

# Half Year Results

6 Months Ended 30 June 2016

26 July 2016



# Agenda

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## **Operations and Business Review**

**Dorothy Thompson**

Chief Executive

## **Financial Review**

**Will Gardiner**

Chief Financial Officer

## **The Opportunity for Drax**

**Dorothy Thompson**

# A Leading Provider of Renewable Energy

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## Generation

c.70% of generation from renewable energy

c.20% of UK's renewable electricity

Reducing commodity market dependency

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## Retail

Sales target achieved, improving profitability

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## Biomass Production & Supply

Exploring options for growth

EBITDA

**£70m**

Underlying Earnings Per Share

**4.2p**

Interim Dividend

**2.1p/share** (£8m)

# Operations and Business Review



# Safe and Sustainable Business

## Safety

### Maintaining very good safety performance

- Strong Group performance
- TRIR<sup>(1)</sup> – 0.17 (H1 2015: 0.33)
- Consistently a top quartile performer

## Sustainability

### Proven carbon abatement<sup>(2)</sup>

- Well established sustainability policy
  - Strong governance and audit process

### Sustainable Biomass Partnership

- Global sustainability standard launched in 2015
  - 29 suppliers / traders certified
  - Further 80 applications for certification received

### Major reduction in NOx emissions

- Biomass generation and NOx abatement strategy
  - 60% reduction vs. H1 2015

## Drax Sustainability Principles

1. **Never work in countries that lack regulation**
2. **Never cause deforestation**
3. **Never source from areas that are protected**
4. **Only take wood from working forests that grow back and stay as forests**
5. **Require all suppliers to pass tough screening and sustainability audits, conducted by independent auditors**

1) TRIR = Total Recordable Injury Rate

2) Life cycle saving = 80% vs. coal and 60% vs. gas, UK Solid & Gaseous Biomass Carbon Calculator, Ofgem

# New Realities for Electricity Markets

## Changing generation dynamics

### Growth of renewables

- Increasing intermittent generation

8GW coal plant closures 2015-2016

Capacity market & SBR<sup>(1)</sup>

## Changing wholesale price dynamics

Renewables reducing merchant spreads

Capacity contracts depressing scarcity pricing

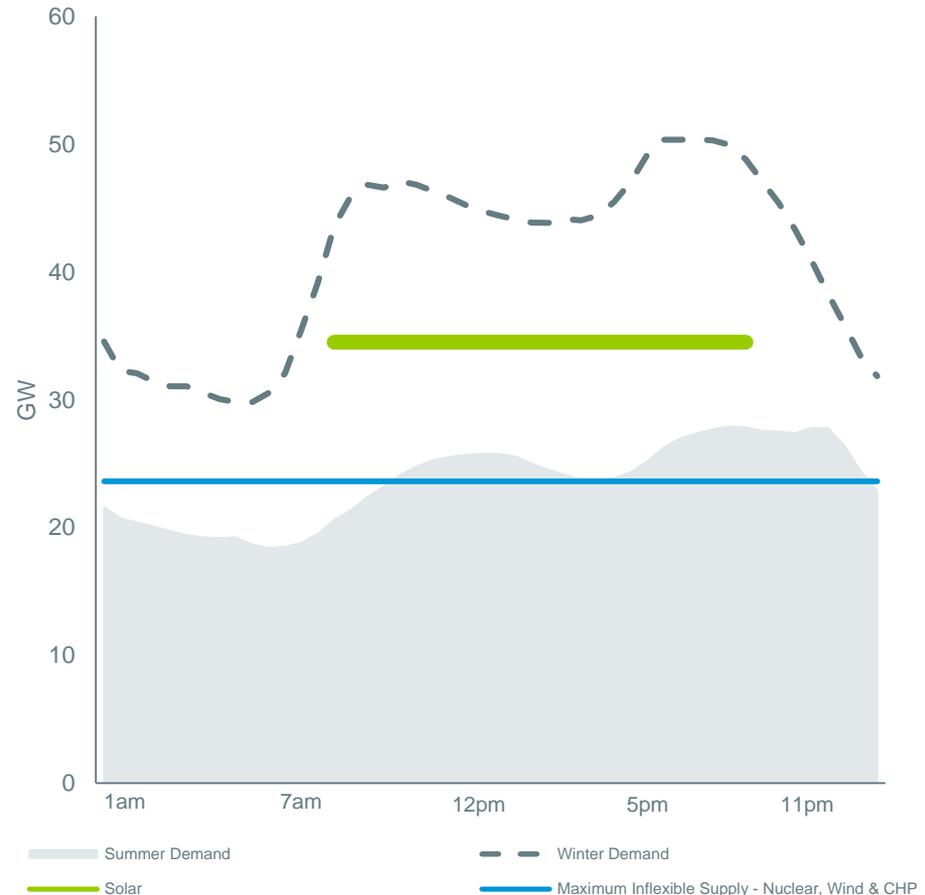
## Growing system support market

Capacity bid market increasing

## National Grid system support

- Ancillary Services
  - Reduction in providers for some critical services
- More extreme balancing pricing
- Market opportunity to double
  - c.£2bn by 2020

Demand vs. Maximum Inflexible Capacity



Sources: National Grid Outlook Reports and Future Energy Scenarios

# Commodity Markets Context

## Markets remain challenging

### Gas – potential for oversupply

- Global LNG capacity growing
  - Peak supply expected 2017/18
- Improved UK price outlook for 2016
  - Near-term storage issues
  - Coal-to-gas switching adding demand

### UK power price – key drivers

- Gas remains predominant price setter
- Market now pricing in winter capacity concerns

UK NBP Gas Price



Power Prices



Sources: Brokered Trades, Spectron

Prices as at 17<sup>th</sup> July 2016

# Providing c.20% of UK Renewable Electricity

## Biomass

### c.70% of generation from renewable energy

- Reliable, responsive generation

### Biomass operations performing well

- Unit on planned major outage

### Supply chain working well

- Operational flexibility and security

### Stand ready to convert further units

## Coal

### Revised coal strategy

- Reducing operational and maintenance costs
  - Balance of risk and return
  - Restricted running on one unit post outage in 2017

### Flexible operations

### Supporting grid security and stability

- New Ancillary Services contract

## Generation by Fuel Type

Generation (Net Sales)	H1 2013 TWh	H1 2014 TWh	H1 2015 TWh	H1 2016 TWh
Coal	11.9	9.9	8.8	3.4
<b>Biomass</b>	<b>0.7</b>	<b>3.0</b>	<b>5.2</b>	<b>7.5</b>
<b>Total</b>	<b>12.6</b>	<b>12.9</b>	<b>14.0</b>	<b>10.9</b>
<b>Biomass %</b>	<b>7%</b>	<b>23%</b>	<b>37%</b>	<b>69%</b>

# Haven – Challenger at Scale

## Sales volume target achieved

### Haven sales 7.2TWh (H1 2015: 6.8TWh)

- Credit-efficient route to market
- Skilled manager of power price risk
- c.14TWh contracted for next 12 months
- Sales of £643m (H1 2015: £629m)

### H1 2016 performance

- Good delivery on large contracts
- Strong I&C<sup>(1)</sup> renewal performance maintained
- Credit quality remains good with low bad debt experience
- Consistently strong service performance

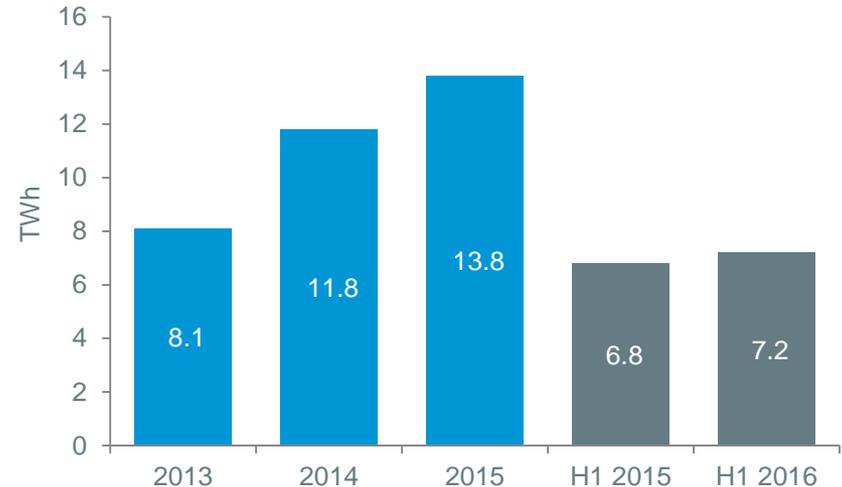
### Looking ahead

- Focus on higher margin SME market<sup>(2)</sup>
- Options for further margin enhancement
  - Market segments, product alternatives and efficiency enhancement

1) I&C = Industrial and Commercial

2) SME = Small and Medium Enterprise

Haven Power Sales



# Major Producer of Compressed Wood Pellets

## Existing US operations working well

### Port facility

- Good operations

### Pellet plants

- Production in line with plan
- Optimising fibre usage and pellet production
  - Fibre cost, pellet quality and profitability
- Providing supply chain flexibility

## Supply chain developments

### Significant benefits of self-supply

- Targeting 20-25% of required generation

### Assessing further opportunities

- Pursuing 3rd party supply contracts

Morehouse Pellet Plant



# Regulatory Horizons

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## New government

### New opportunity to make the case

## Biomass

### CfD – State aid

- Consultation complete – awaiting final decision

### CMA recommendations

- Technology neutral competition in future CfD auctions

### Most affordable large scale renewable

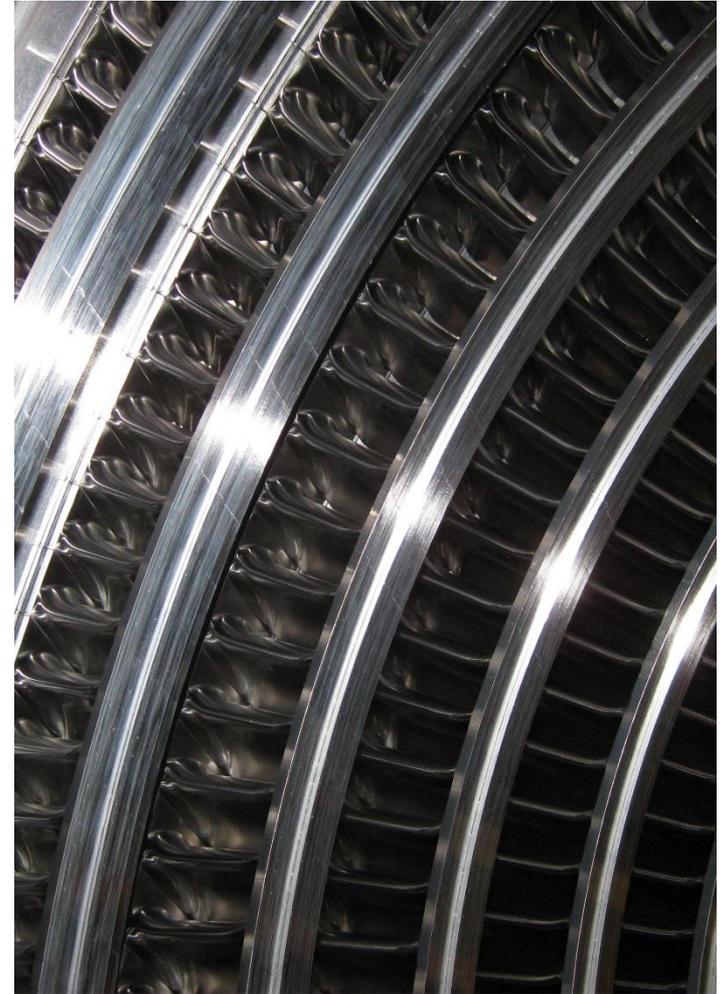
- Awaiting whole system cost analysis by DBEIS<sup>(1)</sup>

## Coal

### Consultation on closure of coal by 2025

- Uncertainty leading to review of operating regime
- Challenging in context of security of supply

1) DBEIS = Department for Business, Energy & Industrial Strategy



# Financial Review

Will Gardiner



# H1 2016 Financial Highlights

EBITDA

**£70m**

(H1 2015: £120m)

Net Debt<sup>(2)</sup>

**£85m**

(December 2015: £187m)

Underlying EPS<sup>(1)</sup>

**4.2p**

(H1 2015: 10.2p)

Interim Dividend

**2.1p (£8m)**

(H1 2015: 5.1p, £21m)

H1 2016

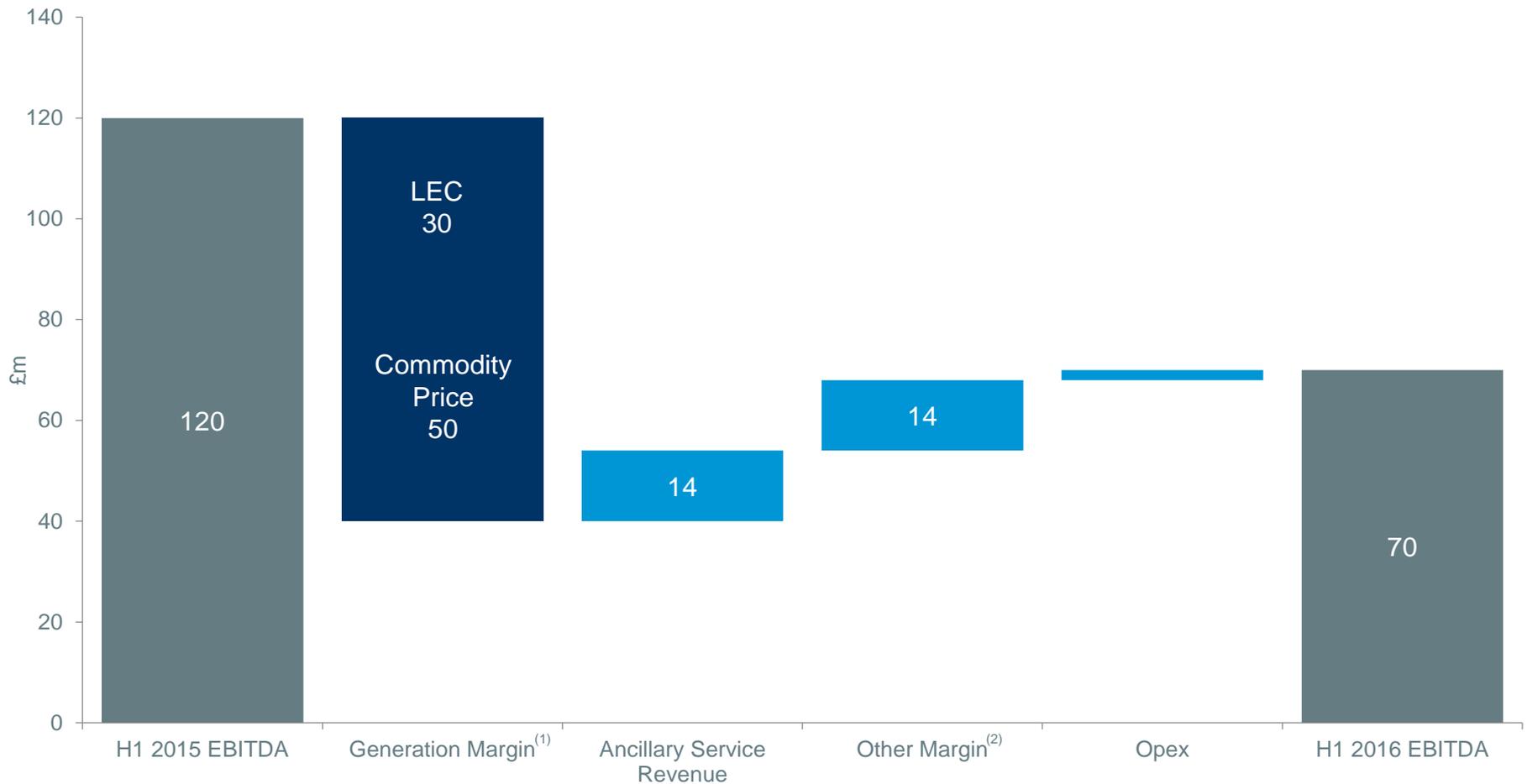
**Good performance in a tough environment**

- Challenging commodity markets
- Impact of LEC removal
- Growth of Ancillary Services
- Good balancing market performance
- Improved retail and biomass supply profitability
- Strong cost and cash control

1) Excludes unrealised gains on derivative contracts of £163m and associated tax

2) Cash and short-term investments of £235m less borrowings of £320m

# Drax Group – EBITDA Bridge



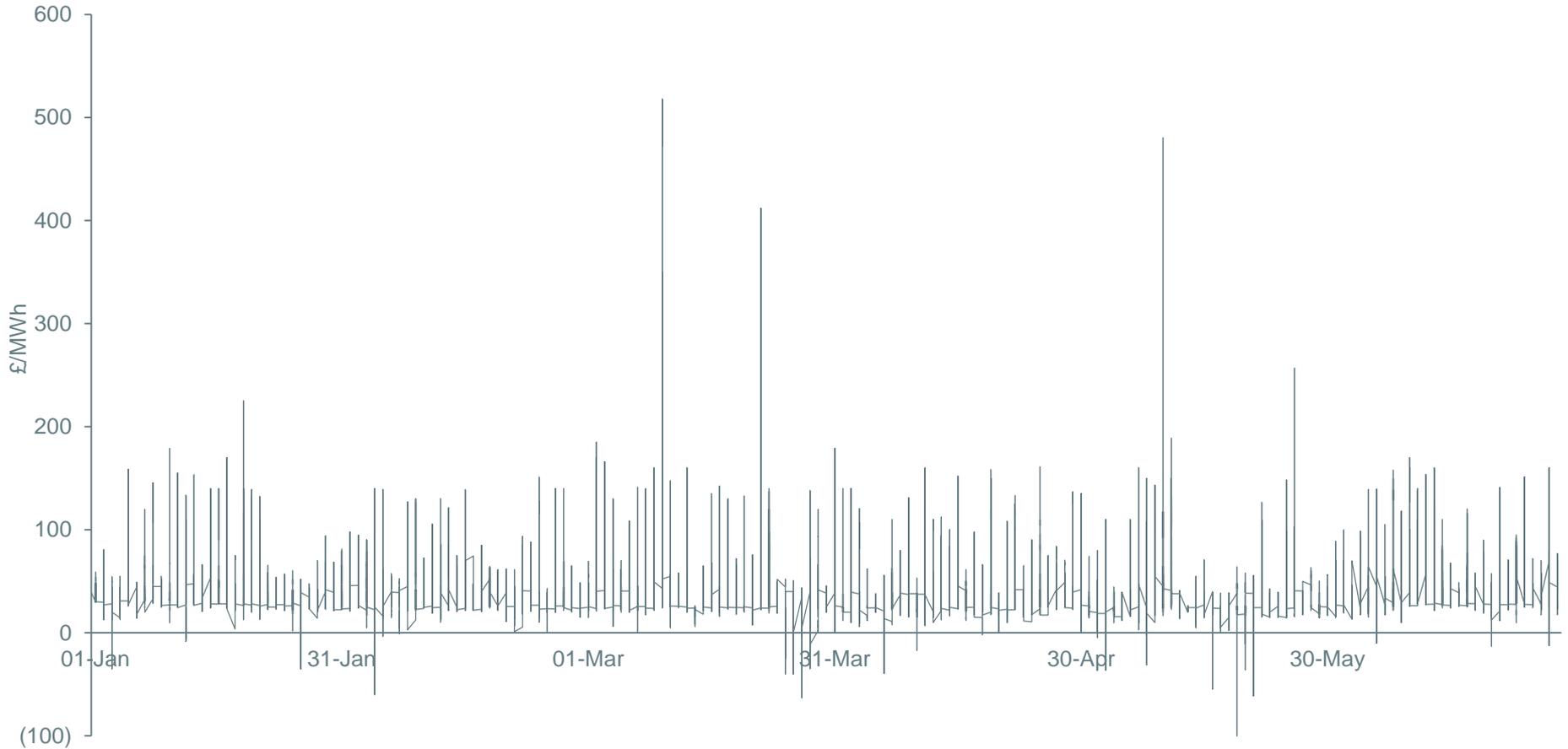
1) Generation Margin includes net revenue (including sales to Haven Power), net fuel cost (cost of coal and biomass, less ROC and LEC support) and carbon (EU ETS and UK carbon tax)

2) Other Margin includes Retail and Biomass Supply

Tabular EBITDA and gross profit analysis included in Appendix 3, 4 and 5

# Adding Value in a Volatile Market

## H1 2016 Balancing Market Prices



Drax added c.£25m of additional revenues in H1 2016

# Improved Quality of Earnings

## Coal generation

### Focus on short-term markets

- Limited power hedge
  - Weak forward prices
  - Lower level of generation
  - Reduced reliance on margins
- Potential upside if margins improve
  - Limited downside from current position
- Other benefits
  - Lower inventory requirements
  - Advantage fuels

Group Power Sales Contracted at 18 <sup>th</sup> July 2016	2016	2017
Power Sales – TWh	20.6	13.2
<b>Comprising:</b>		
Fixed Price TWh	18.2 @	9.5 @
at Average Achieved Price £ per MWh	46.6	43.2
Gas Hedges TWh	2.4	3.7
p/therm	49.9	48.6

## Biomass generation

### Fuel

- Long-term fixed formula contracts
- Rolling five year FX hedges

### ROC units – strong hedge

- Power sold forward 3-4 seasons
- Gas hedges provide additional longer term sales
  - Retains upside from market tightness
- Forward power sales cover biomass generation through 2017

### CfD unit – additional hedge for one unit

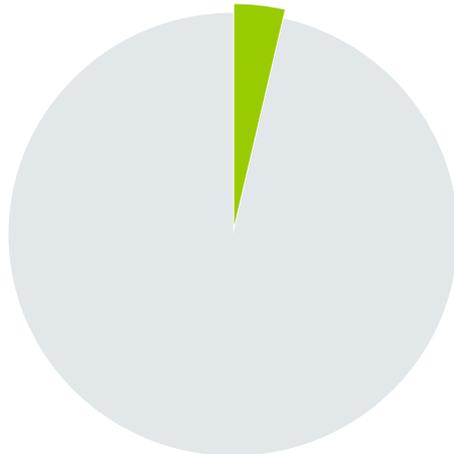
- Government backed, indexed contract revenues

### Operational risk remains – coal and biomass

# Increasingly Stable Earnings Profile

Broader earnings streams, lower volatility and contract based revenues

Illustrative Historic Earnings



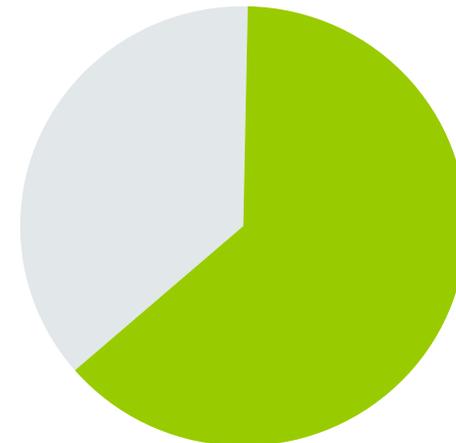
## Spread

- Coal generation

## Other

- Ancillary Services

Illustrative Future Earnings



## Spread

- Coal and ROC generation

## Other

- CfD generation
- Ancillary services
- Capacity payments
- Retail
- Biomass production and pellet supply

# Adapting Costs to the Operating Environment

## Operating costs £112m in H1 2016

- Decrease of £2m vs. H1 2015
  - Includes major outage in H1 2016

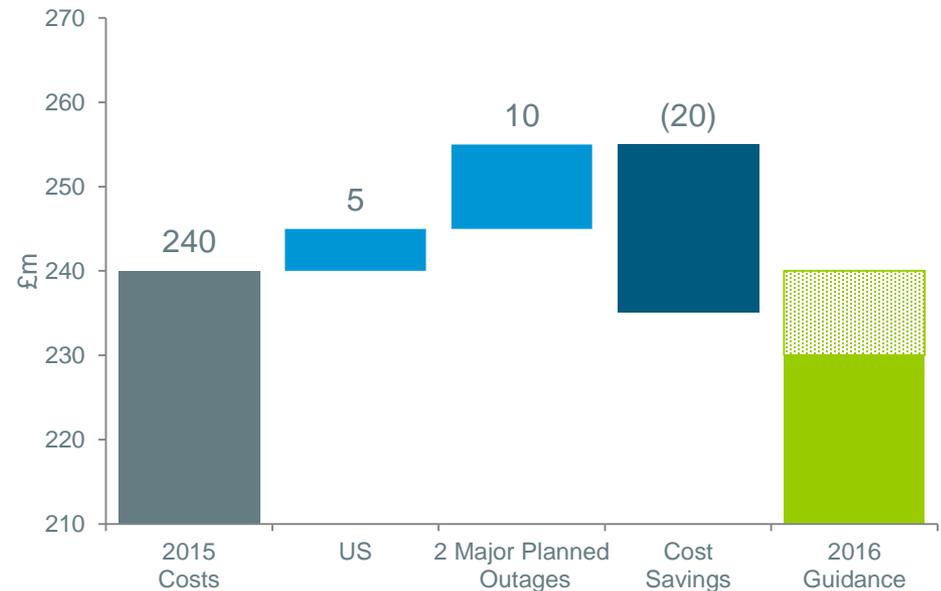
## FY 2016 guidance £230m - c.£240m

- Increase in US operations: +£5m
- Two major planned outages: +£10m
- Cost savings: -£20m

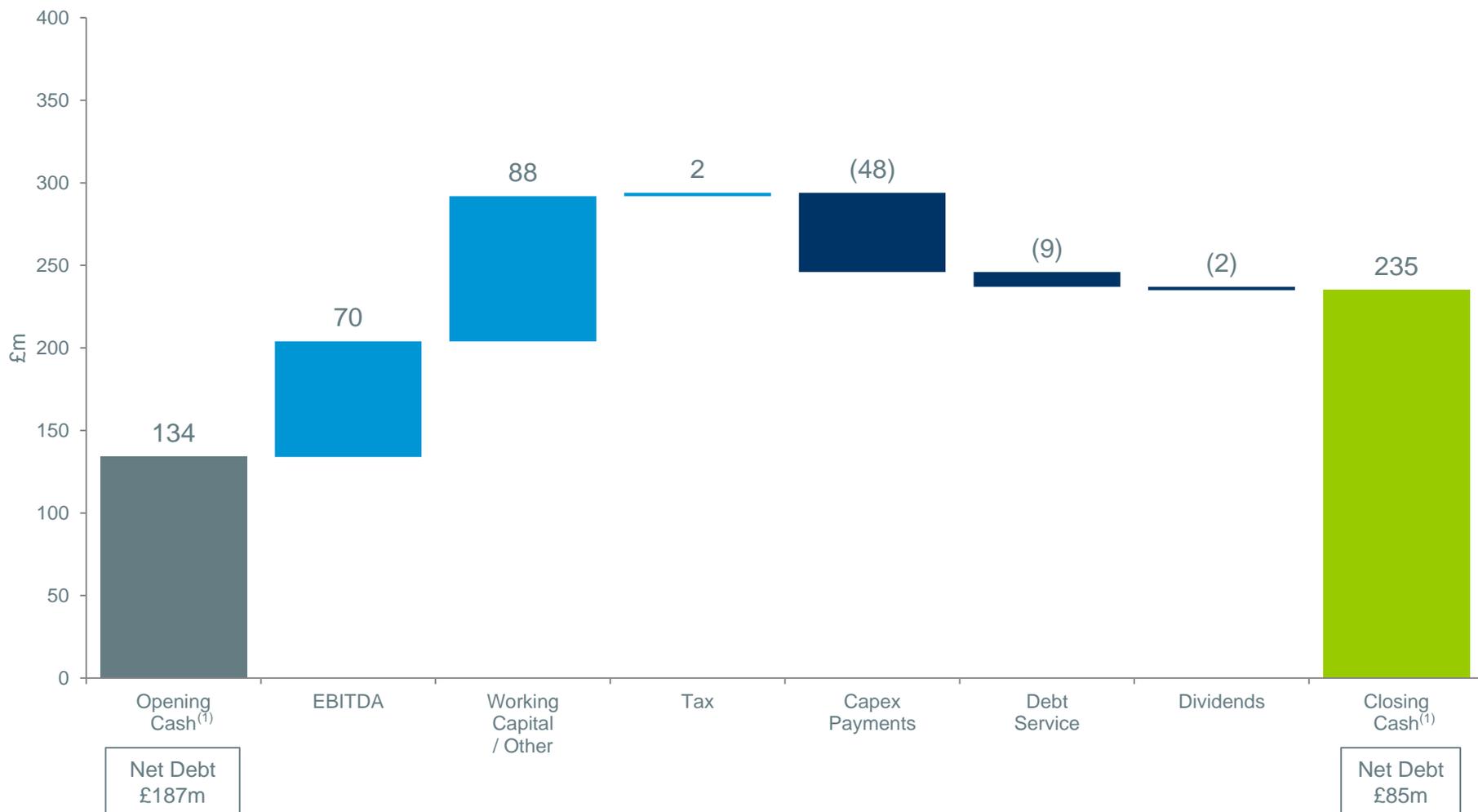
## Optimisation and efficiencies

- Revised coal strategy
  - Reduced outage cost and generation
- Lean Management implementation

## 2015 - 2016 Operating Cost Development and Guidance



# Group Cash Flow & Working Capital Management



1) Cash and cash equivalents plus short-term investments

# Group Capex

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**Biomass transformation will be delivered in 2016 – in line with original cost guidance**

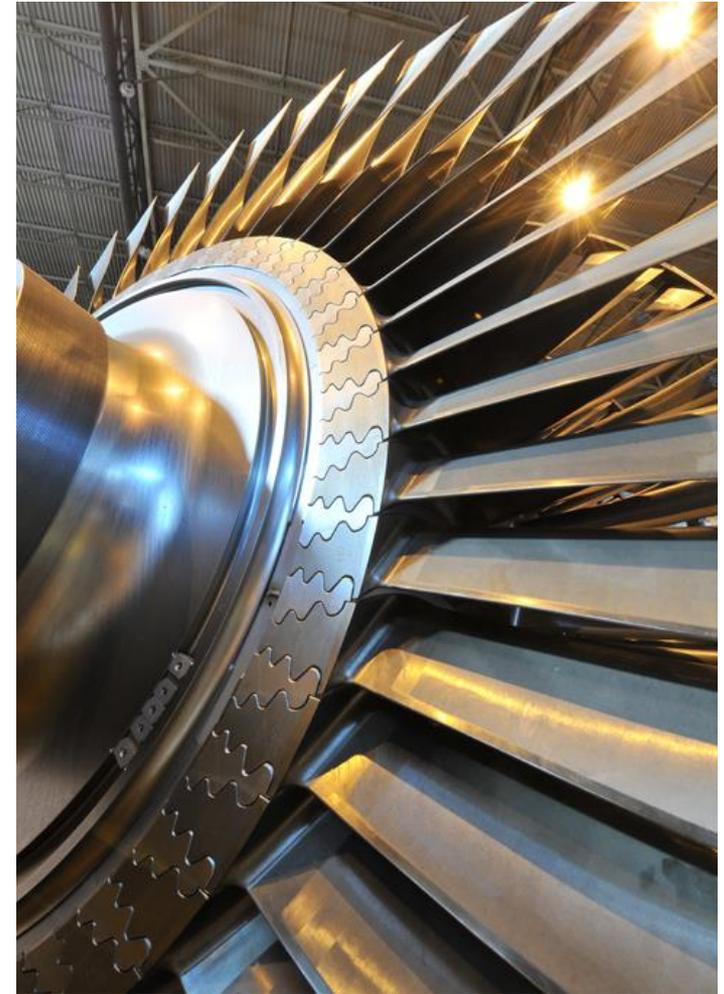
**£650m - £700m**

- Three unit conversions, US pellet investments and IED<sup>(1)</sup> compliance

**Capex – £38m in H1 2016**

**2016 total capex guidance c.£80m - c.£100m**

- Includes IED compliance and biomass optimisation



1) IED = Industrial Emissions Directive

# Strong Financing & Risk Management

## Debt facilities

### £325m of term loans

- Smooth repayment profile

### £400m working capital and LC<sup>(1)</sup> facility

- Refinanced December 2015 – matures in 2019
- Improved pricing

### Commodity trading line

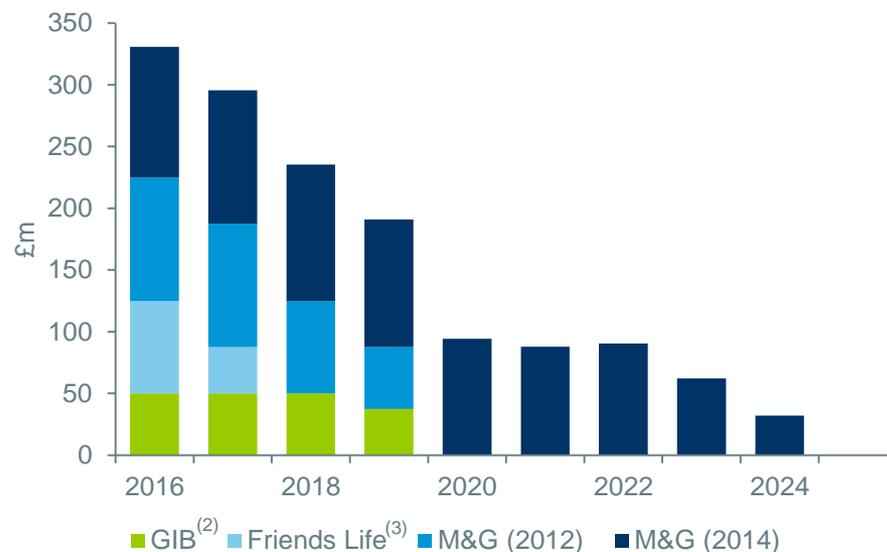
### Credit rating BB+

- Robust sub-investment grade business model

### Significant MtM movement post Brexit – £163m

- Reflects effective commodity and FX hedging strategy

Term Loan Maturity Profile



1) LC = Letter of Credit

2) GIB = UK Green Investment Bank

3) Underpinned by Infrastructure UK guarantee

# Financial Summary and Outlook

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## Good operational performance in a tough environment

- Challenging commodity markets
- Impact of LEC removal
- Growth of Ancillary Services
- Good balancing market performance
- Improved retail and biomass supply profitability
- Strong cost and cash control

## H2 2016 outlook

- Full year EBITDA subject to CfD award – expected Autumn

## Further ahead

- Hedging strategy providing greater visibility
- Broader, higher quality earnings streams
- Opportunities for growth

## Biomass Infrastructure at Drax



# The Opportunity for Drax

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## **Biomass supply**

### **Major producer of compressed wood pellets**

- Assessing supply chain opportunities
  - Ambition for 20-25% of generation requirement from self-supply
  - Sales to third parties

## **Biomass generation**

### **Secure, affordable and clean electricity**

- Ready to convert further units

## **System support & security of supply**

### **Enabler of transition to low carbon generation**

- Reliable, responsive and flexible generation

### **Evaluating capacity market options**

## **Retail**

### **Supplier of power and renewable products with emphasis on customer service**

- Challenger retailer opportunities



# Questions



# Appendices

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1. Definitions
2. IAS 39 Treatment
3. Group Income Statement
4. Generation – Gross Profit
5. Retail – Gross Profit
6. ROC Reporting
7. Tax Reconciliation
8. 2016 Financial Guidance
9. Power Market
10. Gas Market
11. Coal Market
12. Carbon Market
13. Forward Spread Movements
14. Commodity Price Movements
15. Coal Capacity and IED

**Dust Extraction System**



# Appendix 1: Definitions

<b>API2/4/6</b>		API2 is the main reference price (including cost, freight and insurance) for steam coal to be delivered to Amsterdam, Rotterdam and Antwerp. API4 is the reference price for steam coal to be delivered free on board ("FOB") to Richards Bay, South Africa. API6 is the reference price for steam coal to be delivered FOB to Newcastle, Australia.
	<b>AVERAGE ACHIEVED PRICE</b>	Power revenues divided by volume of net sales (includes imbalance charges).
<b>BM</b>	<b>BALANCING MECHANISM</b>	The mechanism through which the System Operator can call upon additional generation/consumption or reduce generation / consumption, through market participants' bids and offers, in order to balance the system minute by minute.
<b>COP21</b>		The United Nations Framework Convention on Climate Change (UNFCCC) is an international environmental agreement on climate change. They are holding their 21st annual Conference of the Parties (COP) in Paris from November 30th to December 11th 2015. This Climate Conference is more commonly known as COP21.
<b>CCL</b>	<b>CLIMATE CHANGE LEVY</b>	A tax on electricity delivered to non domestic users, intended to encourage energy efficiency and reduced carbon emissions.
<b>DECC</b>	<b>DEPARTMENT FOR BUSINESS, ENERGY &amp; INDUSTRIAL STRATEGY</b>	
<b>EBITDA</b>		Profit before interest, tax, depreciation (including asset obsolescence charges and losses on disposals), amortisation and unrealised gains on derivative contracts.
<b>ELV</b>	<b>EMISSION LIMIT VALUES</b>	One of the mechanisms available to implement the LCPD. This sets annual limits on the emissions of NO <sub>x</sub> , SO <sub>2</sub> and particulate which will be incorporated into the forthcoming PPC permit.
<b>IED</b>	<b>INDUSTRIAL EMISSIONS DIRECTIVE</b>	
<b>EUA</b>	<b>EU ALLOWANCE</b>	European Union Allowances, the tradable unit under the EU ETS. Equals 1 tonne of CO <sub>2</sub> .
<b>EU ETS</b>	<b>EU EMISSIONS TRADING SCHEME</b>	Trading Scheme within the European Union. The first compliance phase ran from 2005-07, the second compliance phase continued from 2008-12 and the third phase is proposed to run from 2013-2020.
<b>IUK</b>	<b>INTERCONNECTOR UK</b>	Sub sea gas pipeline and terminal facilities providing a bi-directional link between the UK and continental European energy markets.
<b>LCPD</b>	<b>LARGE COMBUSTION PLANT DIRECTIVE</b>	European Union Large Combustion Plant Directive sets emission standards for NO <sub>x</sub> , SO <sub>2</sub> and particulate from all Large Combustion Plant (>50MW).
<b>LEC</b>	<b>LEVY EXEMPTION CERTIFICATE</b>	Evidence of Climate Change Levy exempt electricity supplies generated from qualifying renewable sources.

# Appendix 1: Definitions (cont.)

<b>LNG</b>	<b>LIQUIFIED NATURAL GAS</b>	
<b>LTIR</b>	<b>LOST TIME INJURY RATE</b>	The frequency rate calculated on the following basis (number of accidents/hours worked * 100,000). Accidents are defined as occurrences where the injured party is absent from work for more than 24 hours.
<b>NERP</b>	<b>NATIONAL EMISSIONS REDUCTION PLAN</b>	One of the mechanisms available to implement the LCPD and the one selected by Drax. This sets annual limits on the emissions of NO <sub>x</sub> , SO <sub>2</sub> and particulate which will be incorporated into the forthcoming PPC permit.
<b>NO<sub>x</sub></b>		Nitrogen oxides, emissions of which are regulated under the LCPD.
<b>OFGEM</b>	<b>OFFICE FOR GAS AND ELECTRICITY MARKETS</b>	
	<b>ADVANTAGED FUELS</b>	Fuel that gives a price advantage against standard bituminous coals. Such fuels include off specification coals and petcoke.
<b>RO</b>	<b>RENEWABLES OBLIGATION</b>	The obligation placed on licensed electricity suppliers to deliver a specified amount of their electricity from eligible renewable sources.
<b>ROC</b>	<b>RENEWABLES OBLIGATION CERTIFICATE</b>	The obligation requires licensed electricity suppliers to ensure that specified and increasing amounts of the electricity they supply are from renewable sources. Eligible generators of electricity using renewable energy sources receive a pre-specified number of ROCs per MWh of renewable power generation dependant on date of commission and technology. These certificates can then be traded.
<b>SNCR</b>	<b>SELECTIVE NON CATALYTIC REDUCTION</b>	Injection of urea into a units boiler to react with flue gases leading to a reduction in nitrogen oxides.
<b>SBP</b>	<b>SUSTAINABLE BIOMASS PARTNERSHIP</b>	The Sustainable Biomass Partnership (SBP) is an industry-led initiative formed by major European utilities that use biomass, mostly in the form of wood pellets, in large thermal power plants.
<b>SBR</b>	<b>SUPPLEMENTAL BALANCING RESERVE</b>	Contract with plant which would otherwise have closed, mothballed, or have been unavailable to the market and which can be called on by National Grid as a last resort after all commercial balancing actions have been taken.
<b>SO<sub>2</sub></b>		Sulphur dioxide, emissions of which are regulated under the LCPD.
<b>TRIR</b>	<b>TOTAL RECORDABLE INJURY RATE</b>	TRIR is calculated on the following basis (lost time injuries + worse than first aid injuries) / hours worked * 100,000.
<b>UKCS</b>	<b>UK CONTINENTAL SHELF</b>	Gas reserves found off shore in UK waters.
<b>UK NAP</b>	<b>UK NATIONAL ALLOCATION PLAN</b>	Allocation of UK emissions allowances at the national level to individual sites under EU ETS.

## Appendix 2: IAS 39 Treatment

Financial Instrument	Location of Gains and Losses in the Half Year Report
Power	Hedge Reserve
International Coal	Hedge Reserve and Income Statement
Financial Coal	Largely Hedge Reserve
Foreign Exchange	Hedge Reserve and Income Statement
Carbon	Hedge Reserve
Gas	Income Statement
Oil	Income Statement
Freight	Income Statement

# Appendix 3: Group Income Statement

In £m	H1 2016	H1 2015	▲%
Revenue	1,487	1,511	
Cost of Sales	(1,305)	(1,277)	
<b>Gross Margin</b>	<b>182</b>	<b>234</b>	
Operating Costs	(112)	(114)	
<b>EBITDA</b>	<b>70</b>	<b>120</b>	<b>(42)%</b>
IAS39 Unrealised Gains / (Losses) on Derivative Contracts	163	(3)	
Depreciation	(52)	(50)	
<b>Operating Profit</b>	<b>181</b>	<b>67</b>	
Net Finance Credit / (Cost)	3	(14)	
<b>Profit Before Tax</b>	<b>184</b>	<b>53</b>	
Tax Charge	(35)	(14)	
<b>Reported Earnings</b>	<b>149</b>	<b>39</b>	
<b>Underlying Earnings</b>	<b>17</b>	<b>41</b>	<b>(59)%</b>
<b>Reported Basic Earnings Per Share (pence)</b>	<b>36.6</b>	<b>9.6</b>	
<b>Underlying Basic Earnings Per Share (pence)</b>	<b>4.2</b>	<b>10.2</b>	<b>(59)%</b>
<b>Total Dividend Per Share (pence)</b>	<b>2.1</b>	<b>5.1</b>	

# Appendix 4: Generation – Gross Profit

In £m	H1 2016	H1 2015	▲%
<b>Revenue<sup>(1)</sup></b>			
Power Sales	970	1,090	
ROC/LEC Sales	190	145	
Ancillary Services Income	20	6	
Fuel Sales	-	-	
Other Income	2	5	
	<b>1,182</b>	<b>1,246</b>	<b>(5)%</b>
<b>Cost of Sales</b>			
Generation Fuel Costs	(583)	(574)	
Fuel Sold	-	-	
ROC/LEC Support	316	241	
Carbon Tax	(52)	(75)	
Cost of Carbon Allowances	(16)	(33)	
ROCs/LECs Sold or Utilised	(190)	(144)	
Cost of Power Purchases	(457)	(391)	
Grid Charges	(33)	(42)	
	<b>(1,015)</b>	<b>(1,018)</b>	<b>0%</b>
<b>Gross Profit</b>	<b>167</b>	<b>228</b>	<b>(27)%</b>

1) Includes sales to Haven Power of £339m (H1 2015: £364m)

2) Excludes cost of fuel sales

## Key Metrics

Net sales volume and average achieved price

- 2016: 10.9TWh (£47.1/MWh)
- 2015: 14.0TWh (£49.9/MWh)

Cost of coal and biomass

- 2016: £53.5/MWh<sup>(2)</sup>
- 2015: £41.0/MWh<sup>(2)</sup>

Value of ROC/LECs generated

- 2016: £42.1/MWh
- 2015: £46.4/MWh

Carbon tax

- 2016/17: £18/t
- 2015/16: £18/t

Carbon allowances expensed and average price

- 2016: 3.1m (£5.2/t)
- 2015: 7.5m (£4.3/t)

# Appendix 5: Retail – Gross Profit

In £m	H1 2016	H1 2015	▲ %
<b>Revenue</b>	<b>643</b>	<b>629</b>	<b>2%</b>
<b>Cost of Sales</b>			
Cost of Power Purchases	(339)	(353)	
Grid Charges	(149)	(143)	
Other Retail Costs	(145)	(125)	
	<b>(633)</b>	<b>(621)</b>	<b>2%</b>
<b>Gross Profit</b>	<b>10</b>	<b>8</b>	

## Key Metrics

### Retail sales

- 2016: 7.2TWh (£89.3MWh)
- 2015: 6.8TWh (£92.5/MWh)

### Power purchases

- Increase reflects sales growth at a lower cost per MWh
- 2016: £47.1/MWh
- 2015: £51.9/MWh

### Grid charges

- Distribution, transmission and balancing costs

### Other retail costs

- Increasing cost of Renewables Obligation, Feed-in-Tariffs and LECs

# Appendix 6: ROC Reporting

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## Balance sheet reconciliation

- ROC generated – estimated benefit of generating electricity with biomass
- Sold or utilised – original estimated balance sheet value charged to cost of sales on subsequent sale of ROC
- Value at balance sheet date – estimate of cumulative ROC value generated not sold

## H1 2016 Balance Sheet – ROC Assets

ROC and LEC Assets	£m
<b>At 31 December 2015</b>	<b>270</b>
ROCs Generated	316
Purchased	-
Sold or Utilised	(190)
<b>At 30 June 2016</b>	<b>396</b>

# Appendix 7: Tax Reconciliation

## UK corporation tax (CT) rates

- 20% for 2016 and 20.25% for 2015

## 2016 tax rate

- Underlying rate excludes after tax impact of unrealised gains and losses on derivative contracts
- Other items includes one off prior year R&D tax credits agreed with HMRC
- Anticipate full year rate to include credit for UK tax rate change, expected H2 2016
- Reducing UK tax rate
  - 18% to 17% from April 2020

## Tax Reconciliation

In £m (unless otherwise stated)	Reported		Underlying	
	H1 2016	H1 2015	H1 2016	H1 2015
Profit Before Tax	184	53	21	56
Tax at UK CT Rate	(37)	(11)	(4)	(11)
Adjustment to Prior Year Taxes and Other Items	1	(3)	-	(4)
<b>Tax Charge</b>	<b>(36)</b>	<b>(14)</b>	<b>(4)</b>	<b>(15)</b>
<b>Effective Tax Rate</b>	<b>19%</b>	<b>27%</b>	<b>19%</b>	<b>26%</b>

## Appendix 8: 2016 Financial Guidance

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Summary	
Group Opex	c.£230m – c.£240m
Group Capex	c.£80 – c.£100m
Depreciation	c.£110m – c.£115m
Net Interest <sup>(1)</sup>	c.£10m – c.£15m
Underlying Tax <sup>(2)</sup>	Small tax charge

1) Net interest remains subject to revaluation of US dollar denominated balances following depreciation of sterling – a non cash item

2) Excludes potential benefit from US pellet supply business start-up costs

# Appendix 9: Power Market

## UK power market

### Challenging commodity markets driven by oil and gas

- Improvement in Q2 2016 reflects stronger gas and expectations of winter tightness

### Dispatch dynamics

- Reduction in coal plant generation due to lower dark green spreads
- Introduction of Supplemental Balancing Reserve
- 8GW of coal exited market
- Wind and solar capacity continues to grow
- Balancing actions increasing

Power Prices



UK NBP Gas Price



Sources: Brokered Trades, Spectron

Prices as at 17<sup>th</sup> July 2016

# Appendix 10: Gas Market

## Global gas

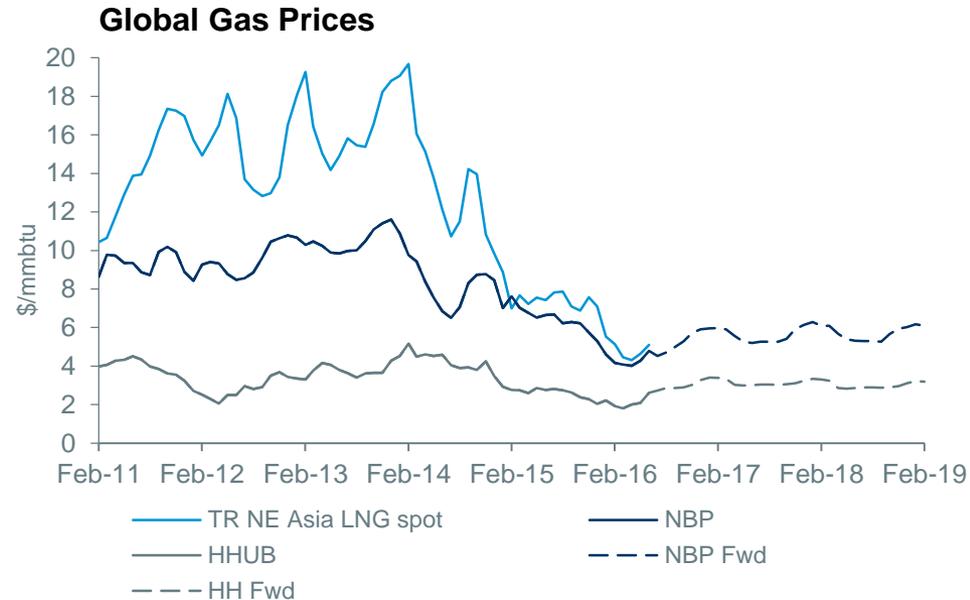
- Delays / disruptions supporting spot price
- Lower oil prices filter through to gas contracts with an oil-indexation element
- Narrowing spread between Asia and Europe
- US LNG exports from Q1-16

## US gas

- Key drivers
  - Production declines
  - Warmer weather
  - Increasing demand from power sector
  - Exports

## UK gas

- Rough storage unavailable until March 2017
- Coal-to-gas switching adding demand



Source: Thomson Reuters Eikon  
Prices as at 17<sup>th</sup> July 2016

# Appendix 11: Coal Market

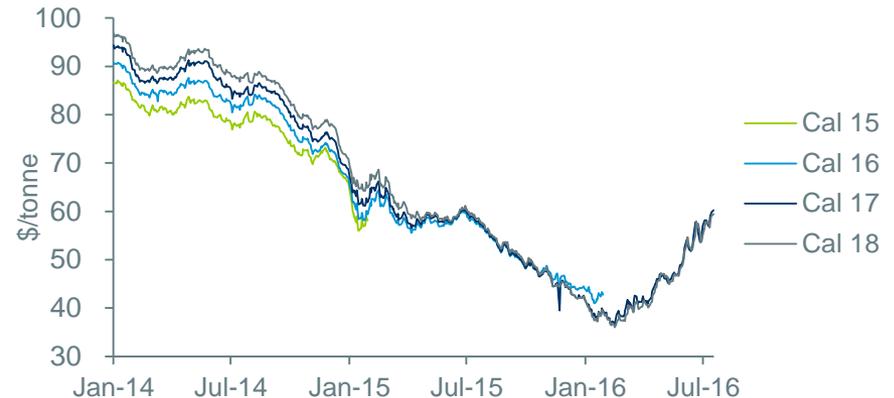
## UK coal production and demand falling

- Coal fired power station closures and lower spreads have reduced requirements
- UK coal net imports Q1 2016 fall to 2.6mt
  - 77% reduction year on year

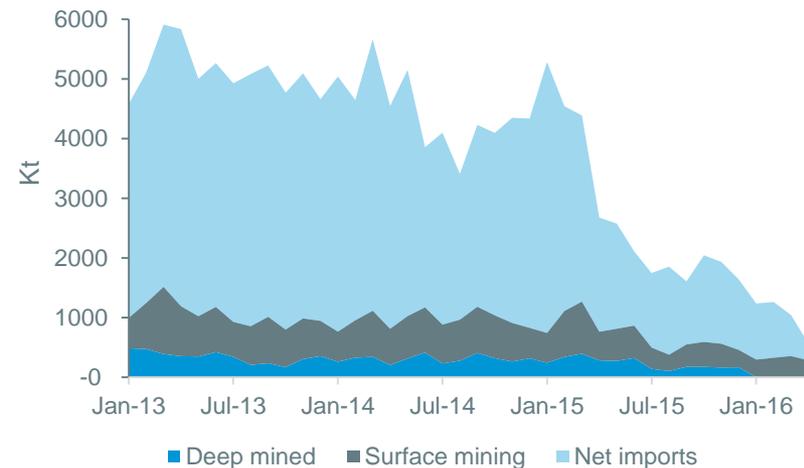
## Global coal markets remains oversupplied

- Spot European prices reached lowest levels since 2003, but have since recovered

Coal Prices (API 2)



UK Coal Production and Net Imports



Source: McCloskeys, Brokered Trades & DECC

Prices as of 17th July 2016

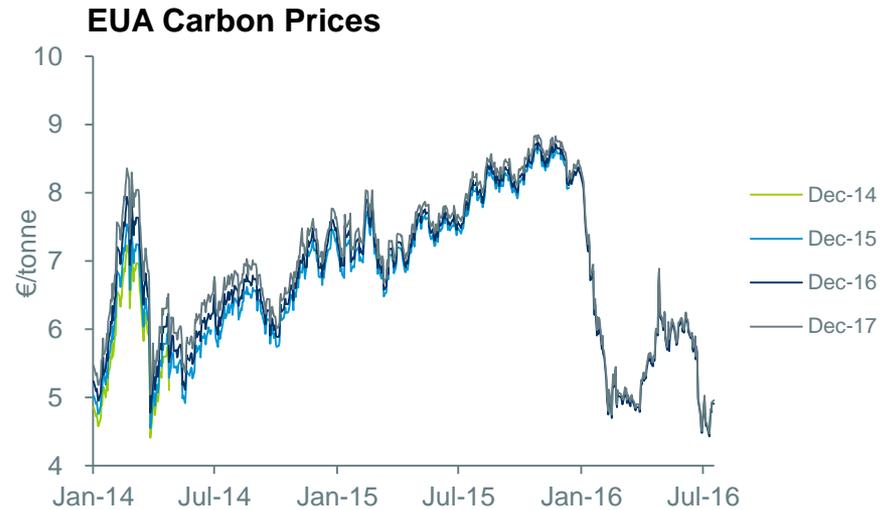
# Appendix 12: Carbon Market

## Phase III EU ETS

- MSR<sup>(1)</sup> approved, commences January 2019
  - [Polish legal challenge](#)
- Market oversupply remains at c.2.1bn

## Phase IV EU ETS

- COP21 in Paris outcome does not require any changes to EU ETS Phase IV
- Phase IV negotiations progressing – focus on the European Parliament to reach an agreement on framework for 2020 – 2030
- Brexit vote has created uncertainty for the market

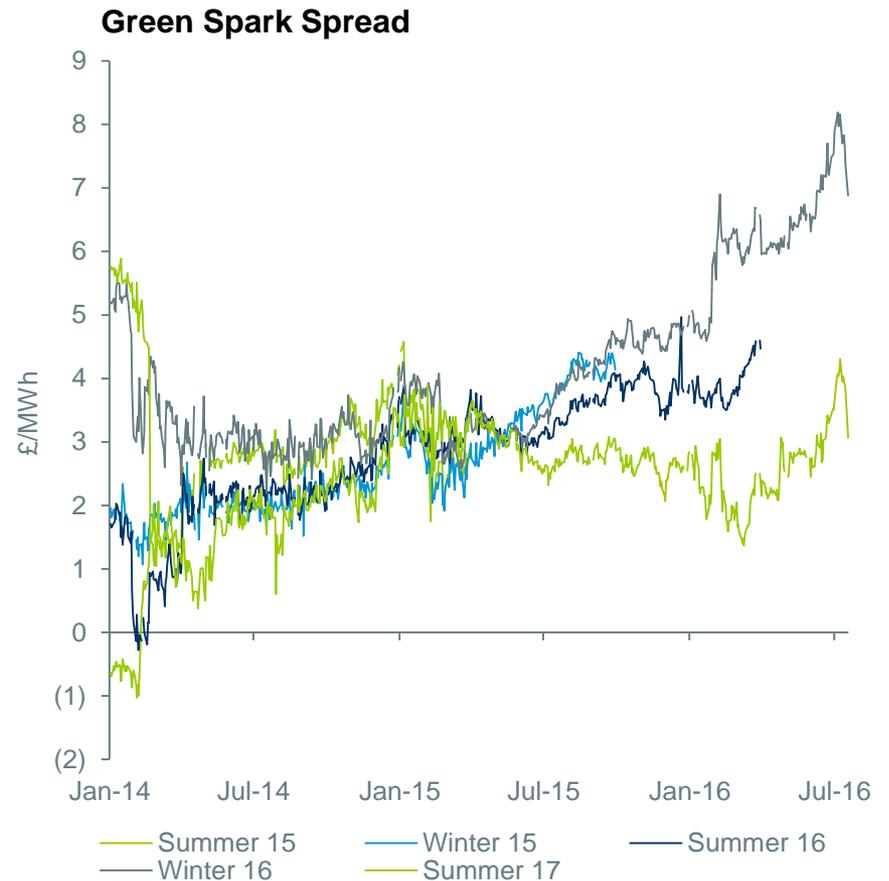


Source: ICE ECX

Prices as of 17th July 2016

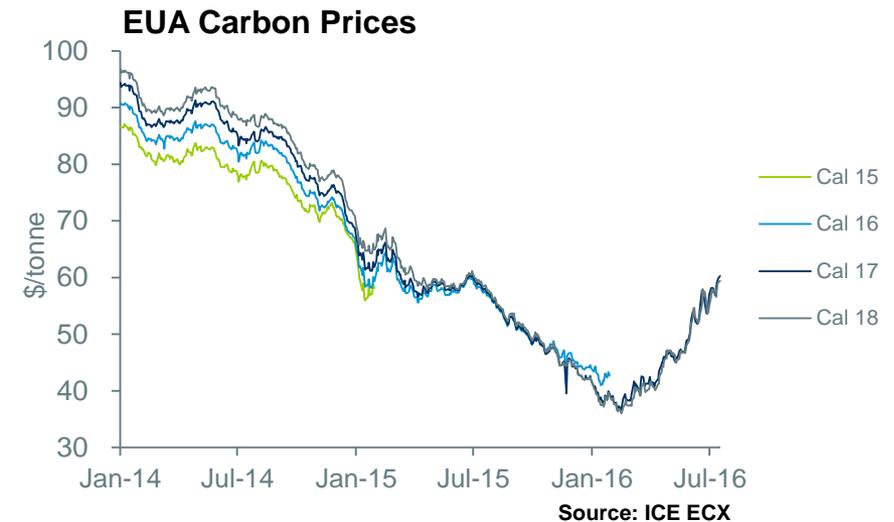
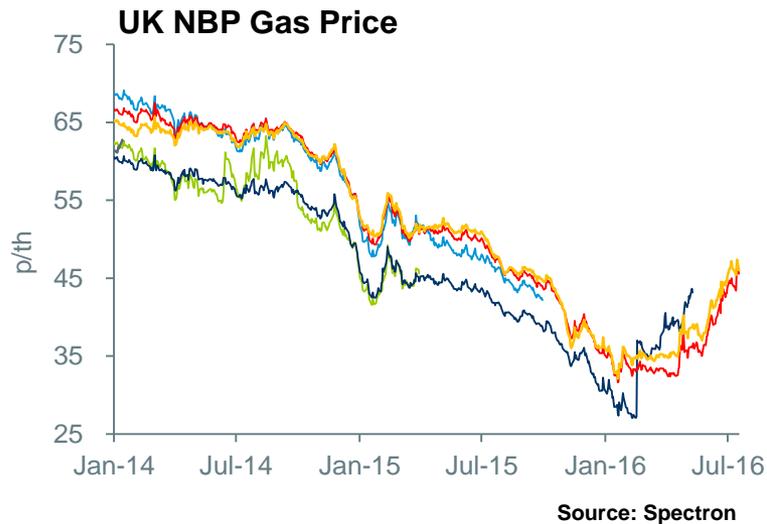
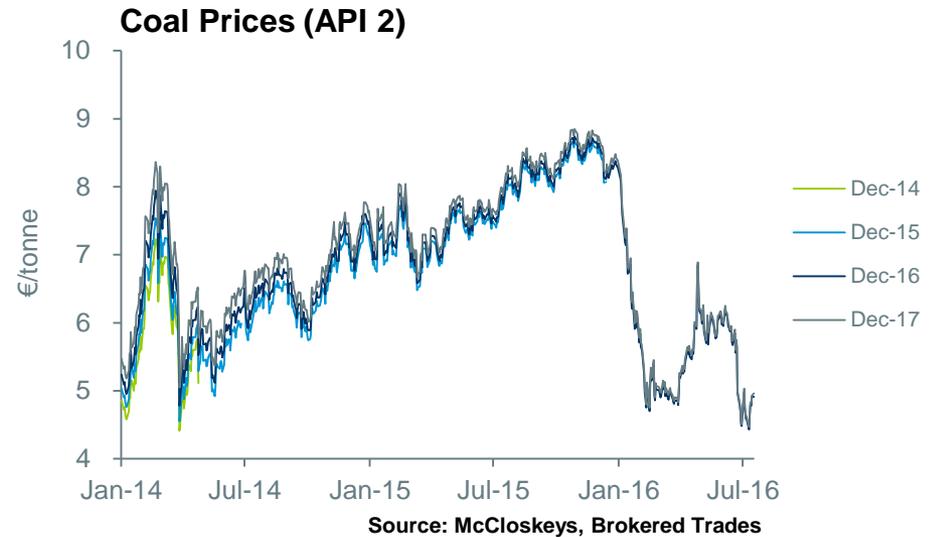
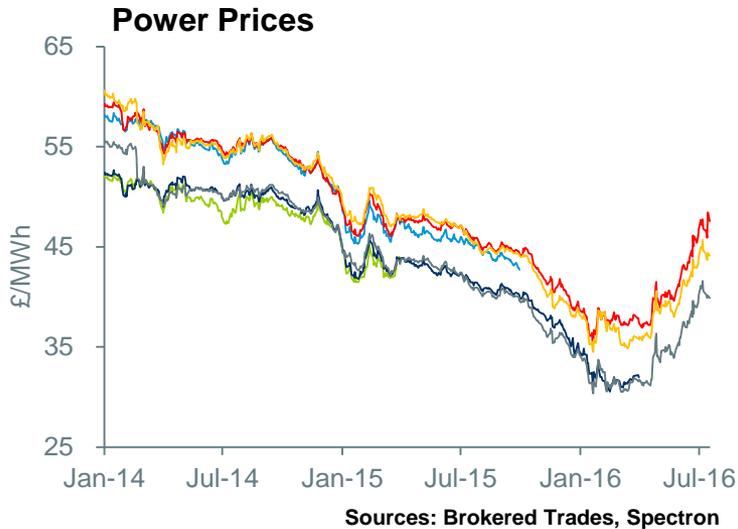
1) MSR = Market Stability Reserve

# Appendix 13: Forward Spread Movements



Source: Drax. Assumed typical efficiencies: Dark Green Spread – 36%, Green Spark Spread – 49%  
Prices as of 17th July 2016

# Appendix 14: Commodity Price Movements



# Appendix 15: Coal Capacity and IED

Installation	Operator	Fuel	Installed Capacity (GWe)	Operational in 2017 (GWe)	Closure - Status	Supplementary Balancing Reserve	IED <sup>(1)</sup> Decision
Rugeley	Engie	Coal	1.0	-	Closed summer 2016	-	TNP <sup>(2)</sup>
Ferrybridge	Scottish & Southern Energy	Coal	2.0	-	Closed March 2016	-	LLD <sup>(3)</sup>
Fiddlers Ferry	Scottish & Southern Energy	Coal	2.0	1.6	Consulted on closure, now in receipt of a 1 year Ancillary Services contract	1 unit in SBR - 422MW de-rated capacity for W16	TNP
Longannet	Scottish Power	Coal	2.3	-	Closed March 2016	-	TNP
Eggborough	EPL	Coal	1.9	-	-	681MW de-rated capacity for W16	LLD
Cottam	EDF Energy	Coal	2.0	2.0	-	-	TNP
West Burton	EDF Energy	Coal	2.0	2.0	-	-	TNP
Aberthaw	RWE npower	Coal	1.6	1.6	Indicated restricted operations and availability	-	TNP
Drax	Drax Power	Coal	2.0	2.0	-	-	TNP
Ratcliffe	E.ON UK	Coal	2.0	2.0	-	-	TNP
<b>Total GWe</b>			<b>18.8</b>	<b>11.2</b>			

1) IED = Industrial Emissions Directive

2) TNP = Transitional Nation Plan

3) LLD = Limited Life Derogation

# Half Year Results

6 Months Ended 30 June 2016

26 July 2016

