meandering rivers, to reconnect them to flood plains. This kind of natural infrastructure improvement aims to reduce the use of materials but nevertheless requires engineers who also work with the built environment. We cannot underestimate the importance of rivers as transportation routes for essential supplies for industry and energy production, but also as sources of cooling for power plants. This means that droughts also need to be handled and countermeasures can include dams, to regulate water levels.

Other nature-based solutions are used in coastal engineering to restore natural sea defences and coastal ecosystems; and in rural areas, for example by landowners, who need to regularly maintain small water courses, such as dikes, to prevent flooding.

Maintaining water infrastructure

Even with the maximum possible use of nature-based solutions, essential water infrastructure must be maintained, replaced and also designed from new when necessary. The repair of water pipes has been seriously neglected and has now become an emergency. Many countries have ageing supply systems which are leaking around 25% of the total water supply in the EU. The repair of wastewater infrastructure has also been neglected and there are examples of wastewater systems and sewers becoming blocked, creating avoidable emergencies such as fatbergs. These can cause hazardous wastewater to back up domestic and industrial water pipes and also cause flooding, which can be dangerous to the health of those exposed to the flood water. Although the Urban Waste Water Treatment Directive provides the framework for treating wastewater, the maintenance of water infrastructure remains a national competence. A Blue Deal could ensure that water infrastructure is given priority by Member States. It will require not only improved funding and regulation, but also technical assistance and capacity building, which can be provided by consulting engineers. This important basic service to citizens and industry should be considered paramount in land and urban planning.

Water-based energy production

Think of water and energy and it is probably tidal and hydropower that spring to mind. However, we need to think more laterally, because other renewables are linked to water.

- *Tidal power is promising, but expensive. In theory a never-ending renewable source, not subject to weather in the same way as its more haphazard, more frequently deployed "competitor-renewables"; the challenge of ocean turbines is that the hostile environment erodes normal materials very quickly. Therefore, it is not being widely used. More research is needed as well as scalable innovation, which will require investment into both the science and the application by engineers.*
- *Hydropower is already the most important energy source in Norway and Sweden. It remains a long term sustainable source of energy, but is not as popular as other renewables because of the long permitting procedures, the perceived disruption during construction and permanent impact on the landscape; and the delay to the return on investment, which acts as a disincentive.*
- *Off-shore wind farms could be and need to be upscaled. However, getting electricity to land requires a trade-off, with overhead transmission lines, which EU citizens do not always like. Resistance slows down planning and permitting.*
- *Off-shore solar farms in stagnant water such as lakes could be a potentially useful source of renewable energy. Moreover, the panels could prevent water evaporation, essential during drought conditions. However, further research into the feasibility of upscaling for widespread use is required.*

One problem with these renewables is the limited capacity of batteries for electricity storage. This is somewhat compounded by the materials shortage, which is hampering battery production in the EU and the genuine risk that batteries will not be available for the long term. There are promising solutions, such as the use of hydrogen/other molecules for transmission.

Consulting engineers can help to lead the transition. However, considerable investment is required for development and deployment.

The recently published Wind Package has potential synergy with a Blue Deal. Furthermore, existing energy efficiency measures, such as those in the Energy Performance of Buildings Directive, could tap into the enormous potential for wastewater in the functioning of heat pumps. The higher temperature of wastewater creates an opportunity for a form of industrial, even domestic symbiosis, which could turn wastewater into a resource, for a positive impact on energy consumption for heating. In general, given the above energy solutions and their link to water, we need to be looking at integrating water and energy policy. This could be done as outlined in the introduction, by ensuring that responsible European Commissioners work in the same group in the new political term.

Circular water economy

Systematic use of grey water in the built environment, such as for flushing toilets, must become standard in new build and renovation projects. Such a requirement could be regulated and emphasised in non-legislative initiatives such as the European Commission's *Circular Economy – Principles for Building Design*.

Already mentioned above, the application of recently developed technology, to enable the reuse of wastewater should be scaled up. Domestic and industrial wastewater can be treated to enable reuse for irrigation, saving precious drinking water. We should start ensuring that these systems are in place now, to avoid further stress on water supplies in future.

Working with External Action – the role of Development Aid

Climate migration is already increasing due to the lack of water in some vulnerable countries. This will only continue and as Europe is a preferred destination for migrants looking for new homes, the stress on EU countries receiving immigrants will rise. As such countries experience increasing annual drought conditions themselves, such climate migration is not sustainable and external action should be directed towards developing sustainable solutions in the third territory. Relevant infrastructure projects should adhere to the Standard Operating Procedure and Toolkit for the Procurement of Sustainable Infrastructure.[1]

Public investment

The Blue Transition Fund will need to be partly delivered via public-private partnerships. However, this should not be the only model, as SMEs may be excluded. Public procurement for relevant projects should follow the highest quality standards, avoiding the lowest price and implementing the good practice found in initiatives such as Early Contractor Involvement. In addition, a model contractual agreement for projects partly funded by the Blue Transition Fund should be developed at EU level for use by Member States. Finally, the Fund should prioritise regions most in need and should facilitate local solutions, which are the most reliable and accessible in times of emergency.

[1] https://www.efcanet.org

Closing remarks

No time to waste and joint effort needed from industry-centred stakeholder partnerships

A Blue Deal will require a huge collaborative effort. EFCA encourages the formation of EU institutions/industry-led partnerships, with stakeholders from the academic community and relevant NGOs. In particular, target sectors should include agriculture, energy production and other water intensive sectors. Horizon Europe must facilitate multi-stakeholder research, with the aim of rolling out and upscaling the results of successful projects.

We must slam the brakes on our self-destructive over-consumption of our depleting water supply and immediately address essential climate adaptation measures, as well as prevent further degradation of existing water infrastructure. At the same time, we need to turn to emerging technologies such as industrial symbiosis, hydrogen etc. and upscale their use without delay.

Finally, we need to stop seeing water as a never-ending, cheap commodity and start saving every drop, ensuring that no rain or floodwater is wasted when nature can no longer cope, but also that no clean or wastewater is lost, either accidently or through our own cost-cutting or neglect.

The Blue Deal can help us at the highest policy level, but only engineers, industry and the academic community can lead this u-turn with workable solutions that will prevent the day when we have no more water. With this paper, we support the European Economic and Social Committee, the European Water Association, the European Parliament Water Group and other rousing calls for a water-tight policy commitment from the new European Commissioners and MEPs, in the political term 2024-2029.