



# Clean Tech Delta

Innovative solutions to  
climate and energy challenges

*The New Green Deal*  
for innovation and clean technology  
in the Rotterdam-Delft region





# Clean Tech Delta

generating and stimulating  
joint innovation  
and clean technology



**Clean Tech Delta is a collaboration between trade and industry, education and government in the Delft-Rotterdam region to combat climate change and improve the environment. The idea is to apply innovation and clean technology in the fields of energy, mobility and the use of raw materials to create a durable and sustainable Delta. Clean Tech Delta has economic, (environmental) technological and socio-economic dimensions. Clean Tech Delta will reinforce the region while offering solutions at an international level. After all, the aim of innovation and clean technology is that it can be applied all over the world.**

### **Why the Delft-Rotterdam region?**

There are radical developments ongoing in the Delft-Rotterdam region, such as Stadshavens in Rotterdam and the area around the Technical University in Delft. This gives the region the potential to create real sustainable and durable development. Add to this that it is below sea level, has plenty of water and is home to the largest port/industrial complex in Western Europe and you have the perfect conditions for Clean Tech Delta. The region's densely populated urban environment also needs new approaches to the problems associated with energy, mobility and clean living conditions. The lowest delta in Europe is the ideal place for developing Clean Tech solutions: if it works here, it will work anywhere.

### **What is Clean Tech?**

Clean Tech stands for *clean technologies*, i.e. technologies which optimise the use of natural resources and minimise negative environmental impact. To achieve this, it is essential to combine increased economic value with environmental benefit. Furthermore, the Clean Tech Delta focuses on innovative, future proof solutions in the lowland river delta. The Clean Tech market sectors are:

- energy efficiency
- water en deltatechnology
- sustainable energy generation
- sustainable mobility
- efficiency of materials
- waste disposal and recycling

### **New Green Deal**

In summary: Rotterdam-Delft is situated in the heart of the Dutch Delta and has the ambition of becoming world leader in the field of sustainable, future proof area development by means of realising the first climate neutral and climate proof delta in the existing area.

Working on a safe and climate proof port and urban area generates an economical spin-off. Already more than half the world's population lives in low delta areas, the demand for innovations will increase substantially. The Clean Tech Delta generates export products that may be marketed to other delta and port cities in the world. The development and implementation of innovations for city water management make the Clean Tech Delta an inspiring example for other delta cities in the world.

**Trade and industry, education and government are convinced that the Rotterdam-Delft corridor is becoming increasingly important to the reinforcement of the socio-economic structure. They need each other to achieve their ambitions and form a coalition to set an example at both national and international levels. They have shaken hands and agreed on the *New Green Deal*, so that they can form associations, speed up processes and make things happen. Their aim is to develop new solutions in relation to energy and quality of life, which will have a direct effect on the region itself, as well as creating a much sought-after international export product with significant economic value.**



The three dimensions of



Clean  
Tech  
Delta

## Economic

Research shows that the worldwide growth in employment in the different sectors of Clean Tech between 2004 and 2009 lies between four and thirteen per cent per year. The prognosis is that supportive investment in Clean Tech worldwide will result in at least twenty million extra jobs in this sector by 2030. The development of clean technology will generate extra local employment and reduce CO2 emissions by 0.65 per cent (for which the emission rights can be sold).

Additional research undertaken by Deloitte in the Delft–Rotterdam region identifies three sectors with significant economic potential:

- energy (oil & gas) - production € 27,559 million / 6300 full time employees / 55 companies
- port related commercial services - production € 305 million / 1700 full time employees / 120 companies
- hydraulic engineering – production € 91 million / 500 full time employees / 50 companies

Investing in new, clean and sustainable technology is a rock solid business case. The Rotterdam-Delft region, as well as the country as a whole, will be able to enjoy the economic fruits of their efforts and investments over the longer term. Innovation creates economic activity and high quality employment.

## (Environmental) technological

Trying to create a clean environment and combat global warming are no longer a matter of choice. Consider the fact that the highly populated Rotterdam-Delft region strives to combine clean living conditions with a large port / industrial complex and there's everything to be gained. There is also a great deal of spatial and technological potential. For example, the development of adjoining districts like the RDM site, Merwe-Vierhavens and Science Port Holland, or innovative initiatives such as the pitch for the Knowledge and Innovation Community, the European Centre of Expertise for Climate, the National Water Centre (an initiative of the Dutch water world, an alliance between the Netherlands Water Partnership and Dutch

Delta Design 2012), the RDM Campus and the Climate Campus. In short, a whole range of Clean Tech initiatives, developed by government bodies, educational institutions and trade and industry.

## Socio-economic

Real sustainability is also a question of behaviour and mentality. Durable, sustainable trade should become second nature to both businesses and citizens alike. Therefore, we want to stimulate not only clean technology, but also initiatives for raising awareness and improving living conditions and energy conservation. Ambitions are part of the mentality, like the ambition to be the world leader in durable, sustainable development by creating the first ever climate neutral delta. In order to achieve this, it's essential to occupy a top position in the development and application of Clean Tech and social initiatives. The objective is to reinforce the socio-economic power of the region by, for example, international marketing of these regional innovations. In this way, sustainability will become firmly established in society.





The steps towards creating

Clean  
Tech  
Delta



## Exchange of information

It's important that trade and industry, education and government are united in the move towards a sustainable future. Excellent information exchange is crucial in forming strong associations and expediting the process. This is the only way to effectively develop an area and drive innovation and clean technology.

## Joint lobby, marketing and acquisition

Most of the elements for the Clean Tech Delta are already in the region, but the resulting combination must be greater than the sum of its parts if it is to obtain the optimum effect. This can be achieved by forming groups and combining initiatives, appropriate lobbying and marketing of the region (with a united approach) and targeted acquisition.

## Measured planning of spatial initiatives

The regional development has to be within budget. There are initiatives currently underway at the RDM Campus, Merwe-Vierhavens, Science Port (Schieveen and Technopolis) and Delft University of Technology. Development of the land will need to be phased to facilitate proper implementation; the necessary elements for this are already in place.

## Quality stimulus: innovative and sustainable development

Innovation and durability must be stimulated in order to reinforce the socio-economic structure and encourage sustainable development. Quality has to be added to the agenda, with careful organisation to combine new and existing innovation programmes and speed up and enlarge scalable pilots. Participants are already working in various innovative groups, such as sustainable energy generation, sustainable development and expertise infrastructure. These activities are providing an impulse to the initiatives already mentioned (RDM Campus, Climate Campus, National Water Centre) and stimulating cohesion and innovation in the Clean Tech concept.

## A step further...

Questions relating to collaboration will be discussed in the 2010 Clean Tech Delta year plan. Consideration will also be given in the future to more far-reaching forms of collaboration, for example large national or European financed innovation programmes. The first four steps towards collaboration are actually the first in a process that can lead to many more and larger scale collaborations.

### Summary

**Innovation and clean technology in the Delft-Rotterdam region is creating sustainable solutions which can be applied at both regional and international levels.**

**Clean Tech Delta is a New Green Deal: a joint venture by trade and industry, education and government to stimulate innovation and clean technology and put them into practice.**

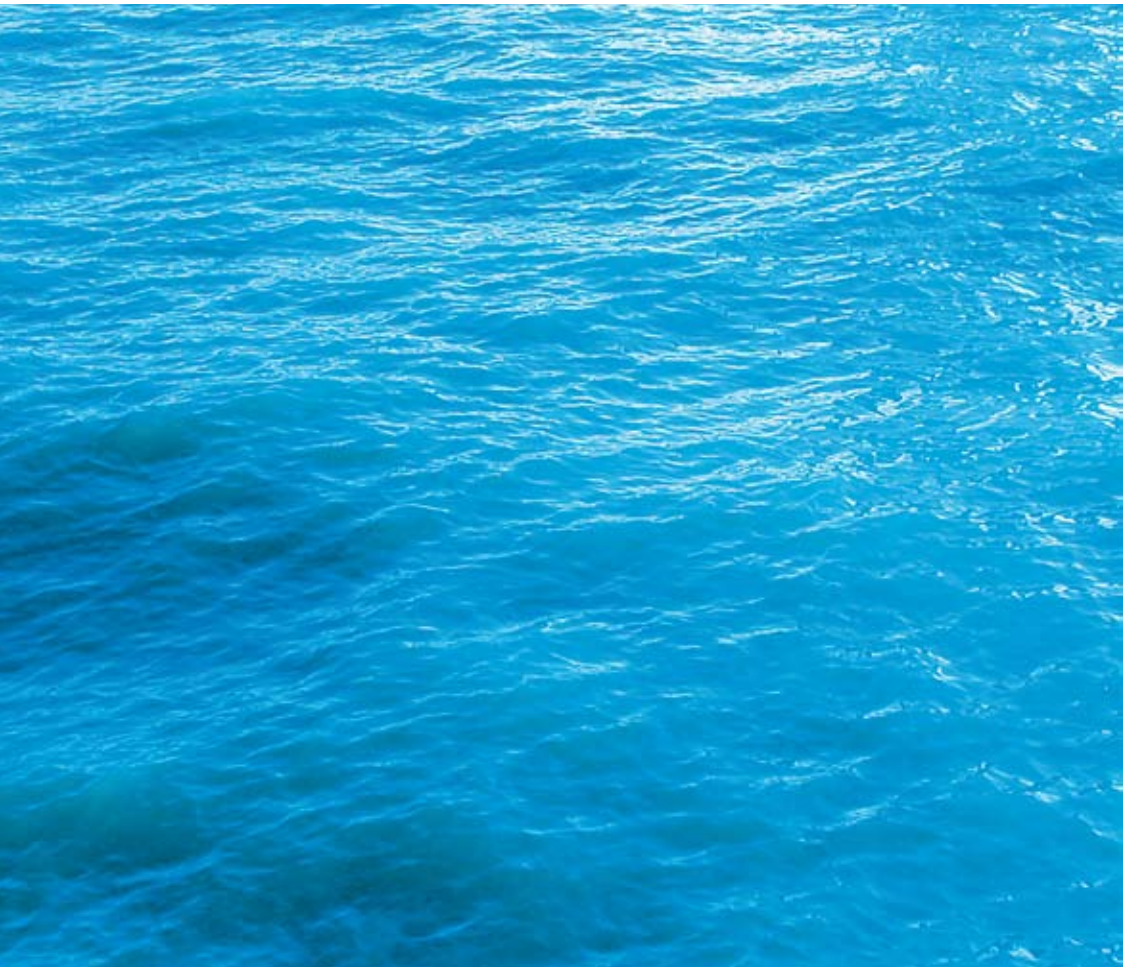
**The situation and conditions of the region are ideal: a port / industrial complex and a densely populated urban environment, with the necessary space and technological potential. Furthermore, the region Rotterdam-Delft is situated in the heart of the Dutch Delta. Development and implementation of innovations for city water management and delta technology create the Clean Tech Delta which is an inspiring example for other delta cities in the world.**

**Clean Tech Delta has three dimensions: economic (sustainability is a strong business case), (environmental) technical (responsible use of energy and resources is essential) and socio-economic (changing behaviour and mentality will bring about sustainability).**



## Clean Tech Delta in a single sentence

**Clean Tech Delta is a New Green Deal: a collaboration of trade and industry, education and government to stimulate innovation and clean technology and then implement it.**



## The supporters of Clean Tech Delta

- ARCADIS
- AVR/Van Gansewinkel Group
- BP
- Delfland Water Board
- Delft City Council
- Delft University of Technology
- Deltalinqs
- E.ON
- Eneco
- Environmental Federation of South Holland
- Erasmus University Rotterdam
- Rotterdam City Council
- Rotterdam University
- TNO
- Vestia/Estrade





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