INTERNATIONAL PARTNERSHIP FOR
HYDROGEN AND FUEL CELLS IN THE ECONOMY

IPHE Country Update November 2017: The Netherlands

Name	Mr. Wilco Fiechter
Contact Information	Wilco.fiechter@rws.nl, +31-6-5074 8061
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1. New Policy Initiatives on Hydrogen and Fuel Cell

Continuation of fiscal measures in 2017 for FCEVs by exemption from vehicle purchase and circulation tax as well as reduction of taxation for private use of company car (applies to all ZEVs).

Subsidy Scheme for HRS refuelling stations and innovation in the field of zero-emission vehicles was published October 2017. First results are expected at the end of 2017. The innovation part of the subsidy scheme will start March/April 2018.

Total budget: €17M

2. Hydrogen and Fuel Cell R&D Update

A Call from the R&D programme (sustainable) Hydrogen was published in June 2017 and closed on 7 November, with 10 applications being received.

Topics for research: industrial applications of hydrogen (high temperature), mobility (zero emission), and power supply (system integration of hydrogen and energy-storage). First results are expected in Q1 2018.

Total Budget: €750K.

3. Demonstration and Deployments Update

A 3rd hydrogen refuelling station (HRS) recently opened in Arnhem (eastern part of NL). For now, this HRS only refuels at 350 bar; the next approved HRS will include 700 bar.

TU Delft has transformed a Hyundai ix35 Fuel Cell into a power plant. More information available here.

A demonstration project of 2 FC Buses for public transport in the Rotterdam-area started in September 2017.

4. Events and Solicitations

N/A

5. Investments: Government and Collaborative Hydrogen and Fuel Cell Funding

The Hydrogen Platform organization H2NL (information only available in Dutch) is now up and running with the objective to stimulate knowledge exchange between government,

industry and knowledge institutes. The ultimate goal of H2NL is to contribute to meeting the hydrogen goals set by government for 2020.

Political Situation in the Netherlands

After the general elections in March this year, the formation of a new cabinet took several months, due to the complex political situation.

A new Cabinet is in place in the Netherlands, the third Cabinet of Prime Minister Mark Rutte. This Cabinet is based on a coalition of four parties in the Dutch parliament.

In the Statement of policy:

> "*the coalition partners share a strong awareness that we need an ambitious climate policy. It's not a matter of left or right, secular-liberal or denominational. It's a matter of doing what needs to be done.*
>
> *The Netherlands will become a sustainable country. That is a huge ambition. We are setting a high standard for ourselves. Along with 194 other countries, the Netherlands signed the Paris climate agreement and now it must act upon it. We are aiming for a 49% reduction in CO2 emissions in this country by 2030, compared with 1990 levels. And in Europe we will strive to raise the EU target to 55%*."

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Summary Country Update November 2017: The Netherlands

Transportation	Target Number	Current Status	Partnerships, Strategic Approach	Policy Support
Fuel Cell Vehicles[1]	2000 by 2020	37 (Sept 2017)		• Exemption from vehicle purchase and circulation tax (national government)
FC Bus	100 by 2020	12 (scheduled), 4 in operation		• Subsidy for purchase, target group: PTA (Public Transportation Authority)
Fuel Cell Trucks[2]	500 vans and 20 trucks by 2020	2		
Forklifts	No target	0		• No support policy
H_2 Refueling Stations	**Target Number**	**Current Status**	**Partnerships, Strategic Approach**	**Policy Support**
70 MPa On-Site Production	20 by 2020	1		
70 MPa Delivered		1 (Nov. 2017)		
35 MPa On-Site Production	20 by 2020	1		
35 MPa Del.		2 (Nov. 2017)		

[1] Includes Fuel Cell Electric Vehicles with Range Extenders
[2] As above

Stationary	Target Number[3]	Current Status	Partnerships, Strategic Approach	Policy Support
Small[4]	No target			
Medium[5]	No target			
Large[6]	No target			
District Grid[7]	No target			
Regional Grid[8]	No target			
Telecom backup	No target			
H_2 Production	**Target[9]**	**Current Status**	**Partnerships, Strategic Approach**	**Policy Support**
Fossil Fuels[10]	Climate neutral as soon as possible ((no CO2- emission well to wheel)	Large share of fossil fuelled H2-production (by SMR)		Green Deal H2

[3] Targets can be units installed and/or total installed capacity in the size range indicated
[4] <5 kW (e.g., Residential Use)
[5] 5kW – 400 kW (e.g., Distributed Residential Use)
[6] 0.3MW – 10 MW (e.g., Industrial Use)
[7] 1MW – 30 MW (e.g., Grid Stability, Ancillary Services)
[8] 30MW plus (e.g., Grid Storage and Systems Management)
[9] Target can be by quantity (Nm^3, kg, t) and by percentage of total production; also, reference to efficiency capabilities can be a target
[10] Hydrogen produced by reforming processes

Water Electrolysis[11] (PEM, Alkaline, SOEC)	No target			
By-product H_2	No target	Large production facility in Northeastern NL	Chloralkali process	
Energy Storage from Renewables	**Target[12]**	**Current Status**	**Partnership, Strategic Approach**	**Policy Support**
Power to Power[13] Capacity	No target			
Power to Gas[14] Capacity	No target			

[11] Please indicate if targets relate to a specific technology (PEM, Alkiline, SOEC)
[12] Can be expressed in MW of Installed Capacity to use the electricity from renewable energy generation, and Annual MWh of stored energy capacity
[13] Operator has an obligation to return the electricity stored through the use of hydrogen back to electricity
[14] Operator has the opportunity to provide the stored energy in the form of hydrogen back to the energy system through multiple channels (e.g., merchant product, enriched natural gas, synthetic methane for transportation, heating, electricity)