



Shutterstock: 5098016

## Put the thinking caps on

In the inaugural instalment of opinion pieces written by dredging and port construction industry leaders, Erik van Wellen explains why engineering has to watch out for sustainable growth as history repeats itself

► Erik van Wellen, DEME Group

**T**he final week of October 2018 saw the Global Engineering Congress (GEC) in London at the Institution of Civil Engineers (ICE), which last year also celebrated its 200th anniversary.

The five-day conference brought together large numbers of the global engineering community around the United Nations Sustainable Development Goals (SDGs). These, as most of us know, represent the broad and interdependent collection of 17 global goals set by the United Nations

General Assembly in 2015, covering social and economic development targets between 2015 and 2030.

The congress focused on five of these where the engineering community in particular can truly make a meaningful contribution and consequential impact. Using the numbering system of the UN, these are: 6, clean water and sanitation; 7, affordable and clean energy; 9, industry, innovation, and infrastructure; 11, sustainable cities and communities; and 13, climate action.

Additionally, UNESCO has remarked it is more than fair to state that engineering is vital in achieving the goals. The observant reader will have already noticed that a lot of the drivers, such as population growth and its demographics – urban development, coastal protection, and energy – all impact these five SDGs and that these also drive the dredging industry. Some people might think these are all rather ‘new-age’ issues that have suddenly popped up or are

‘History rarely repeats itself verbatim but it does echo with surprisingly well-rhyming tones more often than not’

Erik van Wellen, project director for DEME Group



Erik van Wellen: 5098015

merely potential issues, or even non-issues. But nothing could be further from the truth. The silver lining in all this is that the five SDGs actually form a natural match with the core business and activities of any modern-day sustainable dredging and maritime construction company.

History rarely repeats itself verbatim but it does echo with surprisingly well-rhyming tones more often than not.

#### The sewer issue

Take, for example, the heading of clean water and sanitation. History buffs will be able to cast, if not their minds, then surely their imaginations to the first industrial revolution. This took place from the mid-18th to the end of the 19th century. It was a period where the mostly agrarian, rural societies in Europe and America, driven on to a large extent through the textile and iron industry and empowered by the life force of the steam engine, became industrial and urban.

And nowhere more so than in London. Although the revolution heralded an era of per-capita economic growth previously unseen, it did come with some unexpected demons that needed to be faced, such as the never before witnessed unbridled pollution of the River Thames. In the summer of 1858, this reached such proportions that the Houses of Parliament had to install curtains soaked in chloride of lime in a vain attempt to suppress the sickening stench resulting from the contaminated Thames water that essentially had become supersaturated with effluents from toilets, slaughter houses, and factories.

This was finally addressed by the great civil engineer Joseph Bazalgette who was instrumental in the construction of the sewer network for central London and the reclamation of the Victoria, Chelsea, and Albert embankments, eventually relieving the city from cholera epidemics. At the time, the installation was sized to the larger population density in the area and allowed for a growth to about double throughout the area. Talk about resilience-based engineering *avant la lettre*.

#### Global journey

However, this is not a story of “all’s well that ends well”, because here we find ourselves again. And this time, on a truly unprecedented, multifaceted, and global scale. Rather than merely coming full cycle as is often the case, the global community is spiralling in the subjects that make up the 17 SDGs and, if left unchecked, clearly not towards a good sweet spot either.

Over the course of the five conference days, the five SDGs mentioned were all approached from different angles by a contingent of about 200 speakers. To mention just a few interesting points, day one, which focused on the role of engineering in progressing the UN SDGs, clearly showed what a difference properly engineered infrastructure can make by, for example, contrasting the 2010 earthquake that struck Haiti leading to 200,000 fatalities with a similar one in Japan in 2016 where only 50 fatalities were suffered.

Day two, which outlined some of the challenges, opportunities, and solutions, made the point that more than

1.4 billion people around the world still do not have access to reliable electricity and some of the speakers outlined how some are trying to curb this by such projects as renewable energy ventures and load-sharing partnerships.

Day three of the conference brought more than 2,500 attendants to discuss on the theme of day, which focused on building sustainable economies and resilient communities. The United Nations Office for Project Services representatives in this context handily pointed out the need for infrastructure workers to stop thinking about development in silos and instead appreciate that infrastructure is a cross-sector, integrated system of systems, which can often have effects across generations.

During the next day, when the focus was wholeheartedly on engineering and its social impacts, the world’s three leading professional civil engineering organisations – ICE, American Society of Civil Engineers, and the Canadian Society for Civil Engineering – signed a joint statement of intent to take action on climate change aimed at raising the standards of civil engineering and requiring their members to demonstrate a sound knowledge of sustainable development and the SDGs.

The final day of the congress delved deeper into this fertile ground, focusing on what often truly drives change: governance, education, and investment. Fascinating new developments such as the marked emergence of impact investments and the ongoing evolution of catastrophe bonds were amply discussed and held up against the light.

Former United Nations secretary-general Ban Ki-moon probably captured it best when he said, “We don’t have plan B because there is no planet B!” A call to action if ever there was one! And action is exactly what is required. We all know what the dredging industry can achieve when it puts its mind to it: create new land to live and work on, take cargo off overly congested roads, put windmills in the middle of the sea. So let’s put our thinking caps on and see how we can contribute even more, because in my opinion we can. I am looking forward to discussing your ideas and potential involvement in the further shaping of the world for the good, for the generation of today, and those to come. □

#### Author bio:

##### ► Erik van Wellen, who is the Institution of Civil

Engineers’ representative for Belgium, is an experienced chartered civil engineer and registered International Professional Engineer who holds engineering degrees from the universities of Antwerp, Liverpool, and Plymouth. He is currently employed as a project director for DEME Group. He is a fellow of the ICE and the Royal Geographical Society and acts as a freelance independent expert, arbitrator, and mediator in the field of alternative dispute resolution.

✉ [van.wellen.erik@me.com](mailto:van.wellen.erik@me.com)