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## **Construction starts on the world's largest PEM electrolyser at Shell's Rheinland Refinery**

Ground-breaking ceremony for a new hydrogen electrolysis plant at the Shell Rheinland refinery in Wesseling, Germany, that will help contribute to a cleaner, lower-carbon energy future.

The total investment is at 16 million euros, of which the European Fuel Cell Hydrogen Joint Undertaking contributes 10 million euros, 6 million euros will be contributed by the REFHYNE consortium with Shell, ITM Power, SINTEF, thinkstep and Element Energy.

Construction of the new plant, which features advanced polymer electrolyte membrane (PEM) technology, is expected to be completed in the second half of 2020. The plant will produce up to 1,300 tons of hydrogen per year when operating at peak rates.

Hydrogen will be produced using electricity instead of natural gas. Producing hydrogen with electricity generated from renewable power sources could help significantly reduce CO2 emissions from the Shell Rheinland refinery.

"Oil products will continue to play an important role in the decades ahead, and this project means we will be able to make more and cleaner fuels, bitumen and base chemicals", explained Frans Dumoulin, Director of the Shell Rheinland Refinery. "At the same time, we want to contribute to accelerating the use of hydrogen in transport and other sectors."

Hydrogen can play an important role in the energy transition. Today, hydrogen is already being used in fuel cell vehicles and in industrial applications. In transport, hydrogen can help improve local air quality, as fuel cell vehicles only emit water vapor.

"Renewable energy is becoming increasingly important for Shell", said Dr. Thomas Zengerly, Chairman of the Management Board of Shell Deutschland Oil. "Royal Dutch Shell has set up its own business unit specifically for this purpose: New Energies."

Shell expects a new hydrogen model region to be set up in the Cologne area, based on activities around filling stations, cars and buses. The project is based on the idea of a "hydrogen model region" that can jointly demonstrate the potential of hydrogen in the energy turnaround."

On behalf of the state government of Northrhine-Westfalia, Christoph Dammermann, State Secretary in the Ministry of Economic Affairs, Innovation, Digitisation and Energy, NRW, welcomed the



construction of the plant: "Hydrogen has great potential for a climate-neutral energy system of the future. Produced from renewable electricity, it can serve as an important energy carrier and long-term storage in the transport, heating and industrial sectors and thus become a key element for the energy and traffic transition."

Bart Biebuyck, Executive Director, EU Fuel Cells and Hydrogen Joint Undertaking, said: "FCH2U funded projects like REFHYNE give the opportunity to European electrolyser industry to build equipment that meets the strict standards of the European refining industry. They will help reducing the CO2 footprint of large industrial processes through the production of green hydrogen."

Simon Bourne, Chief Technical Officer of ITM Power, said: "This ground breaking of the world's largest PEM electrolyser is an important moment for ITM Power and our partners. Working with Shell has been a real privilege for us and the process has transformed our market offering as a result. Large scale electrolysis is now seen as an important element in the decarbonization of key industrial processes and the REFHYNE project lays the first building block to 100MW industrial plants and beyond.

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Royal Dutch Shell plc

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### **Cautionary Note**

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This release contains forward-looking statements concerning the financial condition, results of operations and businesses of Royal Dutch Shell. All statements other than statements of historical fact are, or may be deemed to be, forward-looking statements. Forward-looking statements are statements of future expectations that are based on management's current expectations and assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in these statements. Forward-looking statements include, among other things, statements concerning the potential exposure of Royal Dutch Shell to market risks and statements expressing management's expectations, beliefs, estimates, forecasts, projections and assumptions. These forward-looking statements are identified by their use of terms and phrases such as "anticipate", "believe", "could", "estimate", "expect", "goals", "intend", "may", "objectives", "outlook", "plan", "probably", "project", "risks", "schedule", "seek", "should", "target", "will" and similar terms and phrases. There are a number of factors that could affect the future operations of Royal Dutch Shell and could cause those results to differ materially from those expressed in the forward-looking statements included in this release, including (without limitation): (a) price fluctuations in crude oil and natural gas; (b) changes in demand for Shell's products; (c) currency fluctuations; (d) drilling and production results; (e) reserves estimates; (f) loss of market share and industry competition; (g) environmental and physical risks; (h) risks associated with the identification of suitable potential acquisition properties and targets, and successful negotiation and completion of such transactions; (i) the risk of doing business in developing countries and countries subject to international sanctions; (j) legislative, fiscal and regulatory developments including regulatory measures addressing climate change; (k) economic and financial market conditions in various countries and regions; (l) political risks, including the risks of expropriation and renegotiation of the terms of contracts with governmental entities, delays or advancements in the approval of projects and delays in the reimbursement for shared costs; and (m) changes in trading conditions. There can be no assurance that future dividend payments will match or exceed previous dividend payments. All forward-looking statements contained in this release are expressly qualified in their entirety by the cautionary statements contained or referred to in this section. Readers should not place undue reliance on forward-looking statements. Additional risk factors that may affect future results are contained in Royal Dutch Shell's 20-F for the year ended December 31, 2018 (available at [www.shell.com/investor](http://www.shell.com/investor) and [www.sec.gov](http://www.sec.gov)). These risk factors also expressly qualify all forward looking statements contained in this release and should be considered by the reader. Each forward-looking statement speaks only as of the date of this release, 25<sup>th</sup> June, 2019. Neither Royal Dutch Shell plc nor any of its subsidiaries undertake any obligation to publicly update or revise any forward-looking statement as a result of new information, future events or other information. In light of these risks, results could differ materially from those stated, implied or inferred from the forward-looking statements contained in this release.

Also, in this release we may refer to "Shell's Net Carbon Footprint", which includes Shell's carbon emissions from the production of our energy products, our suppliers' carbon emissions in supplying energy for that production and our customers' carbon emissions associated with their use of the energy products we sell. Shell only controls its own emissions but, to support society in achieving the Paris Agreement goals, we aim to help and influence such suppliers and consumers to likewise lower their emissions. The use of the terminology "Shell's Net Carbon Footprint" is for convenience only and not intended to suggest these emissions are those of Shell or its subsidiaries.

With respect to operating costs synergies indicated, such savings and efficiencies in procurement spend include economies of scale, specification standardisation and operating efficiencies across operating, capital and raw material cost areas.

We may have used certain terms, such as resources, in this release that United States Securities and Exchange Commission (SEC) strictly prohibits us from including in our filings with the SEC. U.S. Investors are urged to consider closely the disclosure in our Form 20-F, File No 1-32575, available on the SEC website [www.sec.gov](http://www.sec.gov).