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This presentation contains data and analysis from Shell’s new Sky scenario. Unlike Shell’s previously published Mountains and Oceans exploratory scenarios, the Sky scenario is based on the assumption that society reaches the Paris Agreement’s goal of holding the rise in global average temperatures this century to well below two degrees Celsius [2°C] above preindustrial levels. Unlike Shell’s Mountains and Oceans scenarios, which unfolded in an open-ended way based upon plausible assumptions and quantifications, the Sky scenario was specifically designed to reach the Paris Agreement’s goal in a technically possible manner. These scenarios are a part of an ongoing process used in Shell for over 40 years to challenge executives’ perspectives on the future business environment. They are designed to stretch management to consider even events that may only be remotely possible. Scenarios, therefore, are not intended to be predictions of likely future events or outcomes and investors should not rely on them when making an investment decision with regard to Royal Dutch Shell plc securities.

Additionally, it is important to note that Shell’s existing portfolio has been decades in development. While we believe our portfolio is resilient under a wide range of outlooks, including the IEA’s 450 Scenario [World Energy Outlook 2016], it includes assets across a spectrum of energy intensities, including some with above-average intensity. While we seek to enhance our operations’ average energy intensity through both the development of new projects and divestments, we have no immediate plans to move to a net-zero emissions portfolio over our investment horizon of 100 years. Although we have no immediate plans to move to a net-zero emissions portfolio, in November of 2017, we announced our ambition to reduce our Net Carbon Footprint in step with society’s progress toward the Paris Agreement’s goal of holding global average temperature to well below 2°C above preindustrial levels. Accordingly, assuming society aligns itself with the Paris Agreement’s goals, we aim to reduce our Net Carbon Footprint, which includes not only our direct and indirect carbon emissions associated with producing the energy products which we sell, but also our customers’ emissions from their use of the energy products that we sell, by around 20% in 2035 and by around 50% in 2050. The use of the term Shell’s “Net Carbon Footprint” is for convenience only and not intended to suggest these emissions are those of Shell or its subsidiaries.

Also, in this presentation 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 the 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 such suppliers and consumers to likewise lower their emissions. The use of the term Shell’s “Net Carbon Footprint” is for convenience only and not intended to suggest these emissions are those of Shell or its subsidiaries.

The companies in which Royal Dutch Shell plc directly and indirectly owns investments are separate legal entities. In this presentation “Shell”, “Shell Group” and “Royal Dutch Shell” are sometimes used for convenience where references are made to Royal Dutch Shell plc and its subsidiaries in general. Likewise, the words “we”, “us” and “our” are also used to refer to Royal Dutch Shell plc and its subsidiaries in general or to those who work for them. These terms are also used where no useful purpose is served by identifying the particular entity or entities. “Subsidiaries”, “Shell subsidiaries” and “Shell companies” as used in this presentation refer to entities over which Royal Dutch Shell plc either directly or indirectly has control. Entities and unincorporated arrangements over which Shell has joint control are generally referred to as “joint ventures” and “joint operations”, respectively. Entities over which Shell has significant influence but neither control nor joint control are referred to as “associates”. The term “Shell interest” is used for convenience to indicate the direct and/or indirect ownership interest held by Shell in an entity or unincorporated joint arrangement, after exclusion of all third-party interest.

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Sky: Emissions from energy use need to peak by 2030

World – CO₂ Emissions from energy

-5 0 10 15 20 25 30 35 40
Gr CO₂ / year (All Energy)

2000 2010 2020 2030 2040 2050 2060 2070

~50% reduction by 2050
Net zero by 2070

Source: Sky Scenario, Shell analysis
Sky energy outlook

Changes in consumer patterns drive a shift in the primary energy mix

Global end-use energy consumption – Sky scenario

- Solid
- Coal – Biomass

- Gaseous
- Nat. Gas – Biogas – H₂

- Liquid
- Oil – Biofuels

- Electricity
- Fossil – Nuclear – Wind – Solar

More people

More prosperity

Lower carbon

Source: Shell analysis, Sky scenario
Net Carbon Footprint

**Potential tools to achieve our ambition**

- Ambition to reduce the Net Carbon Footprint of the energy products we sell by around 20% by 2035 and by around 50% by 2050, in step with society.

- **Baseline**
  - Operational efficiency
  - Natural gas shift
  - Renewable power
  - Biofuels
  - Electric mobility
  - CCS
  - Natural sinks

- **Shell Key**
  - Flare reduction
  - Increased LNG
  - Wind power
  - Raizen biofuels
  - Shell Recharge and New Motion
  - Quest CCS
  - Nature-based offsets

*Source: Shell*
Sky data is online

Online material available
www.shell.com/skyscenario

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