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This report by FIDIC is the latest in a long series of important contributions to the global state of infrastructure. The report highlights the contribution that engineers can make against the background of the climate emergency and the imperatives of the sustainable development goals. Perhaps most importantly, there is recognition of the critical need for holistic engineering expertise to be deployed at the earliest stages of project identification and even before that, of programme inception, leading to projects that are more fully integrated with the spectrum of needs from technical and financial to social and environmental. Such comprehensive approaches are needed to meet the challenges not least in the water sector.

This drive for engineers to be more involved in the preliminary and strategic decision-making process leads to a need to rethink not just what it is to be an engineer, but also what education and training engineers need to receive. Engineers cannot fulfil their

wider role unless they are trained and educated more broadly to cover issues of governance, finance, social responsibility and environmental awareness.

Engagement with local communities is an important part of what needs to be done to broaden the base decision-making around the provision of water services. Additionally, the value of water invested in products and food needs to be given far greater attention (the concept of virtual water may be useful). Air miles have entered the public consciousness; a similar concept needs to be developed for water embodied in goods and foods.

There needs to be clearer distinction between water that is needed but not consumed (such as a high proportion of cooling water in power stations) and water that is consumed in one location for the benefit of another location (such as food production).

Even by taking an integrated approach to water across the water/food/energy spectrum and looking at all aspects of water (green/blue/grey), there remains the challenge of holistically addressing how water is used, what for, and by whom.

A huge proportion of food grown in Africa is lost before consumption and even more shockingly much of the food delivered in richer countries is wasted. So the challenge for water charging may lie more in the charging of the products derived from water use than the charging for the water only at the point of abstraction.

In addition to the excellent elements in the report related to the value of and charging for water, we need to reinforce the benefits of not using water, driving down demand.

One aspect that a future report might address is a consideration of water quality where in many countries piped water is almost all of potable standard, whereas only a fraction needs to be treated to such demanding standards. There is real potential for dual supply systems to be greatly expanded internationally.

The report touches on the challenges of transboundary issues of water management both as blue water in rivers and as green water in transboundary aquifers. The issue of reducing mountain glaciers in the headwaters of some of the world's greatest rivers is acknowledged as a problem of immense proportions.

By preparing this report, FIDIC has once again fulfilled its role as a leading voice in global infrastructure.

