

## STATEMENT ON SSE'S APPROACH TO HEDGING

14 November 2018

### INTRODUCTION

SSE is working towards its vision of being a leading energy company in a low carbon world by focusing on core businesses of regulated energy networks and renewable sources of energy, complemented by flexible thermal generation and business energy sales. In line with that, SSE has committed to delivering a more transparent approach to how it manages commodity price exposures and to giving investors the maximum possible visibility of the impact of market movements on profitability.

Central to this transparency is to outline the SSE Group's approach to hedging, which explains how SSE plans to reduce its exposure to variations in earnings from its assets that are subject to volatility in energy commodity prices. In doing so SSE will provide more stability to future earnings and support the delivery of its dividend commitment.

### SSE'S SOURCES OF COMMODITY PRICE EXPOSURE

As highlighted in SSE's Group Risk Report, commodity prices are one of SSE's principal risks. For SSE's market-based businesses, commodity risk is inherent in its ability to create value.

SSE trades five principal commodities, as well as the spreads between two or more commodity prices (eg spark spreads): **power** (baseload and other products); **gas**; **carbon** (emissions allowances); **coal**; and **oil**. Each commodity has different liquidity characteristics, which impacts on the degree of hedging possible. For example, in the GB power market, a relatively large percentage of electricity volume is traded within the spot market, with most hedging activity undertaken 12 to 18 months in advance of delivery and liquidity declining beyond this. In contrast, oil as a globally traded product is the most liquid market with prices available 5 to 10 years in advance of delivery.

Following the planned SSE Energy Services transaction, SSE will continue to be exposed to variations in the value of energy commodities through its activities in renewable and thermal electricity generation; energy sales<sup>1</sup>; gas production and gas storage. Accordingly, SSE's management of its

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<sup>1</sup> The planned SSE Energy Services transaction will result in the demerger of SSE's domestic retail business in GB. SSE will continue to have domestic and business energy sales in the Republic of Ireland and Northern Ireland.

energy portfolio will need to evolve to align with its asset base and operations and to support the delivery of SSE's five-year dividend plan.

SSE can manage its exposure to some of the above factors through hedging and so provide greater transparency and predictability of future earnings.

## **HEDGING FUTURE SOURCES OF COMMODITY PRICE EXPOSURE**

Each of SSE's asset classes carries different exposures to the commodity market and thus requires a different approach to hedging. SSE intends to implement an approach to hedging with specifications for each of its activities through which it has commodity price exposure. An asset-by-asset hedging approach will give better visibility and management accountability on earnings for each part of SSE's business.

### **Wind Generation**

As of the middle of 2018, the total installed wind energy capacity across GB was nearly 20GW. Last year, wind energy accounted for 15% of the total UK generation mix, at times. SSE's wind energy capacity in GB is now over 1,500MW and will increase in 2019 with the commissioning of Stronelairg onshore wind farm (228MW) and Beatrice offshore wind farm (SSE share – 235MW). Further ahead, the UK Government expects 1-2GW of offshore wind to be procured per year in the 2020s.

Operating wind assets creates an exposure to the power price. Through the 2020s, electricity prices in GB are likely to be mostly set by the cost of gas-fired generation as the marginal source of power. Therefore, wind will have an exposure to the spark spread, wholesale price of gas and the price of carbon emissions. Unlike thermal plant, which can switch on or off depending on the spark spread, wind will continue to generate regardless of price.

The output of electricity from wind farms themselves also has a material impact on wholesale market electricity prices: in high wind conditions, spot prices for electricity can be extremely low; in still conditions, flexible thermal plant is required to fill the renewables 'gap', pushing market prices higher. This means that the value of wind generation output will be less than the price at which electricity can be forward hedged. To account for this wind 'capture price' effect, SSE's target will be to hedge 85% of its anticipated wind energy output for the coming 12 months and to progressively establish this hedge over the preceding 24 months, subject to liquidity either in the traded market or

demand from Business Energy. Hedging activity longer term may be appropriate for specific long-term fixed price contracts such as UK contracts for difference or corporate PPAs.

### **Hydro Generation**

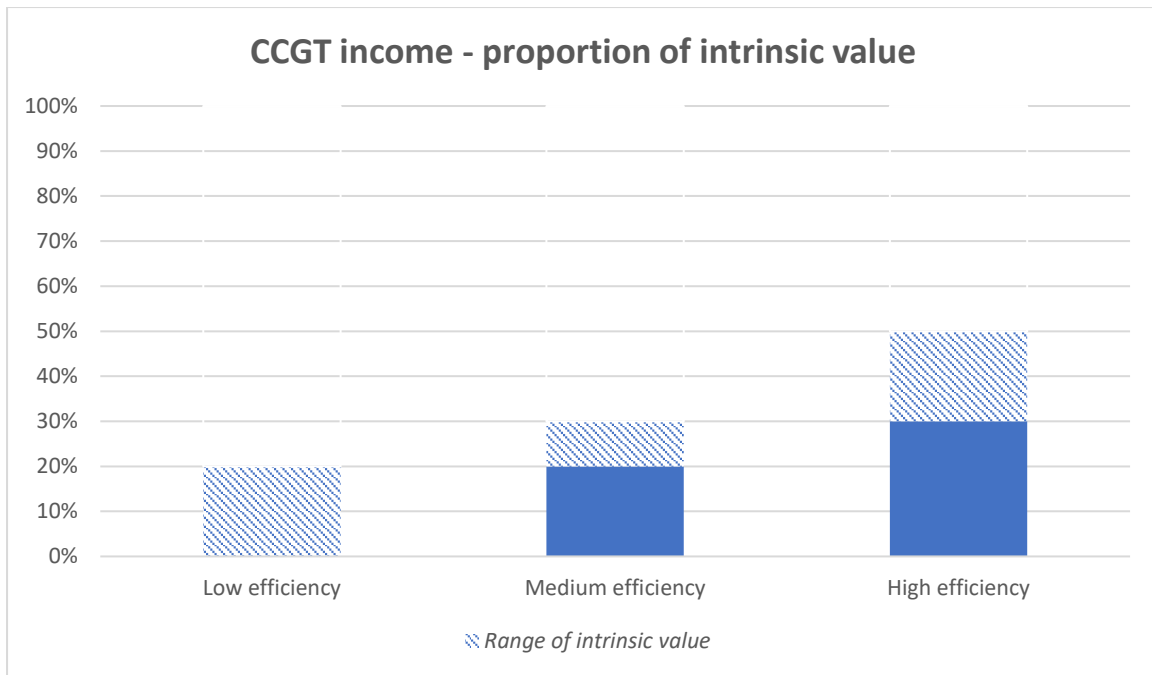
SSE owns a mix of flexible hydro generation with storage and inflexible (run of river) hydro generation. As with electricity output from its wind farms, SSE will aim to hedge 85% of its forecast hydro generation 12 months prior to delivery adopting the same approach to progressively establish this hedge over the preceding 24 months.

### **Flexible Thermal Generation**

SSE's thermal power stations act as options on the difference between power prices and cost of generation (fuel and carbon cost) for each plant, generally referred to as 'spark spread' for gas-fired assets and 'dark spread' for coal-fired assets. It is increasingly difficult to forward hedge the full value of these assets as their earnings are to an extent defined by the price impact of renewable energy output. In high wind conditions, thermal power stations are likely to accrue little or no reward; in low wind conditions thermal power stations' income can be significant. Flexible thermal power stations continue to play a key role in contributing to security of customers' electricity supply and supporting the transition to a low carbon electricity system.

SSE will seek to fully hedge the intrinsic value of these assets 12 months prior to delivery and progressively establish this hedge over the preceding 24 months. The intrinsic value is the margin each power station would achieve based on a forecast of half hourly baseload power prices (taking into account expected seasonal and daily shape). SSE will then seek to realise the extrinsic or 'option value' of the asset through actively trading the asset spark or dark spread over the 24 month period.

The ability of SSE's flexible thermal power stations to earn extrinsic income is critical to their ability to secure earnings. It is, however, highly dependent on unpredictable factors relating to the weather, commodity price volatility and the availability of other power generating stations. For SSE's lower efficiency CCGTs, SSE anticipates up to 20% of their expected income to be derived from intrinsic value, with the remainder extrinsic value. For its high efficiency CCGTs, the intrinsic value would be greater, at between 30 and 50%.



### **SSE Business Energy**

SSE Business Energy supplies electricity and gas to business and public sector customers, ranging from small, single-site customers, such as shops, to large single-site customers, such as factories, and multi-site customers. Most of the energy sold is based on fixed-price, fixed-term contracts, although some customers prefer 'flexi' contracts where the price is indexed to a market reference and they have the option to fix the price if they wish.

SSE Business Energy will continue to hedge fixed price agreements at the point of sale for the duration of the contract and 'flexi' customers as they exercise their option to price fix. For tariff customers the volumes will continue to be hedged on a rolling basis over 12 months.

### **Gas Production**

SSE E&P Ltd has a diverse equity share in over 15 gas producing fields across 17 licences in three regions of the UK continental shelf. It intends to hedge 90% of the expected output of these assets to stabilise income over the next 12 months and to introduce these hedges incrementally over the preceding 12 months. In this way, the impact of the risk of short term production shortfall is mitigated. Gas market liquidity should be sufficient for this to be achieved.

It is important to note that gas production in the North Sea is taxed on day ahead prices so whilst hedging might protect pre-tax profits a higher spot price would have an adverse impact on post tax profits. SSE currently has tax allowances which protect it from this effect; the approach to hedging

will be reviewed once these have been used, with the view to moving towards a spot price-based hedging approach.

### **Gas Storage**

SSE Hornsea Limited operates two underground gas storage facilities at Atwick and Aldbrough. These assets create value by injecting gas underground when prices are low (generally when demand is low) and then withdrawing this gas when prices are high (generally when demand is high). The revenue for these assets is therefore driven by volatility rather than energy price. SSE intends to continue to offer contracts for storage capacity through annual auctions to the market with a reserve price that reflects its own view of value.

### **Ireland**

SSE owns four thermal power stations in Ireland and 735MW of onshore wind farm capacity across the island of Ireland, 457MW of which are supported by the REFIT support scheme in ROI and receive a fixed price. 141MW are supported by the Northern Ireland Renewables Obligation (RO), which operates in the same way as the RO in GB. It sells electricity and gas to customers through SSE Airtricity. As of 1 October 2018, all electricity is now traded in the new 'integrated Single Electricity Market' (ISEM) which includes a day ahead mandatory clearing auction. As forward electricity market liquidity in ISEM is still developing, SSE will seek to hedge via contracts with end customers through SSE Airtricity.

### **Summary of hedging approach**

In summary, SSE will generally seek to hedge its broad exposure to commodity price variation 12 months in advance of delivery.

<b>Asset</b>	<b>Proposed targets</b>
Wind	85% hedged at 12 months in advance of delivery
Hydro	85% hedged at 12 months in advance of delivery
Flexible Thermal Generation	100% intrinsic hedge at 12 months in advance of delivery
Gas Production	90% hedged at 12 months ahead of delivery
SSE Business Energy	Rolling 12 month hedge for tariff customers On contract entry for flexi customers
Gas Storage	Annual Contract

## **AREAS WHERE HEDGING CANNOT FULLY MITIGATE SIGNIFICANT VARIATIONS IN EARNINGS**

There are, however, three principal areas where significant variations in earnings cannot be fully mitigated through hedging:

- The impact of the weather on the volume of electricity produced from renewable sources;
- the impact of operational matters such as unplanned outages; and
- the ability of flexible thermal power stations to earn extrinsic income by providing services to the electricity system and by responding to shorter-term electricity market conditions.

## **IMPLEMENTATION AND DISCLOSURE**

The range of commodities traded by SSE, the different liquidity characteristics associated with each, and the need to work through existing contracts and options, means it will take time to implement in full this new approach to hedging. SSE aims to have the approach fully in place by April 2020.

As part of implementing the new approach, SSE will make changes to the role of its Energy Portfolio Management (EPM) division. Rather than taking a Group portfolio approach to long term commodity price exposures and hedging, EPM will execute commodity trades for each asset class in the SSE Group as outlined above.

From 2020/21 onwards, SSE intends to include in its six-month and full-year Financial Statements the following information in relation to its agreed hedging approach.

For each asset class:

- The proportion of hedged output for the reporting period; and
- the average hedge price achieved.

The cumulative impact of this hedging approach, supporting framework, governance and disclosure commitment should be assurance for investors that traded commodity positions cannot and will not have a major influence or material impact on SSE Group earnings.