

Danish - Indian Waste Water Treatment Demo Project



Partnerships

- Danish Water Forum – knowledge sharing and joint activities
- Facilitating water and clean-tech partnerships for emerging markets – waste water treatment in India
- Are partnerships the right way to go?
- From products to solutions
- And what about the markets?

Background

- February 2009: India-Danish Water Days
- Danish Minister of Environment visits India in Feb 2009
- Danish Prime Minister signs agreement with India on Knowledge sharing and exchange of environment-friendly technology
- Business contacts between Indian and Danish companies
- Site-visit to wastewater treatment plant in Mumbai – room for improvement by introducing Danish technologies: water quality and energy efficiency – 6 companies to form a partnership

6 companies covering the whole process

- COWI, largest Danish consulting company
- Danfoss, world-leading company in automation, drives and other technologies
- DHI, environmental research and consulting company
- Grundfos, world-leading supplier of low-energy- high-efficiency pumps
- Siemens, world-leading supplier of technology and solutions
- Water Center South, the third-largest water supply company in Denmark with international links and experiences

The "backing-group"

Danish Environmental Protection Agency under the Ministry of Environment.

Danish Water Forum, a knowledge-sharing network, promoting Danish technology export, cross-cutting research.

The Royal Danish Embassy, Delhi, The Trade Council

The aim of the Demo Project

- Cooperation on plant rehabilitation
- Energy optimization
- Improved treatment processes
- Higher quality on the discharge water



An aerial photograph of a wastewater treatment plant. The facility consists of several large rectangular aeration tanks with metal walkways and railings. Water is being aerated, creating white foam on the surface. In the background, there are various industrial buildings and structures. Overlaid on the image are three green callouts: two arrows pointing away from the center and one central box.

80% Energy out

100% Energy in

Effective uptake
20%

50% Energy out

100% Energy in

**In other words! Save up to
50 % of the energy**

Effective uptake
max 50%



Opportunities

- Improving technical solutions and optimising efficiency of the plant: Changing pumps, and aeration systems (blowers), fitting control systems and sensors, collecting data and using these to control aeration, pumping, data management system
- Training staff in new operation skills
- Better access to financial options
- Providing the whole solution in a package, not individual products
- The plant can function as a demo-site for India – and for Danish technologies – and for cooperation among companies

Challenges

- Bureaucracy
- Low price for energy
- Financing models
- Low awareness about water and environment, the DK-India agreement did help along with the later agreement on upgrading the plant
- Is the partnership model relevant and can it be transferred to other countries and settings?

Other projects

- Innovative Green System solutions – based on experiences from the India-partnership – transfer to other countries on:
- Groundwater, China (key Danish competence)
- Reduction of Non-Revenue-Water, Indonesia or Vietnam
- Local Rainwater management
- Sludge partnership in India

Usefulness of partnership model?

- Danish water sector characterised by SME's – most are too small for global markets (half below 20 emp. Only 13% more than 250)
- Focus on solutions and not products and individual competencies
- Partnerships cover the whole range from product over consulting to training.
- Partnerships are needed to maintain R&D and cooperation with research and knowledge institutions
- Companies interested in broad partnerships: other companies, universities and applied research institutes (53% high or very high degree, 34% some, only 7 and 6% little or very little), but primarily with Danish partners.

Is there a market for Danish water technology?

- Global water market 7-800 bill€
- 1.7 bill. facing water stress today – 5 bill. in 2025
- In Denmark water business difficult to calculate, no official branch, but estimate says 200 companies 35.000 employed
- High export potential: 2001 – 2006 growth 9%
- High level of R&D, 13% of companies spend more than 25% of turn-over.
- High export share of production, around 50%

Is there a market for Danish water technology 2?

- But tendency to focus on neighboring markets – where we are now: Nordic, West Europe, USA, East Europe (not Russia), less on emerging economies like Asia, China, Russia, South America.
- And in the future, same pattern, i.e. export to Canada is expected to be like export to Russia or China. There is a comfort zone.
- Need for a push to go to emerging economies with the whole value chain

In conclusion

- Danish water sector has high export and the potential to improve this.
- Many SME's are in this category
- They are focussing on neighboring and look-alike markets, need for a push towards growth markets.
- And they need to be able to demonstrate the value of Danish knowledge on global markets
- Partnerships can contribute to overcoming size and innovation needs and demonstrate knowledge, but it demands support to establish model, business case and up-start of partnership.
- Partnerships can support steps into new markets, partners can learn from each others network.