DELIVERING CCS – WHAT IT TAKES

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DEFINITIONS & CAUTIONARY NOTE

Reserves: Our use of the term “reserves” in this presentation means SEC proved oil and gas reserves.

Resources: Our use of the term “resources” in this presentation includes quantities of oil and gas not yet classified as SEC proved oil and gas reserves. Resources are consistent with the Society of Petroleum Engineers 2P and 2C definitions.

Organic: Our use of the term Organic includes SEC proved oil and gas reserves excluding changes resulting from acquisitions, divestments and year-average pricing impact.

Resources plays: Our use of the term ‘resources plays’ refers to tight, shale and coal bed methane oil and gas acreage.

The companies in which Royal Dutch Shell plc directly and indirectly owns investments are separate entities. In this document “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 subsidiaries in general or to those who work for them. These expressions are also used where no useful purpose is served by identifying the particular company or companies.

“Subsidiaries”, “Shell subsidiaries” and “Shell companies” as used in this document refer to companies over which Royal Dutch Shell plc either directly or indirectly has control. Companies over which Shell has joint control are generally referred to as “joint ventures” and companies 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 a venture, partnership or company, after exclusion of all third-party interest.

This presentation 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”, “intend”, “may”, “plan”, “objectives”, “outlook”, “probably”, “project”, “will”, “seek”, “target”, “risks”, “goals”, “should” 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 in this presentation, 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) competitive, fiscal and regulatory developments including potential litigation and regulatory measures as a result of climate changes; (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. All forward-looking statements contained in this presentation 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 factors that may affect future results are contained in Royal Dutch Shell’s 20-F for the year ended 31 December, 2014 (available at www.shell.com/investor and www.sec.gov). These factors also should be considered by the reader. Each forward-looking statement speaks only as of the date of this presentation, 9 November, 2015. Neither Royal Dutch Shell 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 presentation. There can be no assurance that dividend payments will match or exceed those set out in this presentation in the future, or that they will be made at all.

We use certain terms in this presentation, such as discovery potential, that the United States Securities and Exchange Commission (SEC) guidelines strictly prohibit us from including in 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. You can also obtain this form from the SEC by calling 1-800-SEC-0330.
Boundary Dam
Feed: coal power flue gas
Operating since October 2014
1 mtpa
Capture: amine
Shell has no equity in this project but Shell Cansolv technology is being used for SO₂ and CO₂ capture

Quest
Feed: syngas from Scotford upgrader
Operating since Nov
1 mtpa
Capture: amine

Peterhead
Feed: gas power flue gas
FID to be taken H1 2016
Start-up potentially 2019
1 mtpa
Capture: amine

TCM
Feed: dual streams (gas and coal flue gas specs)
Operating since May 2012
Up to 200 ktpa
Capture: various technologies for testing

Gorgon
Feed: natural gas
LNG start-up: 2016
CO₂ injection start-up: 2017
Capture: amine
1. Government must acknowledge the need
2. Industry must deliver the capability
3. Society (local/global) must support
4. Enabling legislation exists
5. Clear liability agreement in place
6. Financial support for demonstration
7. Early adopter benefits
8. Trust & Certainty between key stakeholders
9. Knowledge sharing
CCS will require

- Long term signal of support/need
- Policy parity; a level playing field with other low carbon technologies
- Short term demonstration support
- Non-financial measures

LONG AND SHORT TERM FUNDING MECHANISM NEEDED

FIRST OF A KIND

DEVELOPMENT

CAPITAL GRANTS (SUPPORT BUILD)

OPEX SUPPORT (ENSURE PLANT OPERATES)

DEMONSTRATION

NON-FINANCIAL MEASURES (ENABLING REGULATIONS, LIABILITY AGREEMENTS, ETC)

Nth OF A KIND

DEPLOYMENT

ROBUST CO₂ PRICE

Examples

CCS Competition Grant

Contract for Difference

Alberta CCS Competition Grant

& Federal Support

Alberta CO₂ Price

DOE/Gvt Grants

Price on CO₂ stored

(and use in EOR)

Innovation Funds grants

ETS CO₂ Price
CCS COMMERCIALISATION

Requires costs to be lower than returns;

- **Price on CO₂ emissions** and/or premium on clean hydrocarbon products; reward for capturing & storing CO₂

- Societal support for the need for CCS (Energy Transition) and acceptance of it’s safety (demonstration)

- Cost reduction through continuous cycle of implementation and learning and delivery of **breakthrough cost effective capture technologies** (R&D)

- Achieving scale and efficiency through collaboration across leading nations and industry on a **common action plan**
PROGRESSING CCS IN EUROPE

- Embed CCS in Energy Transition portfolio mix, where applicable
- Achieve policy parity for CCS; reward capture & storage of CO\textsubscript{2}
- Deploy EU Innovation Fund for CCS projects and T&S infrastructure development and Horizon 2020 funds for continued CCS RD&D
- Collaborate across industry and Member States; plan for CCS hub/cluster developments
COLLABORATION TO DELIVER ON CCS’ POTENTIAL

Communication

Demonstration

Accelerate CCS demonstration to deliver on the opportunity

Education

Driving the Agenda
Thank You