

## Appendix A

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The province of Noord-Holland has a lot to offer with regards to the production of clean and reliable energy. We offer wind, water, sun, ports, excellent research institutions and innovative companies. These aspects contribute to economic growth and the reduction of CO<sub>2</sub> emissions. With that, many new jobs are created. For this to succeed it is important that different organisations know where to find each other and how to cooperate with their common goals in mind.

In the political coalition agreement of 2015 it is stipulated that Noord-Holland is dedicated to reducing its reliance on fossil fuels. Noord-Holland will closely work together with other organisations to achieve this goal. Energy should be produced in a sustainable way and by using multiple energy sources. Furthermore, we strive to use an energy neutral design for our own organisation. The circular economy aims at reusing raw materials and the province of Noord-Holland wants to further the reduction in energy use by promoting sustainable solutions for buildings and urban areas.

These ambitions correspond with the Dutch National Energy Agreement that was signed in 2013, among others by Noord-Holland. The goal of this national agreement is to produce 14% renewable energy in 2020 and 16% in 2023. The province of Noord-Holland has committed itself to contribute 685,5MW of onshore wind energy as of a total of 6000MW for the entire Netherlands.

Together with other northern provinces, Groningen, Drenthe and Fryslân we have also made an energy agenda for the Northern part of the country. This document called 'Switch' aspires to contribute to the production of 21% of renewable energy. Thereby creating approximately 3600 new jobs.

### **Our involvement**

The province of Noord-Holland is committed to making our energy supply sustainable and to reduce CO<sub>2</sub> emissions. We work together with our partners - corporations, other governmental institutions, education and research institutions. Our efforts are mainly focused on improving the sustainability of urban areas, wind energy, sustainable transport and new forms of renewable energy technologies such as tidal energy, biogas and the production of biomass at sea. Additionally, multiple financial instruments have been created as an incentive for investments in sustainability.

Early 2016 the province of Noord-Holland will decide on a renewed commitment towards a sustainable energy supply. These commitments will be put down in a policy agenda for energy transition.

1. Energy efficiency

There are many possibilities for improved energy savings among corporations. Noord-Holland helps in taking the right measures for energy efficiency.

District heating or heat networks can contribute significantly to making our energy supply sustainable. These networks distribute heat generated in an industrial location to other residential and commercial areas. The heat produced from electricity production, incineration of waste or biomass is otherwise lost. Since the province is densely populated and is an important location for industrial production, especially in the metropolitan area of Amsterdam, Noord-Holland will continue its efforts to form heat networks in the region.

#### 2. Energy savings in urban areas

Urban areas use approximately 40% of the total amount of energy in the Netherlands. Building and renovating houses and offices sustainably is an important goal in Noord-Holland.

#### 3. Production of renewable energy

The province of Noord-Holland will realise 685,5 MW of wind energy by 2020, as agreed with the national government. This is challenging because it is mainly the responsibility of the corporate world to build power plants for wind energy. The governmental involvement is limited to spatial planning and allowing the construction of wind turbines in certain areas.

The Dutch government wants to develop 4450 MW of offshore wind energy. The coastline of Noord-Holland will also be affected. This offers many opportunities for offshore industries in Noord-Holland. North Sea ports in Noord-Holland are strategically located for maintaining and servicing the offshore wind parks. Previous experience in the offshore sector, mainly oil and gas, makes the companies in Noord-Holland perfectly equipped to meet demand from the Netherlands and abroad. The province of Noord-Holland contributes to the requisite publicity that is needed to make use of the opportunities provided. Furthermore, we aim to facilitate initiatives for renewable energy production whilst bearing in mind our responsibility for regional spatial planning.

#### 4. New technologies for renewable energy production

The Netherlands has long been a main exporter of natural gas. Expertise and infrastructure for this economic sector is excellent in Noord-Holland which will contribute to making it more sustainable. Noord-Holland promotes the production of biogas as it is a good alternative to natural gas. In the long term it could even provide for half of the total amount of energy that is required. Biogas can be produced through gasification or fermentation. Fermentation is the preferred option because it yields higher results and superior quality biogas.

At the 'Afsluitdijk', a major causeway damming off the IJsselmeer, pilot projects have started to study the possibilities of tidal energy.

Also, the production of seaweed as a source for biomass fermentation or gasification is promising. Currently most seaweed is produced in Asia. However, the knowledge of seed selection and improvement together with expertise in offshore industries result in many economic opportunities for Noord-Holland. Seaweeds are an important source of protein which could be an environmentally

friendly alternative to soy beans and animal protein. The remaining material can be used for energy production through gasification and fermentation.

The goal of the island of Texel is to become energy neutral. The province of Noord-Holland has invested 5 million euro in projects to achieve this goal. Pilot projects have been set up to learn more about smart grids, sustainable public lighting, sustainable transport and making houses energy efficient.

#### 5. Sustainable transport

The province of Noord-Holland promotes sustainable means of transport and focuses mainly on electric mobility. Together with governmental and corporate partners the goal is to have 50.000 electric vehicles in the Amsterdam metropolitan area by 2020. This is part of the target to have 200.000 electric vehicles nationwide. Of course, also the needed infrastructure to charge electric vehicles must be developed. In accordance, the last few years 1800 charging stations have been build. Furthermore, the province of Noord-Holland is involved in innovative projects such as Solaroad, CAR2go and electric taxis.

#### 6. Financial instruments

The province of Noord-Holland has created a fund for sustainable projects. It is aimed at participating financially in the fields of biogas, sustainable building, (offshore) wind energy and solar energy. In addition other innovative proposals for renewable energy production and sustainable technology scan be submitted and can result in a contribution from the fund. In total 30 million euro is available. If successful, the amount of available money can be raised to 85 million euro.

As of the 1st of January 2015 the province of Noord-Holland grants subsidies for sustainable renovations of buildings in the region. Both private individuals as landlords can apply for the subsidy to improve energy efficiency. One million euro is available for this subsidy until March 2016.

To promote and improve financial possibilities for innovation the province is also working on new financial instruments.

#### 7. Watermanagement

The potential disastrous consequences of rising sea-levels for Noord-Holland have resulted in protective measures in the 'Deltaprogramme' which is aimed at being able to cope with the consequences of climate change, especially water security