

APPENDIX UNDER 2 MoU- PROVINCE OF ZUID-HOLLAND, THE NETHERLANDS



Country:	The Netherlands
Capital:	The Hague
Population:	3,6 mln (2015)
Actively employed:	1,7 mln (2015)
Surface:	3,418.50 km (82% = land)
Gross Domestic Product:	€123,4 bln (21% of GDP of The Netherlands)
GHG emissions (year):	45 Mton CO ₂ , other GHG no data available

The province of Zuid-Holland is the most densely populated and industrialised region of the Netherlands and is situated in the western part of the Kingdom. Key economic pillars are the Port of Rotterdam (container transshipment, petrochemicals, transport and logistics), Horticulture (“greenports”) and the Maritime sector.

A significant part of the Dutch knowledge economy is located in Zuid-Holland. This includes four universities (Delft, Leiden, Rotterdam and Wageningen), many companies and knowledge centres such as Bio Science Park Leiden, Science Port Holland, and Yes!Delft.

As a result of urbanisation, the presence of the Port of Rotterdam with a large petrochemical industry in the province of Zuid-Holland, is relatively high and so are greenhouse gasses (GHG’s) emissions. Therefore the necessity for a transition towards an energy efficient, sustainable and low carbon energy system is high. Not only from an economic point of view but also for the quality of life of the citizens and climate protection reasons. This latter is more topical than elsewhere because most of Zuid-Holland is below sea level.

Starting position

The energy policy of the province of Zuid-Holland is determined by the Dutch National Energy Agreement (Nationaal Energie Akkoord) signed in 2013. This agreement aims to gain compliance of the Netherlands in line with European obligations for 2020:

- 20% energy efficiency
- 20% renewable energy
- 20% reduction of carbon dioxide (CO₂) emissions

For the Netherlands these European goals are applied to 20-14-20 and all Dutch provinces including Zuid-Holland have agreed to:

- Intensify energy saving
- Augment the sustainability of transport and traffic
- Stimulate innovations in energy
- Increase renewable energy sources such as wind, heat, solar and biomass

Reduction of CO₂/GHG's

In order to realise the target of 20% CO₂ reduction, to 2009, a maximum of 30Mton CO₂-eq may be emitted in the province of Zuid-Holland. By taking specific measures as described hereafter Zuid-Holland is determined to reach the goals for the reduction of GHG's (including CO₂).

The highest efficiency is expected from:

- use of residual heat from industrial processes and use of geothermal heat
- energy saving in urban areas as well as by private companies
- onshore wind energy production

In addition alternatives to immediate reduction of CO₂ emissions are investigated to combat soil compaction of peatlands and enhance the capture of CO₂ in existing coal-fired power stations in the port area.

Renewable energy

In close collaboration with other public authorities, business sectors and knowledge institutions the province of Zuid-Holland is firmly committed to stimulate innovations in the fields of energy saving and the usage of renewable energy sources. For this purpose an Energy Campus is to be set up shortly in the vicinity of Delft University of Technology.

Currently about 2% of the total energy usage in Zuid-Holland is generated from renewable sources (12PJ). By means of concrete actions on heat, wind, solar and biomass energy the province is aiming for a rise to 6% (ca. 30PJ). Biomass and wind are expected to be the main accelerators in Zuid-Holland.

Energy Efficiency

The Dutch National Energy Agreement (Nationaal Energie Akkoord) is aiming for an average energy saving of 1.5% annually. This implies a saving for Zuid-Holland of 18PJ by 2020. The province aims to achieve this by intensifying the competences of authorisation and safe guarding in the fields of energy efficiency (EED).

Additionally the regional government is focussed on voluntary commitments by several energy-intensive branches (starting with datacentres, the cooling sector as well as stevedoring) to come to concrete measures for energy saving.

Substantial energy reduction is within reach for urban areas in Zuid-Holland by heating up greenhouses, residential areas and office buildings by residual heat and geothermal resources. The share of residual heat from industrial processes will result in a reduction of 8PJ. Together with sectors such as energy, housing and

horticulture and local public authorities the province of Zuid-Holland reviews opportunities for financing the building of new infrastructure required to realise a Heat Grid.

Sustainable mobility

Zuid-Holland has an important role in energy transition in transport, traffic and infrastructure precisely because of the province's core competences and authority in these fields.

Zuid-Holland builds infrastructure (roads and cycle lanes) and takes care of the maintenance. Moreover the province is responsible for tendering parts of the regional public transport networks. Therefore a unique programme on energy transition for sustainable mobility was set up in 2014 with special focus on:

- A. Realising zero emission in the provincial public transport network in 2030 by investing in renewable energy sources. For example hydrogen powered busses
- B. Stimulating energy innovation when building new infrastructure including CO₂ low concrete or ice-free asphalt
- C. Implementing energy innovation techniques in the widespread managing and maintenance of regional infrastructure (road, water, rail and bicycle). e.g. building energy producing roads and introducing street lightning fed by the energy of liveplants
- D. Promoting the introduction of a clean vehicle fleet by organising a Regional Community of Practice on charging points for electric vehicles in local communities, explore and invest in the research on hybride techniques for cargo transport on both road and water ways.

Leading and Exemplary role

Zuid-Holland is increasingly aware of its leading role as 'launching customer' when purchasing products and services that cost energy. Therefore the province is currently redefining its purchase policy to increase focus on the energy targets set by means of experiments with a full electric vehicle fleet, the (re)building of provincial real estate and the purchase of electricity.