The Port of Rotterdam Authority and the port’s business sector are frontrunners when it comes to developing initiatives that enable companies to operate as energy-efficient as possible, making fossil-based energy production ‘cleaner’, tapping into new energy sources and drastically limiting CO2 emissions. The Port Authority anticipates a bright future for biofuels, bio-energy and biobased chemicals. This is why the Port Authority is creating space and facilities for this purpose. This includes Rotterdam Bio Port, which will consolidate all bio-based activities. Rotterdam Bio Port is focused on the interrelationship between solid biomass for energy production, biofuels for transport and a green biobased chemical industry. Energy efficiency and clustering are key in this respect.

Bio Energy, Fuels and the Chemical Industry

The European Union has formulated a number of climate targets. For example 20 per cent of the energy used in Europe must be derived from sustainable sources by 2020. In the Netherlands the Cabinet wants to generate 16 percent of Dutch energy needs from renewable sources, such as wind and biomass, over the next seven years. Rotterdam wants the port to be associated with new clean energy and energy sources. Solid biomass, bio fuels and bio-based chemicals are key components in this respect. An important form of generating clean power is to co-fire solid biomass consisting wood pellets in coal-fired power plants. Approximately 1 million tonnes of solid biomass passed through Rotterdam in 2012.

In short term (as of 2015) the new coal-fired plants on the Maasvlakte will also start co-firing biomass as part of their fuel mix. Over the coming decades a high demand for wood pellets for use as a co-fired fuel is expected.

As far as bio fuels are concerned, there is an obligation in Europe to mix 10% bio fuel such as bio ethanol and bio diesel for EU countries. With a throughput of approximately six million tonnes of bio diesel and bio ethanol per year, Rotterdam is the European hub for bio fuels. The combination of large-scale production by parties such as Abengoa and Neste Oil and efficient logistics is unique and it ensures a competitive bio fuel industry. At present five bio fuel
Rotterdam Bio Port

producers have established a presence in the Port of Rotterdam. They supply the Rotterdam refineries, which produce large volumes of fuel for the international market.

The growth in the volume of biomass and the production of biofuels offers opportunities for the chemical industry. The Rotterdam chemical cluster also offers connections for working in a more environmentally-friendly way and for attracting innovation. Rotterdam offers space for scaling up technologies. For new start-ups which want to take the step up from pilot scale to commercial production, Rotterdam offers a good starting point.

PLANT ONE
The port of Rotterdam aims to develop smarter and more efficient production methods for petrochemical industry. Plant one is created for this purpose. Plant One is the Rotterdam-Rijnmond region’s test facility for sustainable process technology. www.plant-one.nl

GLOBAL HUB FOR BIOMASS
Rotterdam functions as a hub for the flow of European and global freight consisting of biofuels, wood pellets, vegetable oils and chemicals. Rotterdam is perfectly positioned for this, in part because the port and the industrial complex already process these materials to a limited extent. The Port of Rotterdam’s aim is to tranship eight to ten million tonnes of biomass by 2020. In addition, the Port is aiming to change 20% to 30% of the fuel mix for its power generation plants on the Maasvlakte to co-fired biomass.

A well-developed infrastructure and reliable hinterland connections are prerequisites for a world class hub. The port of Rotterdam is uniquely positioned directly along the sea with good hinterland connections. The required storage and transhipment facilities are available, as is the security of feedstock. The Port has good logistics facilities, as well as all conceivable transport options and intermodal connections for the supply and conveyance of biomass. The 1,500 kilometre long intra-port pipeline system, which interconnects companies within the port and with the rest of Europe, forms an important part of this. In addition, various assistance programmes are available through which the Port of Rotterdam offers clustering opportunities and stimulates the exchange of raw materials, semi-finished goods and residual products.

ROTTERTDAM INDUSTRIAL CLUSTER
The industrial cluster in the Port of Rotterdam consists of more than 45 chemical companies, five oil refineries and one coal-fired power plant. Two more plants will be added by mid-2013. This makes Rotterdam one of the most important oil, chemical and energy ports in the world and the largest industrial energy cluster in Europe. For some time now this has gone far beyond just fossil fuels, such as coal and oil. The Port of Rotterdam Authority considers alternative energy sources to be a key component in its aim of operating the port area at the highest possible level of sustainability. This is why its goal is to become the most sustainable energy power plant in North-west Europe and a worldwide hub for sustainable raw materials for energy production, fuels and chemicals.

MAASVLAKTE 2 BIO-BASED CLUSTER
The newly constructed Maasvlakte 2 port area will be completed in the spring of 2013. An 80-hectare area has been reserved for bio-based industrial activities ranging from the trade and storage of dry, as well as liquid biomass and renewable energy to the realisation of new product installations that work with certified sustainable feedstock. On this basis the Port of Rotterdam is focused on attracting the technologically most advanced bio-based industry with the highest possible sustainability standards.

The site is located immediately adjacent to deep water and is also adjacent to the existing industrial cluster, which already accommodates various industrial complexes, including bio-based industrial enterprises. This means that bio-based enterprises that establish a presence on the Maasvlakte 2 can in the future be easily integrated into existing activities by means of pipeline connections.

ROTTERTDAM CLIMATE INITIATIVE
The Port of Rotterdam Authority is a partner in the Rotterdam Climate Initiative (RCI). www.rci.nl

PORT OF ROTTERDAM AUTHORITY
The aim of the Port of Rotterdam Authority is to enhance the port of Rotterdam’s competitive position as a logistics hub and world-class industrial complex. Not only in terms of size, but also quality. The core tasks of the Port Authority are to develop, manage and run the port in a sustainable way and to maintain a speedy and safe service for shipping.

FOR MORE INFORMATION, PLEASE CONTACT
Port of Rotterdam Authority
P.O. Box 6622, 3002 AP
Rotterdam, The Netherlands
T + 31 (0)10 252 12 30
E bioport@portofrotterdam.com
I www.portofrotterdam.com/bioprt

© Port of Rotterdam Authority (0313/UK)