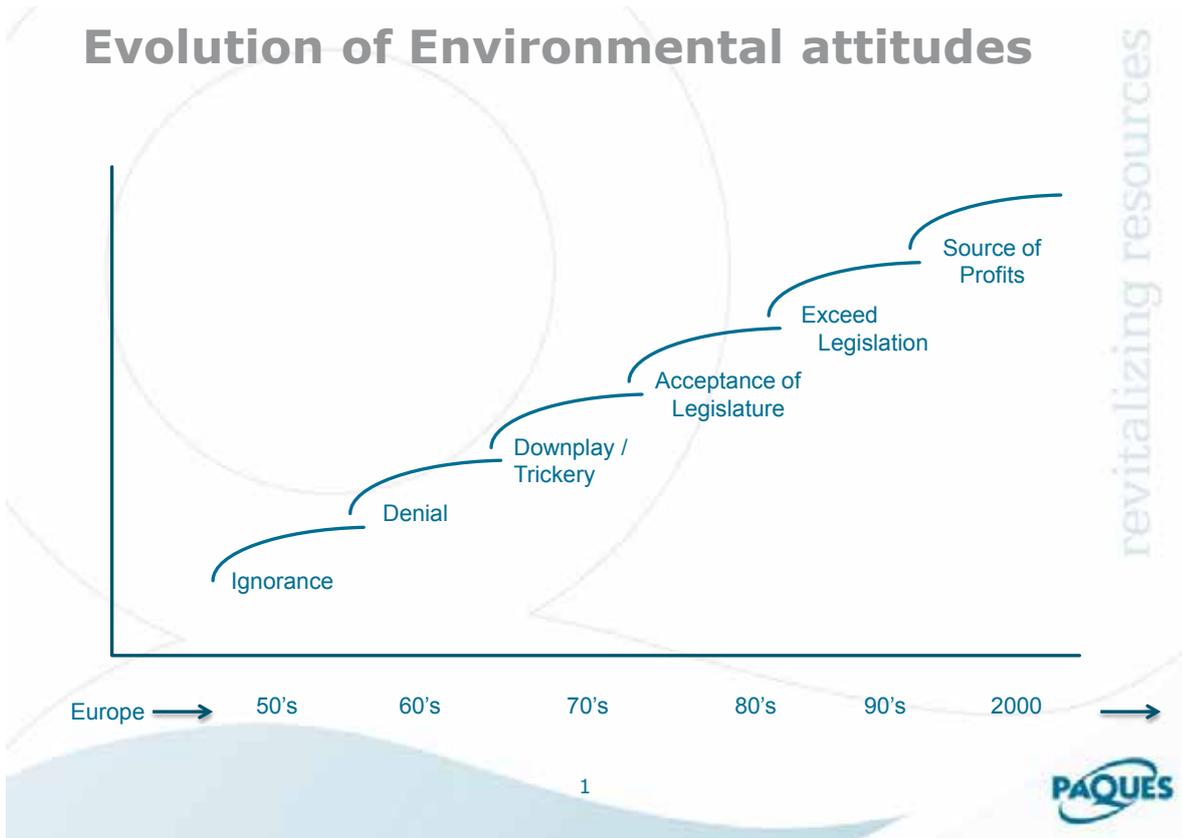




# Draconian measures in the land of the Dragon, helping Chinese companies to catch up with the new environmental rigor

*Interview Stephan Bocken, CEO Paques*

Recently China changed its environmental laws to the effect that CEO's of companies that do not uphold the law can be sent straight to prison. China is developing in leaps and bounds through a process that took the Netherlands over half a century to complete. Stephan Bocken, CEO of globally operating but Friesland based Paques, observes that China and the other BRIC countries are catching up rapidly when it comes to implementing rigorous environmental standards. With a very strong presence in the land of the Dragon, Paques is successful in warding off the ever fiercer competition from local Chinese water companies. Offering state of the art Dutch water treatment technology has brought Paques to the top of their field world-wide. Assessing the global arena, Stephan Bocken explains to us why the Netherlands, in spite of increasing international competition, remains a leading factor to be reckoned with in waste water management. Also, he adds a refreshing caveat to the Dutch belief of twenty years standing now in decentral waste water solutions.



### ‘Evolution of environmental attitudes’

When Stephan Bocken would fly to China around 2000, his eyes would already start to hurt soon after landing at the airport, so all pervasive was the permanent smog that poisoned the air back then. Now, things are considerably better because of dramatically improved adherence to environmental standards. This goes to prove that China is not only a stricter legislature than it used to be, but also that the country as a whole has moved quickly into acceptance of the imposed environmental legislation. Bocken illustrates this process with an insightful model that Paques developed for explaining their vision: “revitalizing resources”. It is entitled Evolution of Environmental Attitudes and graphically shows how in Europe, when it comes to waste water management, we evolved from a state of ignorance to now starting to actually see in waste the potential for profit. When Paques wants to do business somewhere in the world, it uses the model to assess into which phase the local environmental attitude has evolved up to that moment. “As a company you can really see what you can do in a country at what stage.” Stephan Bocken emphasizes enthusiastically. “If we hear horror stories in Europe about the environment of China or India for instance, this just means they are going through a different phase in the same evolution that we have gone through. But because they have started at a later starting point, they generally pass through that evolution at greater speed than Europe. Even within a big country like China, you may find that the coastal regions are more advanced

than, say, the central regions of China. It’s beautiful to see that if you put it into a model like we have done, that there is no natural progression in the same direction, there is no escaping environmental realities and that we all have to go through the same process, learn the same lessons and come to similar conclusions. So those who are “ahead of the curve” are in fact the future technology suppliers to those following them.

### European lead

Bocken observes that the model also sheds light on the advantage we hold in the Netherlands and Europe because we have already completed the different stages and are now working on technologies that make waste water a source of profit for the future. Back in the 50’s, I don’t know if the Dutch word “Milieu” even existed and people were generally ignorant of the consequences of industrial waste for the environment. After legislation started and got stricter in the 1960’s, many moved into a phase of denial, followed by downplaying and outright trickery in the 1970’s. For example, back then some tricksters would open the waste water valve to the Rhine at night, or they would start the waste water plant just before the authorities came to do checks. Then in the 1980’s the strict environmental legislation slowly became accepted by companies because people who ran the companies grew aware of the fact that they couldn’t go on poisoning their neighbours and other stakeholders. What happened next, is that the treatment of waste and wastewater became not only accepted



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internally but also a real cost factor in companies, generally. As a result, companies started to move away from end-of-pipe solutions, which often resulted in less waste. A side consequence of this was that companies frequently exceeded the legislative requirements by cutting their waste costs as much as possible. But now we enter a new phase, and I think it is actually the most exciting phase because what is emerging is that the driving force to implement environmental change is less and less legislative and more and more economical. Many are now seeing waste of today as the raw material of the future, turning it into a source of profit. This is quite a dramatic paradigm shift taking place.”

### **Creating value out of waste water**

At Paques they are spending a large part of their research and development budget on creating intelligent technology for their customers, so that they can create real value out of their waste water instead of just minimising the costs of complying with legislation. “What we have noticed is that our technologies, our proposals, in time become the standard, thus putting us at the top of our field in terms of technology. The same rings true in terms of presence, since we operate in all the BRIC countries and also in Europe, North America and South East Asia.” Bocken confidently states. “Basically what Paques is trying to do, is bring new life to resources from waste water, revitalizing resources so to speak.” Bocken explains the core business of Paques. “A lot of what we do is biologically based. We deal with water from sewage, paper

mills or breweries for instance, which contain all of the main elements that constitute the molecules that make living organisms. From these waste water streams we extract COD, nitrogen, sulphur and phosphate with our specially designed processes. Also, for the mining industry we have developed special processes to extract metals and sometimes even radioactive metals as well. We are also active in creating bio-materials of the future from waste using bacteria.”

### **Home is where the dykes are**

Paques generates a majority of their sales outside western Europe and thus meets all kinds of different conditions, as Bocken explains. “What we see is that virtually every plant we design has to take into account local considerations. There are many decisive factors in finding the optimal solution for the customer, and they vary from site to site. So I find it less relevant to use the word ‘developing countries’ to categorize a market, but would rather start from the standpoint that every plant and every customer has different driving forces that you have to respect if you want to operate globally as a company. We deliberately staff all our units abroad with locals instead of expats, up to the leaders of each operation.” Meanwhile, the Paques global headquarters is solidly based on Dutch, or more correctly, Frisian soil, in the little town of Balk, counting just short of 4000 inhabitants. Because, when it comes to water management, the Dutch water experience remains unrivalled. Water here may well be called an intrinsic factor,



ever present and deeply felt through centuries of old culture, mirrored in dykes, polders, age old water boards, meandering waterways and towering sea levels.

### **Dutch water supremacy**

Given the Dutch hand-on expertise in the field, it may come as no surprise that Stephan Bocken is adamant about the leading role of the Netherlands now and in the future when it comes to waste water management. “We are ahead of the curves, or at least some of the curves. So we have an advantage that we can use, and of course there is the ever present conflict of water here, which helps to keep us on our toes. Also, we have a lot of really good universities that are all very helpful to generate the technology that is the source of the Dutch competitive advantage in this field. The focus and presence of Dutch water companies all over the world is also a big factor in confirming internationally the strength of the Dutch in the waste water sector; Paques is very grateful to be part of that. And of course the support of the Dutch government, especially to the Dutch universities, is also a major stimulating factor helping the sector to keep its position in the frontline. So it is not surprising that our home base is in the Netherlands and that from here we align and implement our technology in the regions we operate in abroad.”

### **Decentral waste water solutions: the long haul**

On a more practical note, Stephan Bocken concludes

that “it’s easy to have a grand vision about decentralised wastewater plants in the municipal market, but it’s far more difficult to work on solutions that make sense to all parties in practice.” He refers especially here to Dutch universities promoting the idea in the past twenty years of decentralized waste water plants. “Some people say there are driving forces to this end but I’m not sure there’s going to be a big happening in the future. This is especially true in countries that have developed all the infrastructure necessary for central waste water purification. Decentral waste water treatment is certainly technologically possible, but there are a lot of entry barriers that have nothing to do with technology that will have to be overcome in order to have a significant number of decentralized municipal plants co-existing next to centralized plants. Once a centralized system is up, it’s difficult to come in with an economic decentralized model. Remember, for example, the piping system to the centralised municipal plant costs just as much as the waste water treatment plant itself. So if the piping system is there already, you’re going to have to take this into account. Someone will still have to be paid for the maintenance of the piping system if the decentralised unit is set up. However, if the centralised piping system is not there yet, then there certainly are real possibilities for decentralized municipal units because then it often becomes a viable solution. It’s a great idea, decentralized waste water treatment, but I do not see it implemented on a large scale in the existent centralised municipal market in the near future.”