



# 2021 Half Year Results

29 July 2021

## **Agenda**

Operational Review

Financial Review

Strategy Update

## **Presenters**

Will Gardiner, CEO

Andy Skelton, CFO

# Forward Looking Statements

This presentation may contain certain statements, expectations, statistics, projections and other information that are or may be forward-looking. The accuracy and completeness of all such statements, including, without limitation, statements regarding the future financial position, strategy, projected costs, plans, beliefs and objectives for the management of future operations of Drax Group plc ("Drax") and its subsidiaries (the "Group"), including the integration of Pinnacle Renewable Energy Inc ("Pinnacle") as part of Drax, are not warranted or guaranteed. By their nature, forward-looking statements involve risk and uncertainty because they relate to events and depend on circumstances that may occur in the future. Although Drax believes that the statements, expectations, statistics and projections and other information reflected in such statements are reasonable, they reflect Drax's current view and no assurance can be given that they will prove to be correct. Such events and statements involve risks and uncertainties. Actual results and outcomes may differ materially from those expressed or implied by those forward-looking statements. There are a number of factors, many of which are beyond the control of the Group, which could cause actual results and developments to differ materially from those expressed or implied by such forward-looking statements. These include, but are not limited to, factors such as: future revenues being lower than expected; increasing competitive pressures in the industry; target dates for the commissioning of plants not being achieved, the expected returns from the acquisition of Pinnacle not being fully realised (for example due to one or more risks as identified in the circular issued to shareholders in connection with the acquisition arising) capital investments being delayed and/or general economic conditions or conditions affecting the relevant industry, both domestically and internationally, being less favourable than expected. We do not intend to publicly update or revise these projections or other forward-looking statements to reflect events or circumstances after the date hereof, and we do not assume any responsibility for doing so.



## Our Purpose

Enabling a zero carbon, lower cost energy future

## Our Strategy

We will build a long-term future for sustainable biomass  
We will be the leading provider of power system stability  
We will give our customers control of their energy

## Our Ambition

To be a carbon negative company by 2030

# Operational Review

# H1 2021 Highlights

Good operational and financial performance

Substantially a pure play renewable and the world's leading sustainable biomass generation and supply business



## Financial

**4% increase in Adjusted EBITDA**

**Strong liquidity and balance sheet**

**10% increase in dividend**

**Pinnacle – in line with expectations**



## Operations

### Pellet Production

8% reduction in production costs  
70% increase in output

### Generation

>90% reduction in CO<sub>2</sub> vs 2012  
UK's largest source of renewable generation by output  
Strong system support performance

### Customers

Good I&C performance  
Evaluating options for SME



## Strategic

**Acquisition of Pinnacle**

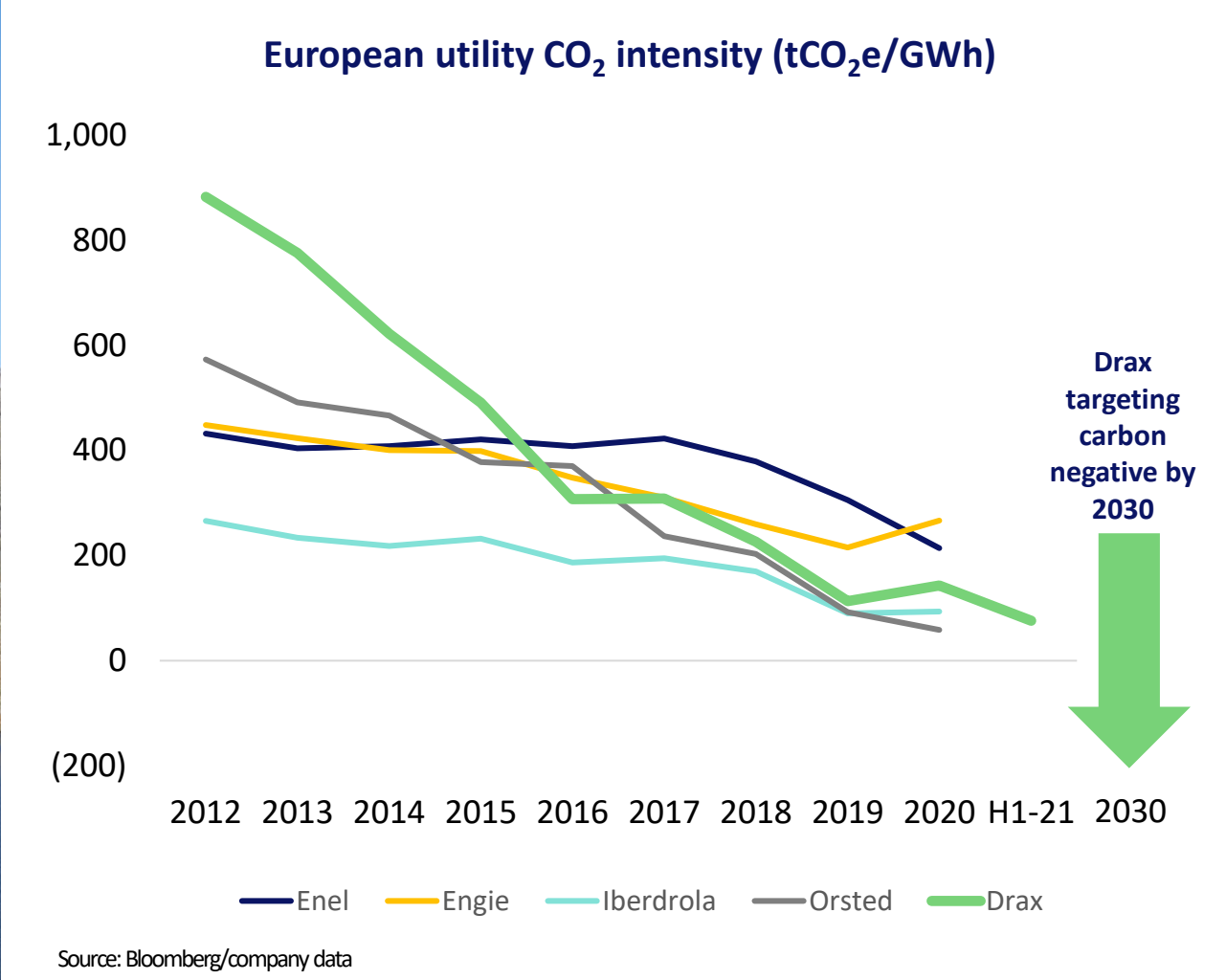
**Expanded biomass supply chain**

**End of commercial coal generation**

**Sale of gas generation assets**

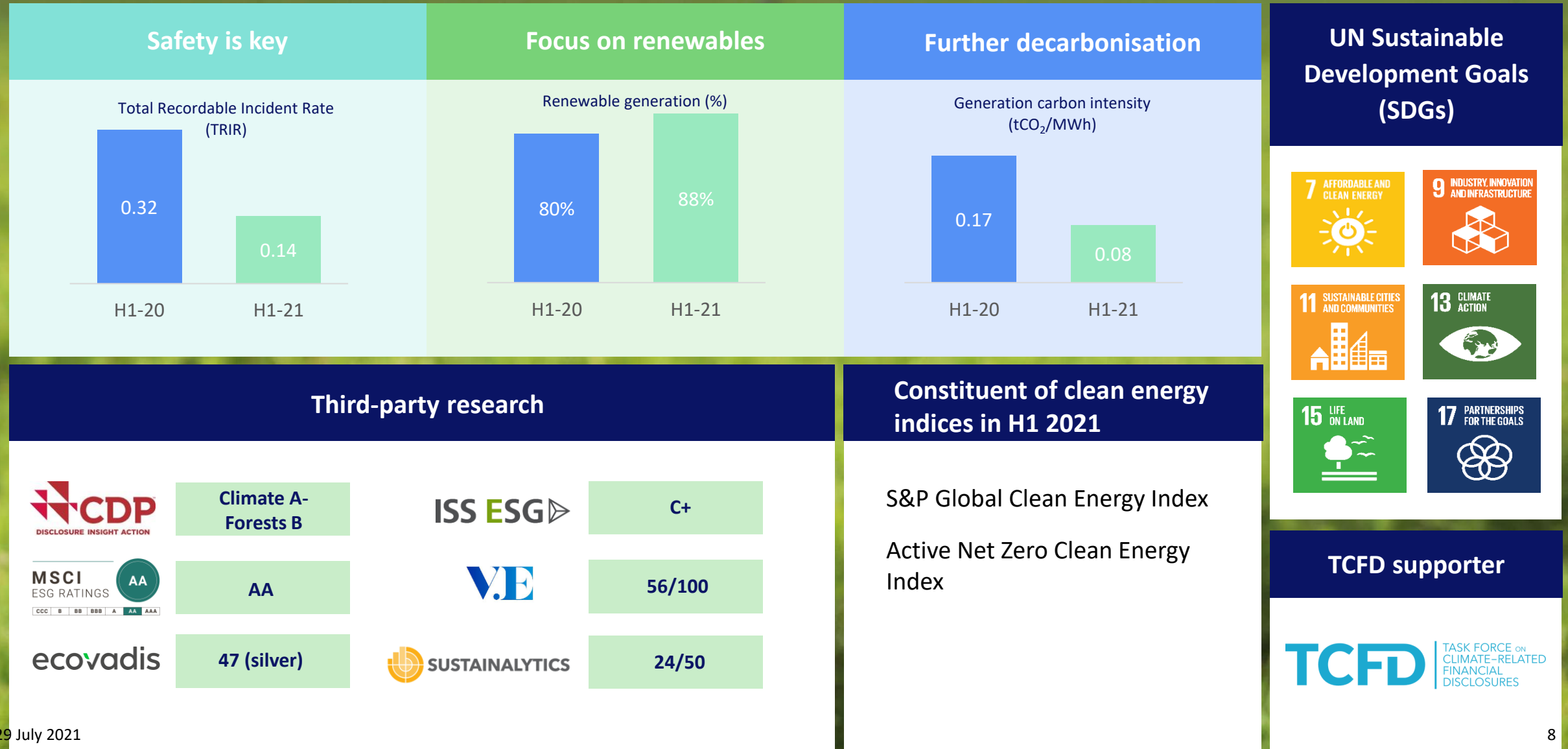
# Progress Towards a Carbon Negative Future

- >90% reduction in generation emissions since 2012
- End of commercial coal operations and sale of gas generation assets
- Generation portfolio – biomass and hydro
- Customers – sale of renewable electricity
- Pioneering options for negative emissions by 2030



# Sustainability

Long-term commitment to safety and sustainability underpins strong and improving ESG credentials





# Generation

UK's largest source of renewable power by output

## End of commercial coal generation and sale of gas assets

## Biomass operational performance

- CfD – 97% availability
- ROC – lower achieved power prices reflecting historical hedging and buy-backs associated with reprofiled generation to H2-21
- Higher cost of biomass reflecting historical FX hedging

## Strong system support performance

## Strong contracted forward power positions

- Power 29.3TWh contracted at £52.1/MWh (2021-2023)

## Major planned outage on CfD unit – summer 2021

- Includes turbine upgrade which will lower maintenance cost, improve efficiency and reduce cost of biomass generation

## Ongoing trials of lower cost biomass fuels

- Up to 35% agricultural residues on one biomass unit in test runs

Adjusted EBITDA<sup>(1)</sup>  
**£185m**  
(H1-20: £214m)

System support<sup>(2)</sup>  
**£70m**  
(H1-20: £66m)

% of UK renewables  
**12%**<sup>(3)</sup>  
(Q2 2019 to Q1 2020: 12%)

Biomass availability<sup>(4)</sup>  
**88%**  
(H1-20: 87%)

Biomass generation  
**7.6TWh**  
(H1-20: 7.4TWh)

Hydro generation<sup>(5)</sup>  
**0.3TWh**  
(H1-20: 0.3TWh)

Gas generation  
**0.6TWh**  
(H1-20: 1.3TWh)

Coal generation  
**0.4TWh**  
(H1-20: 1.0TWh)

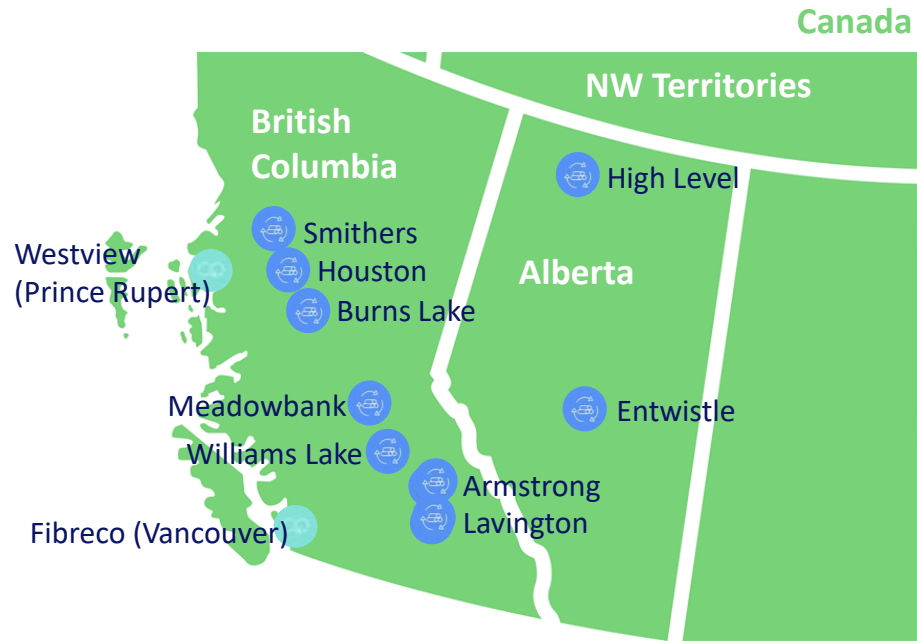
CO<sub>2</sub> intensity  
**0.1t/MWh**  
(H1-20: 0.2t/MWh)

1) Includes £21m of discontinued operations – gas (H1-20: £19m)  
2) Balancing mechanism, Ancillary Services and portfolio optimisation  
3) Q2 2020 to Q1 2021  
4) Availability of each generation asset weighted by Adjusted EBITDA contribution  
5) Gross output from pumped storage and hydro schemes

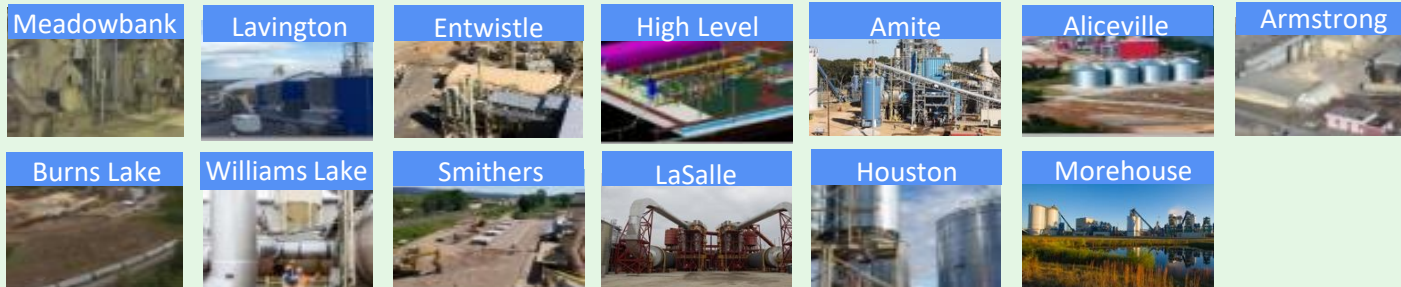
# Pellet Production – a Major Producer and Supplier of Biomass to Customers Globally

An enlarged and geographically diversified supply chain

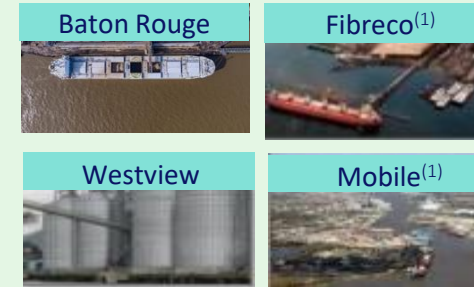
4.9Mt capacity (from 2022) – 17 pellet plants across 3 major fibre baskets and 4 deep water ports



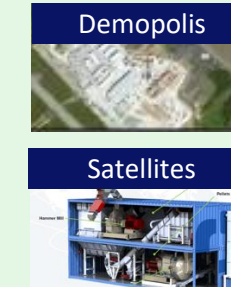
## Operational plants



## Ports



## Developments



1) Fibreco and Mobile facilities not owned/leased by Drax

# Pellet Production – a Major Producer and Supplier of Biomass to Customers Globally

Global reach with long-term supply contracts into Asia, Europe and UK

US\$4.3bn of contracted sales to customers

Significant contracted volumes beyond 2027

High-quality Japanese, Korean and European customers

## Drax customers

 drax

 HK  
HANWA

 EPH

 uni  
per

 MITSUI & CO.

 RWE

 TOYOTA TSUSHO CORPORATION

 UBE / UBE INDUSTRIES, LTD.

 Mitsubishi Corporation

 中广核 CGN

 Sumitomo Corporation

 GS Global

# Pinnacle Integration

Prioritise safe, efficient and sustainable operation of the enlarged supply chain

## Continuity of production

- Focus on best practice – H&S, operational efficiency and sustainability

## Continuity of management

- Operations consolidated under single management structure

## Establish future operating model in 2021, implement in 2022

- Joint approach to project development and cost reduction initiatives
- Consolidate expertise in low-cost production and third-party supply management

## Working with stakeholders

- Employees, indigenous communities, JV partners, eNGOs and governments

## Biomass sustainability

- Drax sustainability policy applied to enlarged Group
- Invest in, adapt and develop sourcing practices across Group

## Opportunities for optimisation of enlarged portfolio



part of  
**drax**

# Pellet Production – Operational Review of H1-21

Increased production capacity and cost reduction accelerated by acquisition of Pinnacle

## Strong operational and financial performance<sup>(1)</sup>

- 70% increase in production
- 8% reduction in \$/tonne production cost
- 60% increase in Adjusted EBITDA

## Continued cost reduction and increased self-supply

- Pinnacle, Morehouse expansion and ongoing cost savings

## Current developments in US Southeast (2021/22)

- LaSalle expansion, Demopolis and satellite plants

Adjusted EBITDA  
**£40m**  
(H1-20: £25m)

Pellet production  
**1.3Mt**  
(H1-20: 0.8Mt)

Production cost  
**\$141/t<sup>(2)</sup>**  
(H1-20: \$154/t)

Sales to Drax  
**0.9Mt<sup>(1)</sup>**  
(H1-20: 0.75Mt)

Sales to 3<sup>rd</sup> parties  
**0.4Mt<sup>(1)</sup>**  
(H1-20: n/a)

1) Inclusive of Pinnacle from 13 April 2021

2) Cost of production in Pellet Production – raw fibre, processing into a wood pellet, delivery to Drax port facilities in US and Canada and loading to vessel for shipment to UK and overheads – Free on Board (FOB). Cost of ocean freight, UK port and rail cost reflected in Generation business accounts in addition to price paid to Pellet Production for the wood pellet

# Customers

Delivering decarbonisation services to a high-quality I&C customer base, managing impact of Covid-19 on SME portfolio  
Expect to return to profit at Adjusted EBITDA level in 2021

## Drax Customers – strong growth prospects in I&C portfolio

- Renewable electricity is in high demand, premium emerging
- >25% increase in forward power sales vs. H1-21
- EV services and on-site asset optimisation services sold to key accounts
- Growing market for carbon offsets, supportive of future value of negative emissions

## Targeting high-quality, lower risk sectors with ESG focus

**H1-21 – performed well, growth in forward contracted sales**

## Well positioned to support key sectors manage their energy objectives and emissions



Transport



Agriculture



Manufacturing



Utilities



Public Sector



Education

## SME portfolio – focus on value over market share

- Continue to evaluate options to maximise value
- H1-21 – continued impact of Covid-19 – lower demand and increased bad debt provisions
- Stringent credit requirements since start of Covid-19 feeding through into improved portfolio quality

# Financial Review

# Financial Summary

Strong financial performance

**Adjusted  
EBITDA<sup>(1/2)</sup>**

**£186m**

(H1-20: £179m)

**Interim Dividend  
7.5p/share (£30m)**  
(H1-20: 6.8p/share, £27m)

**Expected Full Year Dividend  
18.8p/share (£75m)**  
(2020: 17.1p/share, £68m)

**Total Cash and  
Committed Facilities  
June 2021**

**£666m**

(H1-20: £694m)

**Adjusted  
Basic Earnings Per Share<sup>(1/2)</sup>**

**14.6p/share<sup>(1/2)</sup>**

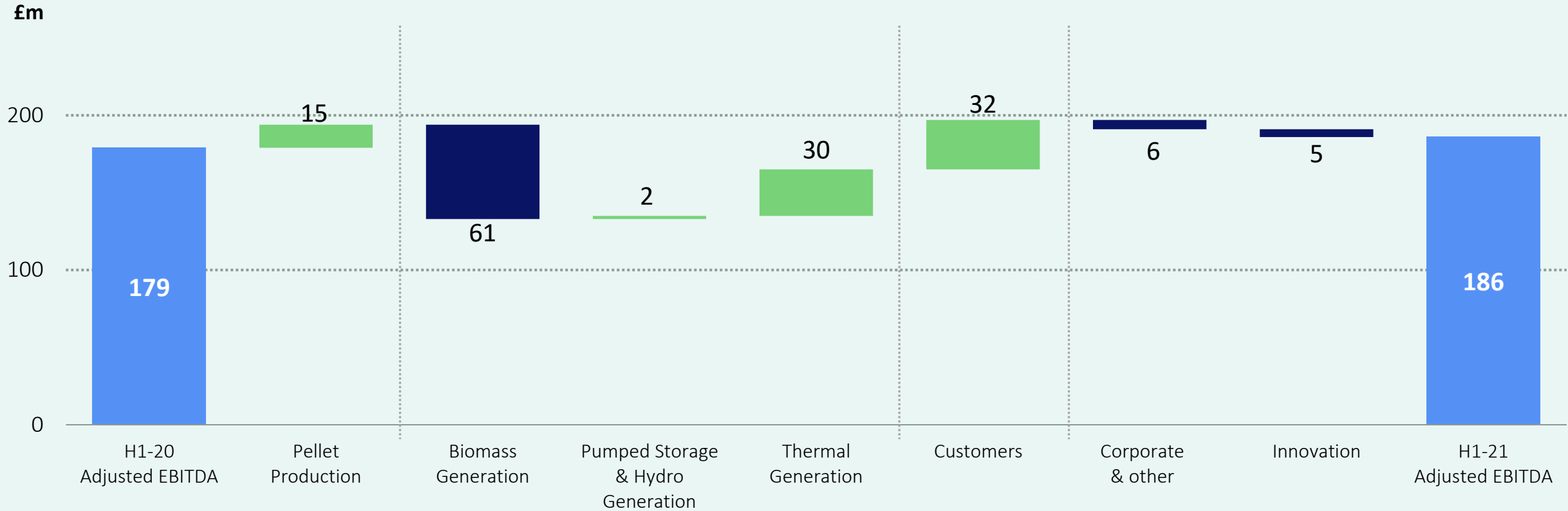
(H1-20: 10.8p/share)

**Continue to expect  
around 2x Net Debt  
to Adjusted EBITDA  
by end of 2022**

- 1) Financial performance measures prefixed with "Adjusted" are stated after adjusting for material one-off exceptional items that, by their nature, do not reflect the trading performance of the Group (write-down revaluation of deferred tax asset balances reflecting future increases in UK CT rates, acquisition costs, gain on sale of gas generation assets, restructuring costs, debt restructuring costs and asset obsolescence charges), and certain remeasurements on derivative contracts. Adjusted measures exclude amounts attributable to non-controlling interests
- 2) Includes continued and discontinued operations



# Adjusted EBITDA Bridge H1-20 to H1-21



**Pellet Production**  
H1-21: £40m  
H1-20: £25m

**Generation**  
H1-21: £185m  
H1-20: £214m

**Customers**  
H1-21: £(5)m (Covid-19: £10-15m)  
H1-20: £(37)m (Covid-19: £44m)

**Corporate and Innovation**  
H1-21: £(34)m  
H1-20: £(23)m

# Continued Focus on Biomass Cost Reduction

Existing expansion plans for lower cost capacity, operational efficiencies and addition of Pinnacle drive continued reductions

## Targeting run-rate savings of \$35/t (\$64m) of savings on 1.8mt self-supply by 2022 versus 2018 base

- \$36m of savings delivered, on track for \$64m savings by end of 2022
- Low-cost fibre, logistics and capacity expansions
- Leverage Pinnacle expertise and expand savings projects across expanded portfolio

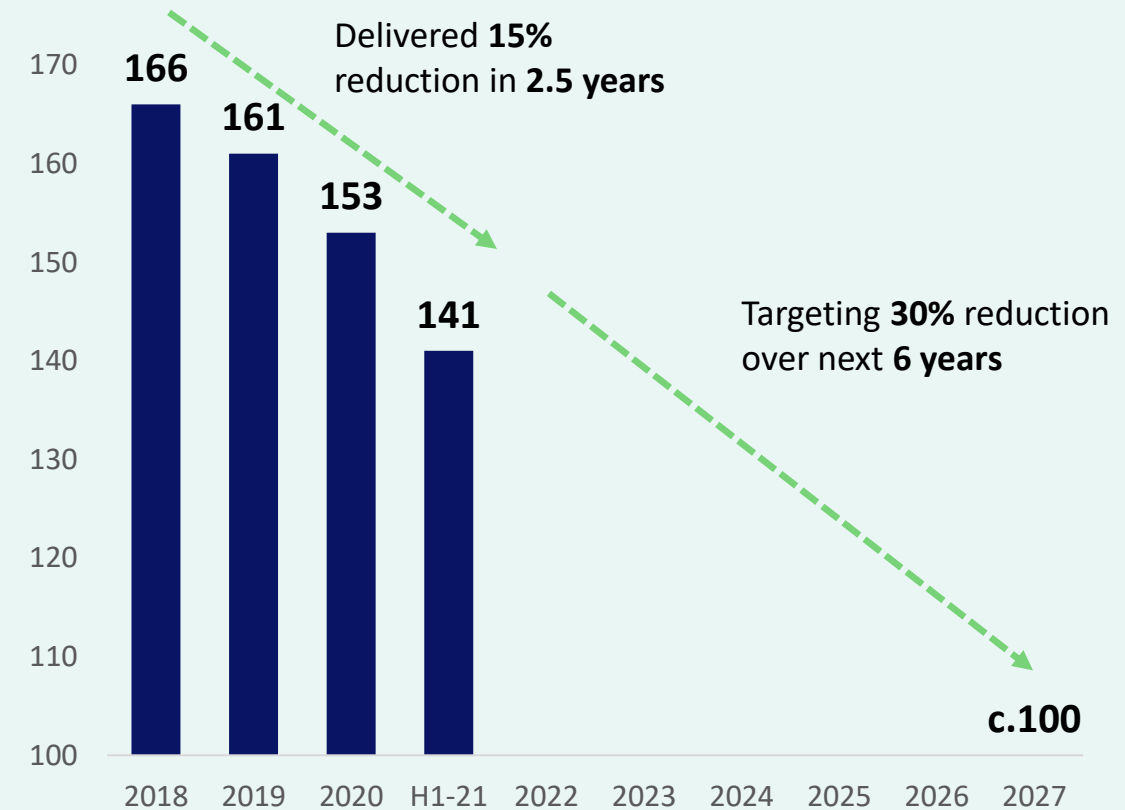
## Capacity expansion and committed pipeline to 2022

- LaSalle expansion (expected Q3-21)
- Demopolis site (expected Q3-21)
- Satellite plants (expected from Q4-21)
- Exploring further expansion opportunities across combined portfolio

## Progress with long-term opportunities for cost savings and growth

- Trials of lower cost biomass materials
- Up to 35% agricultural residues on one biomass unit in test runs
- Pipeline of emerging projects

## 15% reduction in FOB \$/tonne production cost in 2.5 years



# Capital Investment

Investment to drive operational efficiency, strategic initiatives and growth

2021 estimates	Key areas	Investment
Maintenance	Maintain operational performance	£70-80m
Enhancement	Efficiency and operational improvements	£20m
Strategic	Biomass self-supply Pinnacle	£60-70m £40m
Other		£20m
<b>Total</b>		<b>£210-230m</b>

**H1-21: £71m**

## Increase in full year investment includes

- Satellite plants
- Finalisation of LaSalle commissioning
- Projects acquired as part of Pinnacle acquisition, including Demopolis site



# Balance Sheet

Long-term structures in place to support growth

## Facilities in place to support growth and decarbonisation

- Infrastructure facilities extend maturity profile to 2030
- ESG facilities with margin linked to carbon emissions

## Group cost of debt now <3.5%

- Replaced Pinnacle debt with new lower cost ESG facility

## Strong credit profile

- S&P/Fitch (BB+ stable)
- DBRS investment grade rating (BBB stable)

## Pinnacle acquisition

- Funded from cash and existing agreements
- Refinanced Pinnacle facilities July 2021

## Further opportunities for balance sheet efficiency and reduced cost

Continue to expect around 2x net debt to Adjusted EBITDA by end of 2022

£666m cash and committed facilities

Maturity profile to 2030

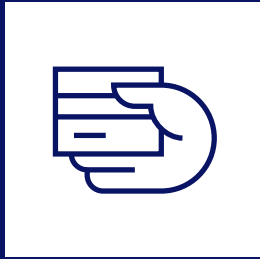
Instrument	Maturity	Description
<b>Infrastructure facilities</b>		
2019	2024-2029	£375m
2020	2024-2030	c.£213m <sup>(1)</sup>
<b>Bonds</b>		
	2025	\$500m
	2025	€250m
<b>ESG Revolving Credit Facility</b>	2025	£300m (undrawn for cash)
<b>ESG term-loan<sup>(2)</sup></b>	2024	C\$300m
<b>Index-linked term-loan</b>	2022	£35m

1) c.£213m – €25m in 2024 (£23m), €70m (£63m) in 2026, £45m in 2027, £53m in 2028 and €31.5m (£29m) in 2030, of which £130m was undrawn at December 2020, subsequently drawn February 2021<sup>20</sup>

2) Refinanced July 2021, reduced from C\$435m at 30 June

# Clear Capital Allocation Policy

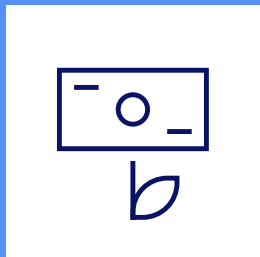
Implemented in 2017, designed to support strategy



1. Maintain credit rating



2. Invest in core business



3. Sustainable and growing dividend



4. Return surplus capital beyond investment requirements

# Strategy Update

# Positioning Drax for Growth

Growth opportunities from biomass supply, negative emissions and system support services

## 2012

**UK's largest coal fired power station**

- Single site merchant power generator

## 2021

**>90% reduction in generation emissions since 2012**

- Now substantially a fully renewable energy company

**UK's largest source of renewable power by output – multi-site, multi-asset**

**World's leading sustainable biomass generation and supply company**

**Long-term low-carbon growth opportunities**

- Biomass supply – Asia, Europe and North America
- Demand for negative emissions using BECCS – UK and globally
- Demand for renewable power – generation and supply
- Demand for system support – Cruachan II

# Biomass Has A Critical Role to Play in the Fight Against Climate Change

Drax is a world leader in sustainable biomass

## Sustainable biomass and BECCS internationally recognised as critical to decarbonisation

**UK** – bioenergy could double to meet 15% of UK’s primary energy demand by 2050

**Europe** – bioenergy to grow by 70% between 2030 and 2050 to deliver negative emissions and BECCS a part of every EU scenario that reaches net zero by 2050

**Japan** – biomass power capacity to double from 4GW to 8GW by 2030

## International policy developments support sustainable biomass sourcing

**UK** – Energy White Paper and 10-point plan reiterated commitments to sustainable biomass and BECCS

**Europe** – biomass support to continue through REDIII with emphasis on BECCS

**Japan** – new energy plan expected to include higher bioenergy use and ambitious new climate targets

Clear international accounting policy under UN Framework Convention on Climate Change – reaffirmed in 2019

## Drax is a world leader in the use of sustainable biomass

Uses of low-grade residuals, sawdust, thinnings, branches, tops and other low-grade wood, which have limited alternative markets and is often considered waste

Independent Advisory Board and external audit and certification of all biomass

## Healthy managed forests support biodiversity, prevent disease and wild fires

US Southeast – carbon stocks increased >90% since 1950

Canada – primarily sourced from highly regulated Crown land based on annual allowable cut

*“Without biomass, we’re not going to make it. We need biomass in the mix, but we need the right biomass in the mix”*

Frans Timmermans – EC Commissioner for Green Deal (May 2021)

*“Biomass is unique amongst renewable technologies in the wide array of applications in which it can be used as a substitute for fossil-fuel based products and activities, from power generation to hydrogen production and even new forms of plastics. Along with its ability to deliver negative emissions, this makes biomass one of our most valuable tools for reaching net zero emissions.”*

UK Energy White Paper (December 2020)

All woody biomass supplies and suppliers verified and audited against external independent standards



FSC licence number C119787



# Global Need for Biomass and BECCS

Potential for significant global demand for sustainable biomass to support negative emission from BECCS

Research by Coalition for Negative Emissions shows potential for 2 to 4bn tonnes of negative emissions from BECCS by 2030

## Coalition for Negative Emissions Report

### Current pipeline of negative emissions projects insufficient

- Scale of action required by 2050 will be profound
- BECCS, DACS and natural climate solutions have a role

### Total sustainable global market potential for BECCS

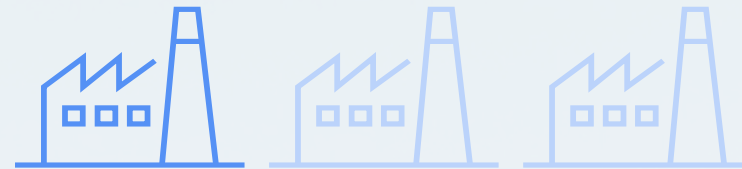
- 2 to 4bn tonnes of negative emissions by 2030

### Effective cost of negative emissions using BECCS<sup>(1)</sup>

- Current - £225 to £90/tonne
- At scale - £145 to £45/tonne

2-4bn tonnes = 500-1,000 4Mt BECCS plants

or 1 in 3 of today's global at-scale coal plants converted



1. Effective cost subtracts non-CO<sub>2</sub> outputs, e.g., wood for certain NCS, power for BECCS on power

# Global BECCS Opportunities

Drax is exploring opportunities for new-build BECCS and conversions, and technologies globally



**Bechtel**

Working with Drax to identify opportunities for new international BECCS plants, including North America and Europe



**Phoenix BioPower**

Working with Drax to identify turbine technologies which can reduce cost of new-build BECCS



**C-Capture**

Developer of organic solvent technology for CCS

Trials at Drax Power Station

Potential for significant cost reduction when scaled

Drax is an equity shareholder

# Development of BECCS at Drax Power Station and CCS Infrastructure in UK

## **BECCS at Drax Power Station – two biomass units with BECCS by 2030**

- Planning application process commenced
- Mitsubishi Heavy Industries selected as solvent technology partner
- Commence FEED study late 2021 subject to indication of support from UK Government, Final Investment Decision – 2023/24

## **Participant in East Coast CCS Cluster – UK's largest CCS cluster**

## **Competition to determine sequencing of UK CCS clusters and projects**

### **Track 1 aims to identify at least two regional CCS clusters for delivery in the mid-2020s**

- Applications submitted July 2021
- Eligible clusters selected August 2021, with final selection from October 2021

### **Track 2 aims to identify at least two regional CCS clusters for delivery by 2030**

- Process will be announced in October, alongside the Track-1 results
- Conclude negotiations with projects within the Track-2 clusters in time for FIDs from 2024, enabling operation from 2027

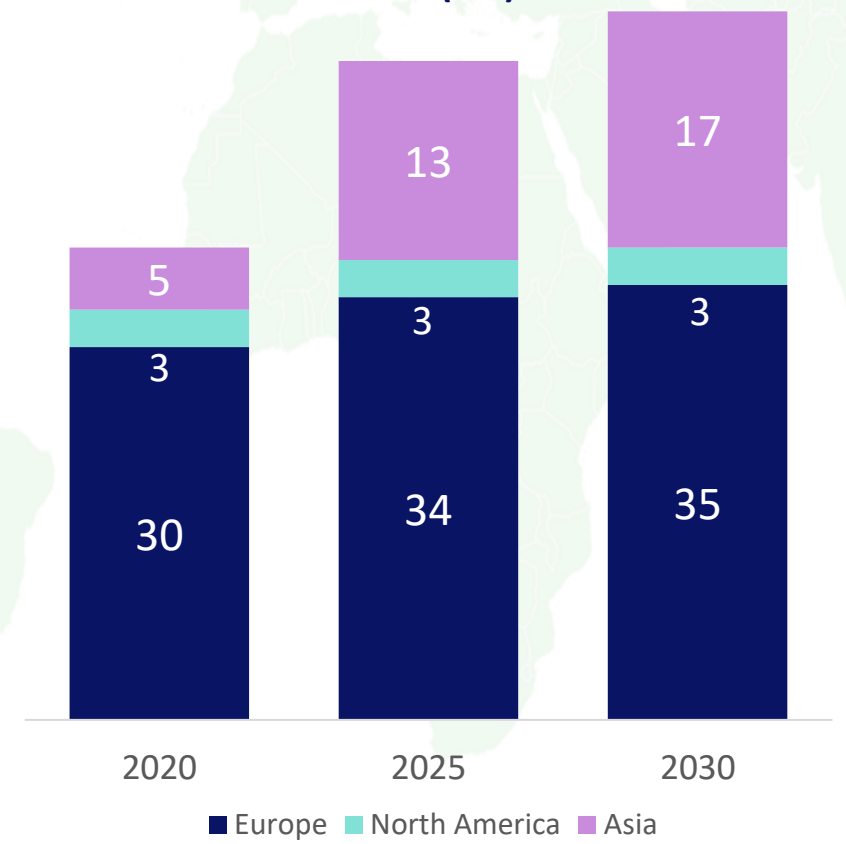
## **Business models to support individual projects**

# Drax Biomass Strategies Informed by Global Role and Market for Biomass

Three complementary models underpinned by ambition to develop a 5Mt self-supply chain at £50/MWh<sup>(1)</sup>  
 All options underpinned by the sale of biomass at market price to realise best value from supply chain

<b>Third-party sales</b>	Growing and under-supplied global market  Optimisation and trading of biomass to achieve best value
<b>BECCS</b>	Drax Power Station – subject to right investment framework from UK Government  Other global opportunities
<b>Power generation</b>	Flexible operation targeted on periods of higher demand System support services Opportunity for capacity payments Operational efficiencies and lower operating cost

**Global growth opportunities for sustainable biomass (Mt)**



Source: Hawkins Wright – The Outlook for Wood Pellets (Q2 2021) / Drax

1) From c.£75/MWh in 2018 to £50/MWh, assuming a constant FX rate of \$1.45/£ and 5Mt pa by 2027

# Outlook

## Financial and operations

- Flexible, renewable generation and system support
- Safe and sustainable operations, including delivery of planned CfD outage
- Increased biomass production and reduced cost
- Sustainable and growing dividend

## Development of biomass strategy

- Emerging clarity on regional UK CCS clusters
- Continued focus on biomass supply chain and cost reduction targets
- Growth of supply of biomass to third parties
- Evaluation of international BECCS opportunities
- Expansion of biomass fuel envelope to include lower-cost sources of sustainable biomass

**CMD – November 2021**



# 2021 Half Year Results

29 July 2021

# Appendices

**Group Adjusted EBITDA**

**Group Income Statement – Continuing Operations**

**Group Income Statement  
– Adjusted Results – Continuing and Discontinued Operations**

**Consolidated Adjusted EBITDA**

**Generation – Adjusted EBITDA**

**Pellet Production – Adjusted EBITDA**

**Customers – Adjusted EBITDA**

**Group Cash Flow Statement**

**Group Net Debt Bridge**

**Contracted Power Sales**

**UK Energy White Paper**

**Europe: Fit for 55 Package and Third Renewable Energy  
Directive (REDIII)**

**Sustainable Biomass Sourcing and Carbon Life Cycle**

**Sources of Biomass Supply**

**Forward Commodity Prices**

**Forward Carbon Prices**

**Forward Spreads**

# H1 2021 Group Adjusted EBITDA

High-quality, enduring earnings from a multi-technology portfolio and integrated value chain

Business unit	Assets	Capacity	EBITDA (£m)	% of EBITDA	
<b>Pellet Production</b>	13 pellet plants in Canada and US, with additional sites in development	4.9Mt	<b>40</b>	<b>22%</b>	
	Access to 4 deep water ports (with control of 2)	>4.9Mt			
<b>Generation</b>	Biomass <sup>(1)</sup>	2.6GW	<b>108</b>	<b>68%</b>	
	Hydro	Cruachan Pumped Storage Lanark and Galloway hydro schemes Daldowie – energy from waste	0.5GW	<b>34</b>	<b>20%</b>
	Gas	Discontinued gas generation assets	2.0GW	<b>21</b>	<b>11%</b>
	Coal <sup>(1)</sup>		1.3GW	<b>22</b>	<b>11%</b>
<b>Customers</b>	I&C SME		<b>(5)</b>	<b>(3)%</b>	
<b>Central Costs &amp; Other</b>	Innovation, capital projects and core services		<b>(35)</b>	<b>(19)%</b>	
<b>Total</b>			<b>186</b>	<b>100%</b>	



# Group Income Statement – Continuing Operations

In £m	HY 2021			HY 2020		
	Adjusted	Exceptional	Total	Adjusted	Exceptional	Total
Revenue	2,177	(3)	2,174	2,103	14	2,117
Cost of sales	(1,807)	23	(1,784)	(1,736)	80	(1,656)
<b>Gross profit</b>	<b>370</b>	<b>20</b>	<b>390</b>	<b>367</b>	<b>94</b>	<b>461</b>
Operating and administrative expenses	(197)	-	(197)	(181)	-	(181)
Impairment losses on trade receivables	(8)	-	(8)	(26)	-	(26)
<b>Adjusted EBITDA from continuing operations</b>	<b>165</b>	-	-	<b>160</b>	-	-
Depreciation	(72)	-	(72)	(68)	-	(68)
Amortisation	(17)	-	(17)	(18)	-	(18)
Asset obsolescence charges	-	-	-	-	(224)	(224)
Gain on disposal of fixed assets	-	-	-	(1)	-	(1)
Acquisition and restructuring costs	-	(12)	(12)	-	-	-
<b>Operating profit / (loss)</b>	<b>76</b>	<b>8</b>	<b>84</b>	<b>73</b>	<b>(130)</b>	<b>(57)</b>
Foreign exchange gains	2	-	2	4	-	4
Net interest charge	(34)	-	(34)	(32)	-	(32)
<b>Profit / (loss) before tax</b>	<b>44</b>	<b>8</b>	<b>52</b>	<b>45</b>	<b>(130)</b>	<b>(85)</b>
Tax	(5)	(53)	(58)	(10)	20	10
<b>Net result from continuing operations</b>	<b>39</b>	<b>(45)</b>	<b>(6)</b>	<b>35</b>	<b>(110)</b>	<b>(75)</b>

# Group Income Statement – Adjusted Results – Continuing and Discontinued Operations

In £m	HY 2021			HY 2020		
	Continuing	Discontinued	Total	Continuing	Discontinued	Total
Revenue	2,177	52	2,229	2,103	102	2,205
Cost of sales	(1,807)	(32)	(1,839)	(1,736)	(68)	(1,804)
<b>Gross profit</b>	<b>370</b>	<b>20</b>	<b>390</b>	<b>367</b>	<b>34</b>	<b>401</b>
Operating expenses	(197)	1	(196)	(181)	(15)	(196)
Impairment losses on trade receivables	(8)	-	(8)	(26)	-	(26)
<b>Adjusted EBITDA</b>	<b>165</b>	<b>21</b>	<b>186</b>	<b>160</b>	<b>19</b>	<b>179</b>
Depreciation	(72)	-	(72)	(68)	(9)	(77)
Amortisation	(17)	-	(17)	(19)	-	(19)
Gain on disposal of fixed assets	-	-	-	1	-	1
<b>Operating profit</b>	<b>76</b>	<b>21</b>	<b>97</b>	<b>73</b>	<b>10</b>	<b>83</b>
Foreign exchange gains	2	-	2	4	-	4
Net interest charge	(34)	-	(34)	(32)	-	(32)
<b>Profit before tax</b>	<b>44</b>	<b>21</b>	<b>65</b>	<b>45</b>	<b>10</b>	<b>56</b>
Tax	(5)	(2)	(7)	(10)	(2)	(13)
<b>Profit for the period</b>	<b>39</b>	<b>19</b>	<b>58</b>	<b>35</b>	<b>8</b>	<b>43</b>
<b>Basic earnings per share (pence)</b>	<b>9.9</b>	<b>4.7</b>	<b>14.6</b>	<b>8.8</b>	<b>2.0</b>	<b>10.8</b>

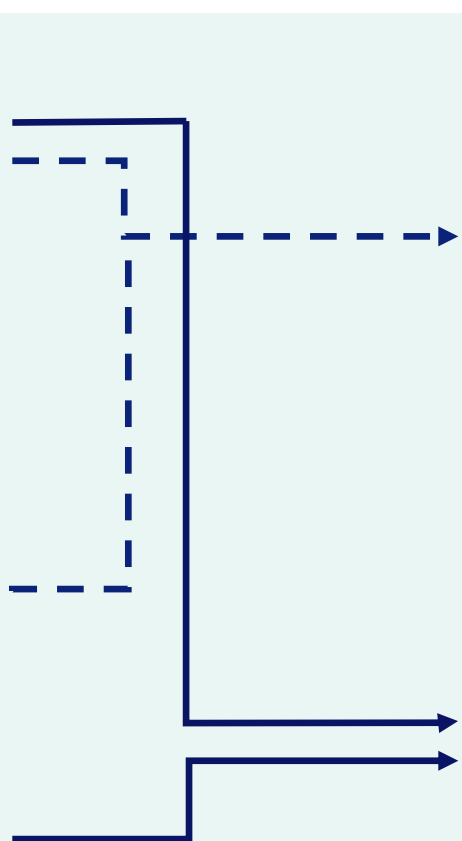
# Consolidated Adjusted EBITDA from Continuing and Discontinued Operations

HY 2021 £m	Power Generation	Pellet Production	Customers	Adjustments <sup>(2)</sup>	Consolidated
<b>Segment Adjusted EBITDA</b>	<b>185<sup>(1)</sup></b>	<b>40</b>	<b>(5)</b>	<b>(3)</b>	<b>217</b>
Central Costs					(22)
Innovation and capital projects					(9)
<b>Consolidated Adjusted EBITDA</b>					<b>186</b>

HY 2020 £m	Power Generation	Pellet Production	Customers	Adjustments	Consolidated
<b>Segment Adjusted EBITDA</b>	<b>214<sup>(1)</sup></b>	<b>25</b>	<b>(37)</b>	<b>-</b>	<b>202</b>
Central Costs					(19)
Innovation and capital projects					(4)
<b>Consolidated Adjusted EBITDA</b>					<b>179</b>

# Generation – Adjusted EBITDA

In £m	HY 2021	HY 2020
<b>Revenue</b>		
Power sales	1,252	1,107
System support and optimisation	66	85
ROC sales	191	328
CfD income	188	157
Capacity Market income	25	34
Gas sales to Customers business	35	33
Fuel sales	10	10
Other income	5	3
	<b>1,772</b>	<b>1,757</b>
<b>Cost of sales</b>		
Generation fuel costs	(720)	(669)
Cost of system support and optimisation	4	(19)
Fuel sold	(2)	(5)
ROC support	272	269
Carbon tax	(11)	(25)
Carbon certificates	(16)	(32)
ROCs sold or utilised	(191)	(328)
Cost of power purchases	(788)	(593)
Grid charges	(44)	(37)
	<b>(1,499)</b>	<b>(1,439)</b>
<b>Gross profit</b>	<b>273</b>	<b>318</b>
Operating costs	(88)	(104)
<b>Total Adjusted EBITDA<sup>(1)</sup></b>	<b>185</b>	<b>214</b>



## System support and optimisation

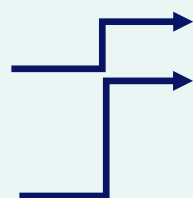
£m	HY 2021	HY 2020
<b>System support and optimisation</b>		
Balancing mechanism, Ancillary Services and portfolio optimisation	66	85
	4	(19)
<b>Margin from system support and optimisation</b>	<b>70</b>	<b>66</b>

## Average achieved power price

	HY-21	HY-20
Gross power sales (£m)	1,252	1,107
Cost of power purchases (£m)	(788)	(593)
<b>Net power sales (£m)</b>	<b>455</b>	<b>514</b>
Net power sales (TWh)	8.9	10.0
<b>Average achieved price (£/MWh)</b>	<b>52.1</b>	<b>51.4</b>

# Pellet Production – Adjusted EBITDA

In £m	HY 2021	HY 2020
Revenues	185	118
Cost of sales	(107)	(65)
<b>Gross profit</b>	<b>78</b>	<b>53</b>
Operating costs	(38)	(28)
<b>Adjusted EBITDA</b>	<b>40</b>	<b>25</b>



## Drax pellet production cost

USD\$	HY 2021	H1-20
Cost of sales (\$m)	142	82
Operating costs (\$m)	52	36
<b>Total cost (\$m)</b>	<b>194</b>	<b>118</b>
Other adjustments (\$m)	(15)	(2)
<b>Underlying cost of Drax pellets (\$m)</b>	<b>179</b>	<b>116</b>
Drax pellet production (Mt)	1.3	0.75
<b>Cost per tonne (\$/t)</b>	<b>141</b>	<b>154</b>

### Revenues

- FOB price for biomass at Drax US and Canadian port
- Generation business incurs cost of ocean freight, UK port and rail costs

# Customers – Adjusted EBITDA

In £m	HY 2021	HY 2020
<b>Revenue</b>	<b>1,077</b>	<b>1,032</b>
<b>Cost of sales</b>		
Cost of power and gas purchases	(442)	(434)
Grid charges	(232)	(229)
Other costs	(359)	(339)
	<b>(1,033)</b>	<b>(1,002)</b>
<b>Gross profit</b>	<b>44</b>	<b>30</b>
Operating costs	(41)	(41)
Bad debt charge	(8)	(26)
<b>Adjusted EBITDA</b>	<b>(5)</b>	<b>(37)</b>

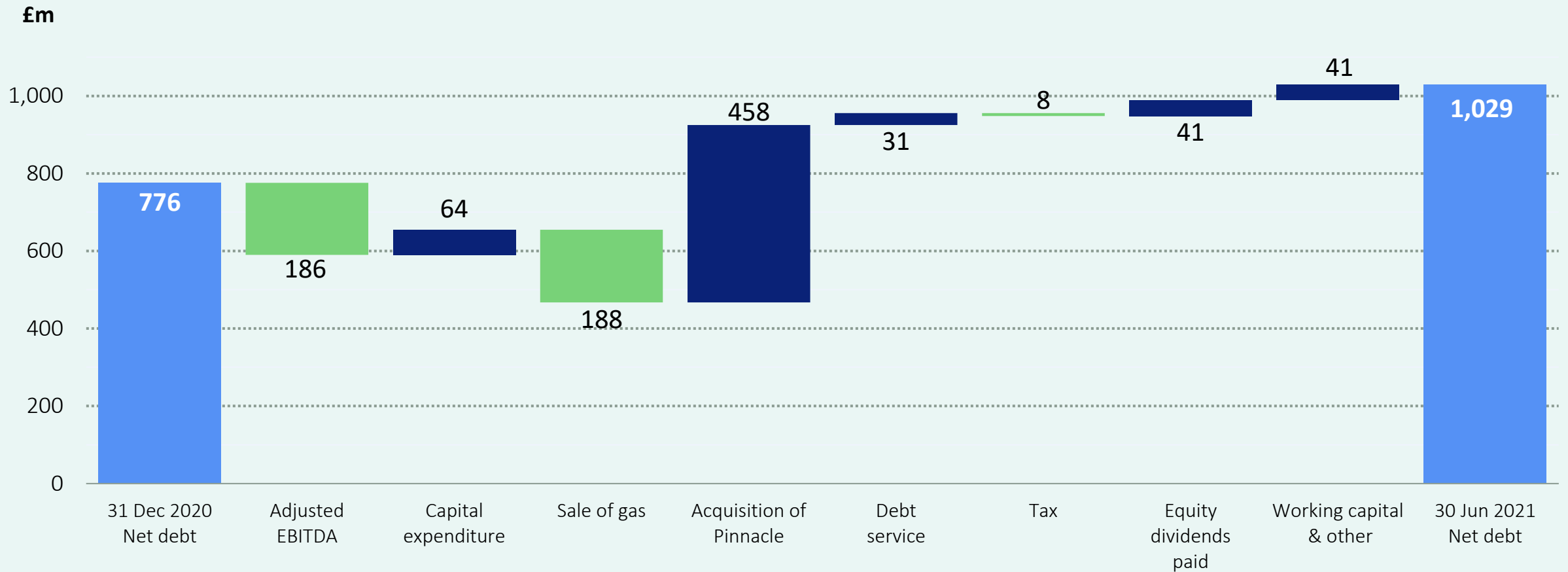
Power sales  
**7.4TWh**  
 (H1-20: 7.3TWh)

Gas sales  
**1.6TWh**  
 (H1-20: 1.5TWh)

# Group Cash Flow Statement – Continuing and Discontinued Operations

In £m	HY 2021	HY 2020
Adjusted EBITDA <sup>(1)</sup>	186	179
Working capital and other	(48)	47
<b>Cash generated from operations</b>	<b>138</b>	<b>226</b>
Debt service	(31)	(27)
Tax <sup>(2)</sup>	8	(31)
<b>Net cash from operating activities</b>	<b>115</b>	<b>168</b>
Capital investment	(64)	(59)
Disposal of subsidiary	188	-
Acquisition of subsidiaries	(204)	-
Net refinancing	124	-
Equity dividends paid	(41)	(38)
Other	(2)	7
<b>Increase in cash and cash equivalents</b>	<b>116</b>	<b>71</b>
Cash and cash equivalents at the beginning of the period	290	404
Net cash flow	116	78
<b>Cash and cash equivalents at the end of the period</b>	<b>406</b>	<b>482</b>

# Group Net Debt Bridge





# Contracted Power Sales

<b>As at 25 July 2021</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
<b>Fixed price power sales (TWh)</b>	<b>15.9</b>	<b>9.1</b>	<b>4.3</b>
- CfD	3.8	0.6	-
- ROC	10.8	8.4	4.0
- Other	1.3	0.1	0.3
<b>Average achieved price (£/MWh)</b>	<b>51.7</b>	<b>52.4</b>	<b>52.7</b>

# UK Energy White Paper

## Description of biomass and BECCS

**By 2022, we will establish the role which BECCS can play in reducing carbon emissions** across the economy and, as part of a wider biomass strategy, set out how the technology could be deployed. **Biomass is unique amongst renewable technologies in the wide array of applications in which it can be used as a substitute for fossil-fuel based products and activities, from power generation to hydrogen production and even new forms of plastics.** Along with its ability to deliver negative emissions, this makes biomass **one of our most valuable tools for reaching net zero emissions.**

In the government's response to Climate Change Committee's (CCC) latest annual progress report to Parliament, we announced that **we will publish a new Biomass Strategy in 2022.** As part of this strategy, we will set out the results of a review of the amount of sustainable biomass available to the UK, and how this resource could be best utilised across the economy to help achieve our net zero greenhouse gas emissions target by 2050.

Our review will assess the UK's current biomass sustainability standards, which are already some of the world's most stringent, to see where and how we can improve them even further. Our review will also consider the role biomass can play in delivering our wider environmental targets, including on air quality. We will shortly issue a call for evidence: 'Biomass for net zero', to inform the development of our strategy. **We will issue a preliminary position paper by summer 2021,** once the evidence has been reviewed. **Critical to our consideration will be the role of BECCS in our energy system. BECCS plants could deliver negative emissions,** by capturing the carbon released during biomass combustion, gasification and other processes, provided supply chain emissions are sufficiently low. There are a number of applications for BECCS across the economy, including clean hydrogen production, power generation, waste management and in heat for industrial processes and we need to ensure that it is deployed where it has the greatest value in reducing emissions. For example, **current support for electricity generation, which converted from coal to using biomass as a fuel source, expires in 2027. BECCS could provide a long-term future for this capacity**

# Powering our Net Zero Future

December 2020 | CP 337



# Europe: Fit for 55 Package and Third Renewable Energy Directive (REDIII)

Supports increased use of bioenergy as part of European Commission's strong environmental mandate

## In July 2021 the European Commission published its "fit for 55" package of proposals

- Package is designed to put in place the policies required for the EU to reduce GHG emissions by at least 55% by 2030. Almost all of the EU's key climate legislation has been revised, including REDIII, the EU ETS, the Energy Taxation Directive, LULUCF and a carbon border adjustment mechanism (CBAM) has been introduced

## Biomass and BECCS central to Commission plans

- Commission forecasts 70% increase in biomass to supply BECCS out to 2050, and substitute coal in coal-dependent regions
- Carbon CfD introduced in EU ETS package to support the scaling up of BECCS
- c.€32bn Innovation Fund in EU ETS to support technologies such as BECCS with capital expenditure and operating expenditure
- c.€19bn Euro fund in EU ETS to support lower income Member States move away coal to renewables, such as biomass
- 2023 'negative emission regulation' will support market certainty for BECCS

## Renewable Energy Directive III

- REDII takes full account of biomass sustainability and is aligned with EU Taxonomy rules
- Expect REDIII to take several years to develop
- Key initial observations
  - Eligibility criteria – supports development of BECCS and coal conversions
  - From 2026 all existing and new subsidy for forest biomass to be focused on a just transition area (i.e. coal dependent region) or BECCS
  - Development of cascade principle to ensure best use of forestry material and only low-grade materials are used for biomass
- Sustainability criteria – forest biomass may not be sourced from primary forests, wetland or peatland

# Sustainable Biomass Sourcing and Carbon Life Cycle

Science-led biomass sourcing policy ensures long-term sustainability and contribution to natural environment

## Key principles

- No deforestation
- No carbon debt
- More standing volume in forest area than before

## Objectives

- Reduce CO<sub>2</sub> emissions
- Protect the natural environment
- Support people and societies
- Research, outreach and intervention

## Policy

- Reflects Committee on Climate Change bioenergy review and Forest Research<sup>(1)</sup> recommendations
- Independent Advisory Board provides assurance

## Strong regulatory mechanisms ensure biomass sustainability

- European Union REDII and Taxonomy, continued with REDIII – emphasis on BECCS
- UK ROC and CfD renewable schemes

1) Forest Research is Great Britain's principal organisation for forestry and tree related research and is internationally renowned for the provision of evidence and scientific services in support of sustainable forestry  
29 July 2021

## Biomass generation carbon life cycle



# Sources of Biomass Supply

## Drax Group sources of fibre by location – H1-21

	Sawmill residues	Branches, tops and bark	Thinnings	Low grade round wood	Agri. residues	Total
<b>USA</b>	21%	4%	15%	25%	1%	<b>67%</b>
<b>Canada</b>	11%	1%	-	3%	-	<b>15%</b>
<b>Latvia</b>	1%	-	-	6%	-	<b>7%</b>
<b>Estonia</b>	1%	-	-	1%	-	<b>3%</b>
<b>Portugal</b>	-	1%	-	-	-	<b>1%</b>
<b>Brazil</b>	-	-	-	4%	-	<b>4%</b>
<b>Other European</b>	1%	-	-	-	2%	<b>3%</b>
<b>Total</b>	<b>37%</b>	<b>5%</b>	<b>16%</b>	<b>39%</b>	<b>3%</b>	<b>100%</b>

## Drax Group sources of fibre by location – H1-20

	Sawmill residues	Branches, tops and bark	Thinnings	Low grade round wood	Agri. residues	Total
<b>USA</b>	22%	5%	16%	21%	1%	<b>65%</b>
<b>Canada</b>	17%	1%	-	1%	-	<b>19%</b>
<b>Latvia</b>	3%	-	-	5%	-	<b>8%</b>
<b>Estonia</b>	-	-	-	-	-	<b>-</b>
<b>Portugal</b>	-	-	-	1%	-	<b>1%</b>
<b>Brazil</b>	-	-	-	2%	-	<b>2%</b>
<b>Other European</b>	2%	-	-	-	3%	<b>5%</b>
<b>Total</b>	<b>44%</b>	<b>6%</b>	<b>16%</b>	<b>30%</b>	<b>4%</b>	<b>100%</b>

## Drax Pellet Production sources of fibre – H1-21

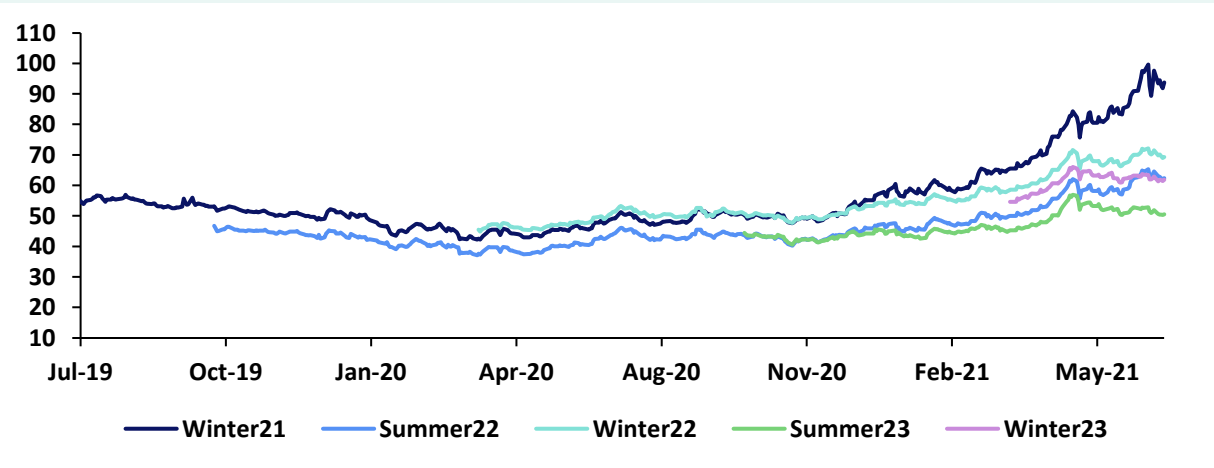
	Sawmill residues	Branches, tops and bark	Thinnings	Low grade round wood	Agri. residues	Total
<b>USA</b>	28%	-	27%	17%	-	<b>72%</b>
<b>Canada</b>	19%	-	-	6%	-	<b>28%</b>
<b>Total</b>	<b>48%</b>	<b>2%</b>	<b>27%</b>	<b>23%</b>	<b>-</b>	<b>100%</b>

## Drax Pellet Production sources of fibre – H1-20

	Sawmill residues	Branches, tops and bark	Thinnings	Low grade round wood	Agri. residues	Total
<b>USA</b>	20%	-	45%	35%	-	<b>100%</b>
<b>Canada</b>	-	-	-	-	-	<b>-</b>
<b>Total</b>	<b>20%</b>	<b>-</b>	<b>45%</b>	<b>35%</b>	<b>-</b>	<b>100%</b>

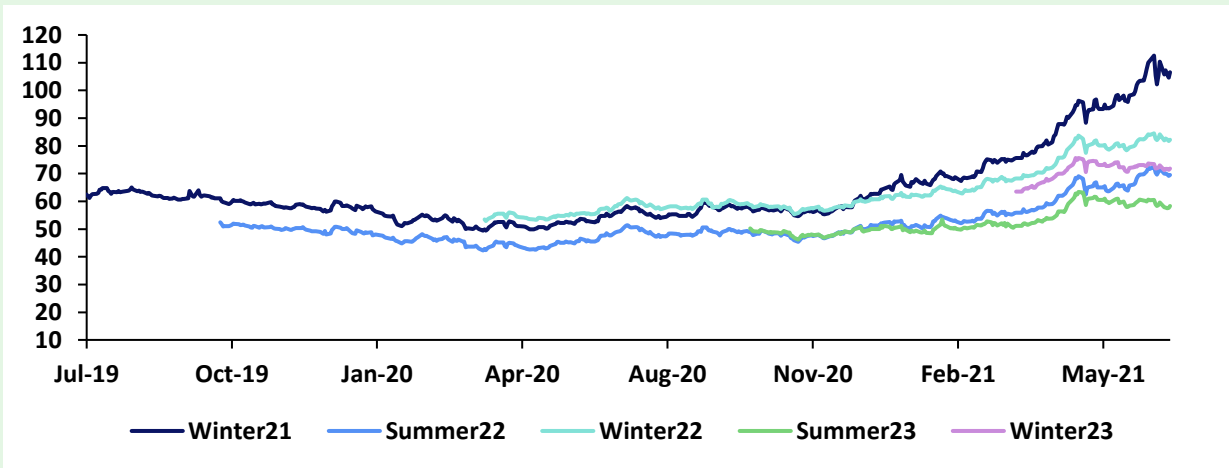
# Forward Commodity Prices

## Seasonal Baseload Power Price (£/MWh)



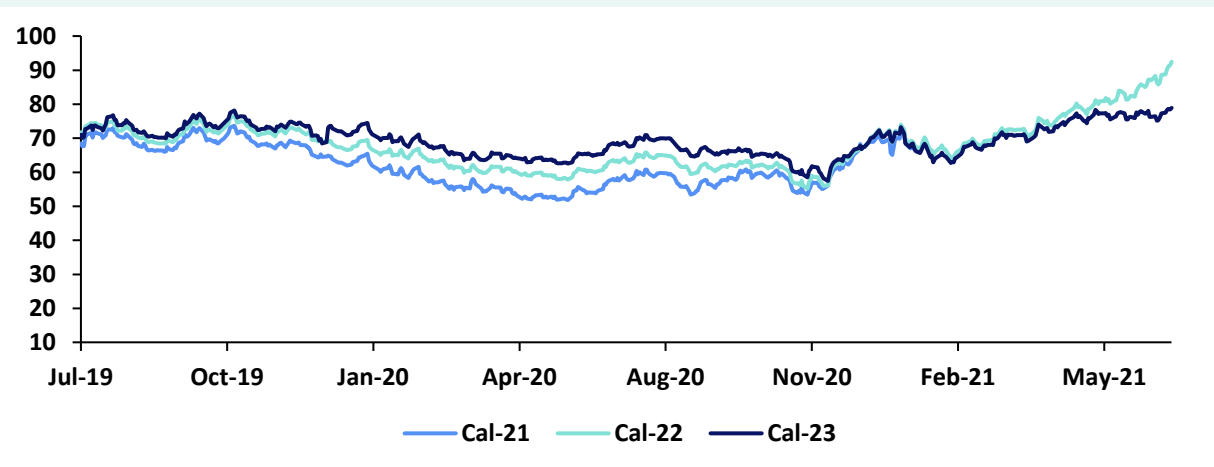
Source: ICE

## Peak Power Price (£/MWh)



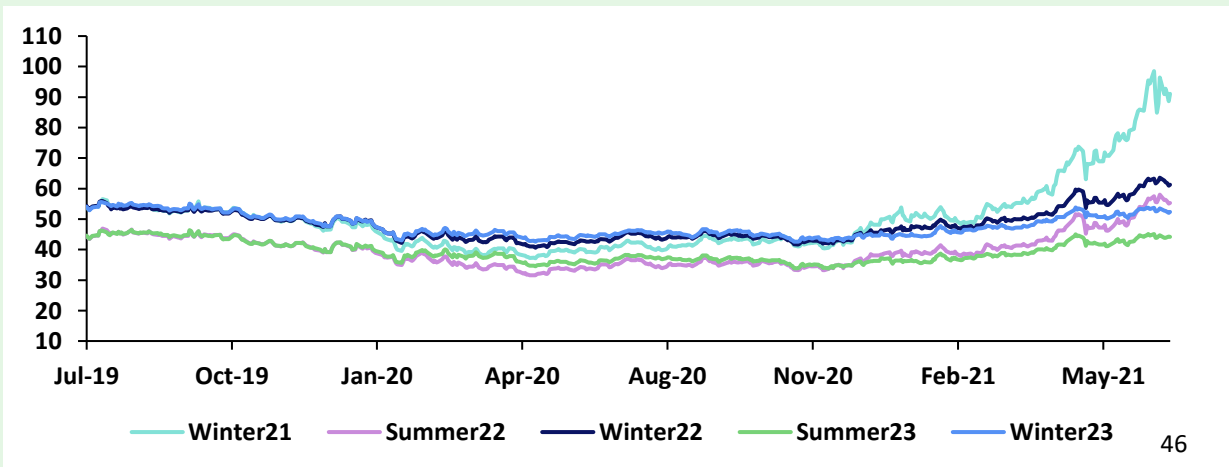
Source: ICE

## API2 Coal Price (\$/t)



Source: ICE

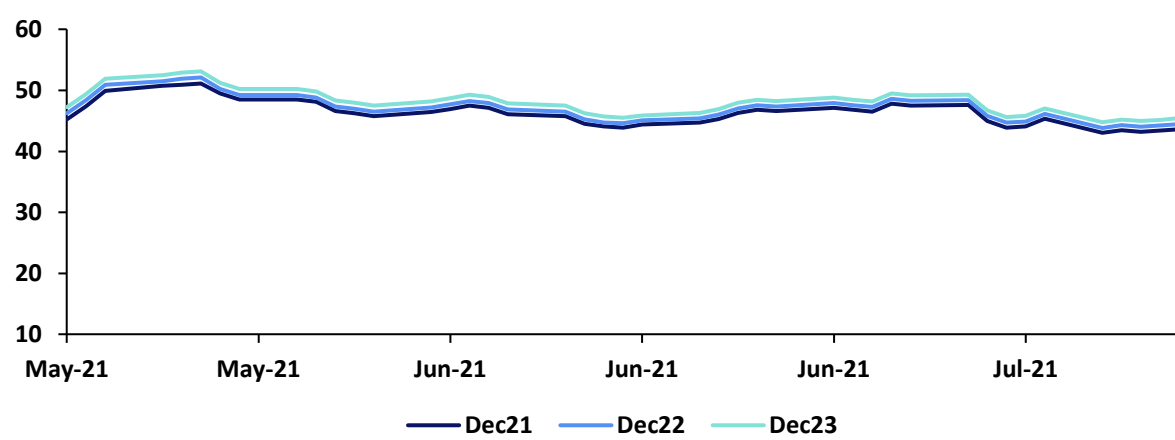
## NBP Gas Price (p/therm)



Source: ICE

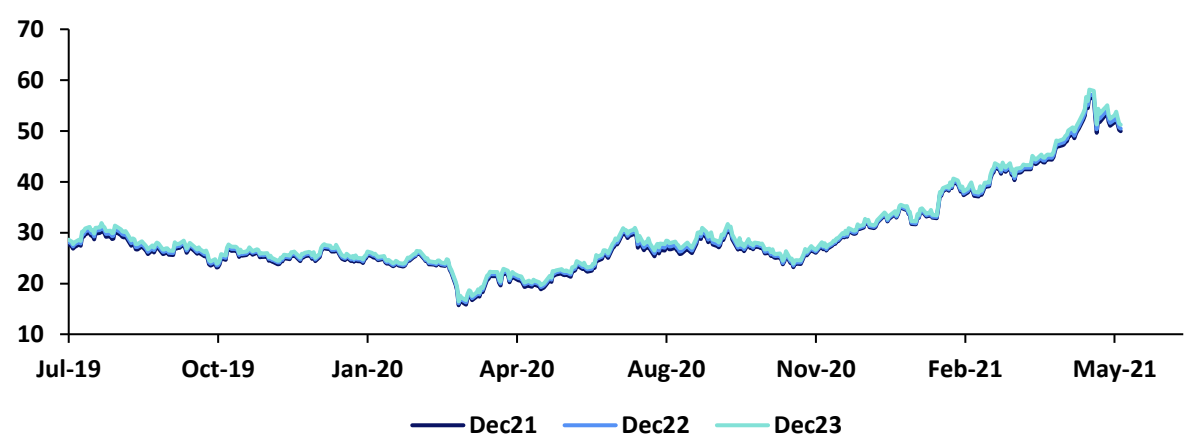
# Forward Carbon Prices

## UKA Carbon (£/t)



Source: ICE

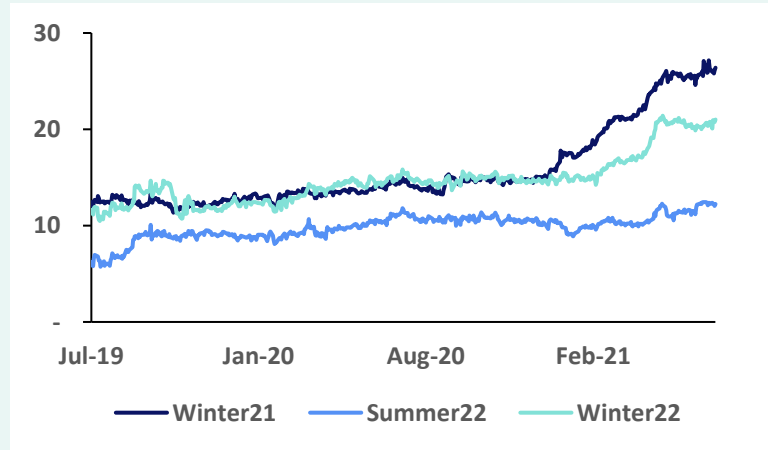
## EU ETS Carbon (€/t)



Source: ICE

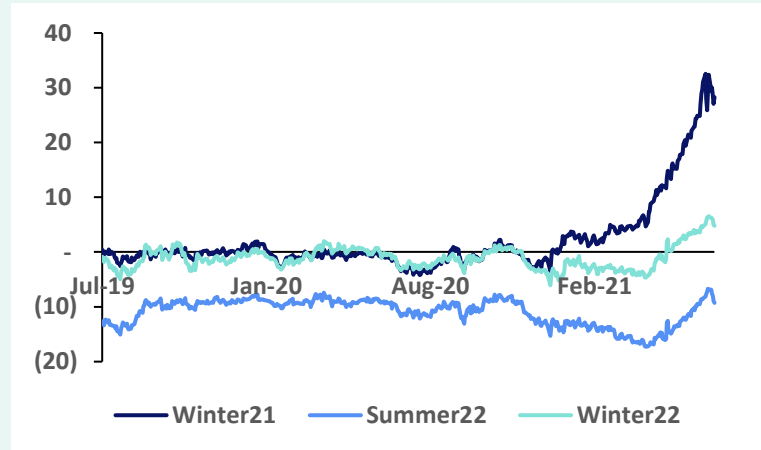
# Merchant Forward Spreads

Peak CSS (£/MWh)



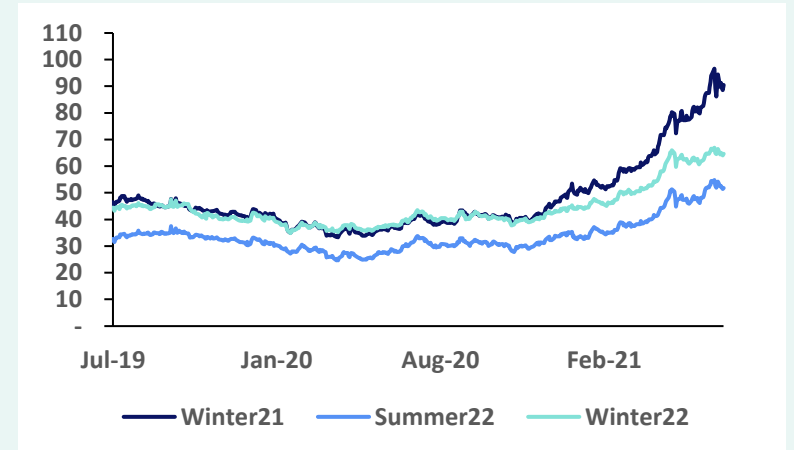
Source: ICE, Reuters and Drax

Peak DGS (£/MWh)



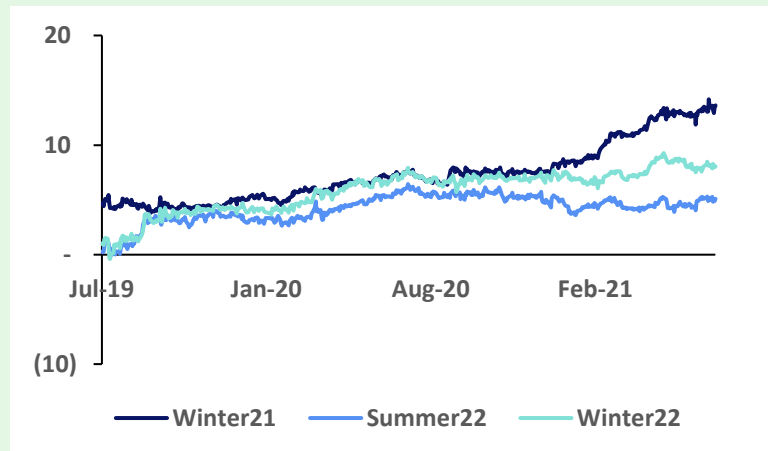
Source: ICE, Reuters and Drax

Peak ROC Bark Spread (£/MWh)



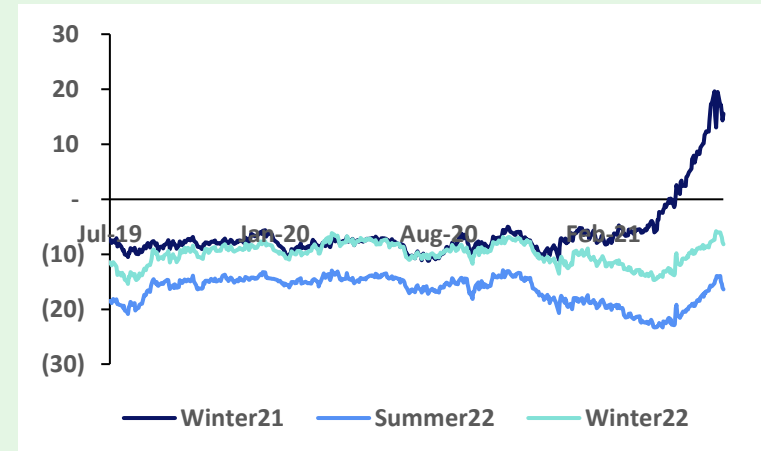
Source: ICE, Reuters and Drax

Baseload CSS (£/MWh)



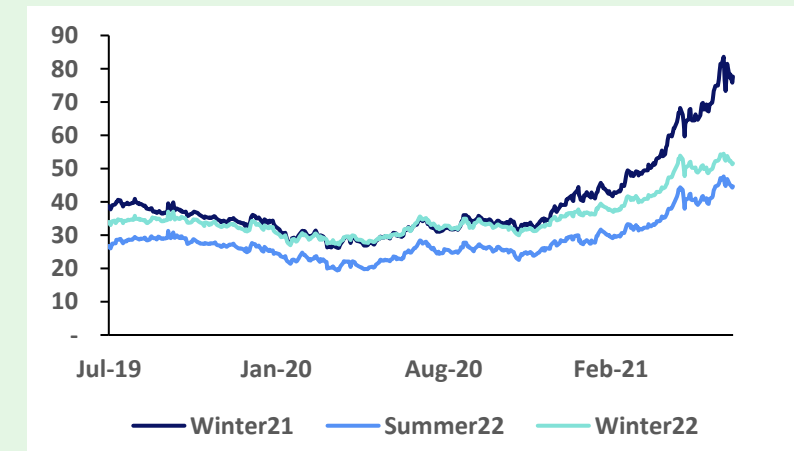
Source: ICE, Reuters and Drax

Baseload DGS (£/MWh)



Source: ICE, Reuters and Drax

Baseload ROC Bark Spread (£/MWh)



Source: ICE, Reuters and Drax





# 2021 Half Year Results

29 July 2021