

## Corporate

 Current price **0.725p**

 Sector **Alternative Energy**

 Code **AEG.L**

 AIM **AIM**

### Share Performance



Source: Thomson Reuters, Allenby Capital

### Share Data

 Market Cap (£m) **28.3**

 Shares in issue (m) **3,902.1**

52 weeks	High	Low
	<b>1.75p</b>	<b>0.39p</b>

 Financial year end **December**

Source: Company Data, Allenby Capital

### Key Shareholders

Gravendonck Prvt Foundation	24.55%
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Lombard Odier AM (Europe)	12.30%
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Premier Fund Managers	10.20%
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AXA Investment Managers UK	4.61%
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Source: Company Data, Allenby Capital

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## Active Energy Group plc (AEG.L)

### *New JV and second CoalSwitch™ reference plant*

Active Energy Group (AEG) has announced the establishment of a joint venture (JV) between it and Player Design Holdings Inc. (PDI) to build and operate a 5 tonne per hour (tph) CoalSwitch™ production plant at PDI's existing lumber site in Ashland, Maine. It is expected that the plant will produce an initial 1,000 tons of CoalSwitch™ fuel thus enabling the PacifiCorp order for c.900 tons to be fulfilled on time. The JV has been granted a temporary operating permit to allow immediate operation from 15 May to 31 July 2021 with the ultimate objective of securing a long-term operating permit for the facility. We view this as exceptionally positive news and would expect the share price to respond accordingly.

- JV between AEG and PDI** - The JV is a 50/50 venture between AEG and PDI. AEG had already established a strong commercial relationship with PDI, having appointed the company in September 2020 to complete the engineering and construction process of its reference plant at Lumberton, North Carolina (NC). PDI is a market leading engineering service business focused on the provision of drying and energy systems.
- Timetable** – The State of Maine has granted the JV a temporary operating permit to allow the construction of a 5tph CoalSwitch™ production plant and to allow immediate operations to commence from 15 May to 31 July 2021 to produce an initial 1,000 tons of CoalSwitch™ product. CoalSwitch™ production is expected to commence during the last week of May, utilising existing AEG and PDI assets, with first deliveries shortly thereafter. We assume that the output will be partly utilised to satisfy PacifiCorp's order for 900 tons of CoalSwitch™ fuel to be delivered by no later than mid-June and which was originally scheduled to be satisfied from the Lumberton plant.
- Existing activities at Lumberton** – The 5tph reference plant being constructed at Lumberton is nearing completion and now has access to over 5,000 tonnes of feedstock for CoalSwitch™ production. However, construction activity has been suspended since 6 May following the receipt of a Notice of Violation issued by the North Carolina Department of Environmental Quality (NCDEQ) relating to an amendment to the Company's existing air quality permit. This amendment relates to additional control devices designed to enhance emission reduction and is expected to be processed quickly. At the same time the Group is reviewing the future of its lumber activities in NC given the delays to the Lumberton CoalSwitch™ reference plant.
- Forecasts** - Given AEG's re-evaluation of its lumber activities and focus on the rapidly expanding CoalSwitch™ opportunity, the business model is changing and we are therefore reviewing our earlier financial projections which will be reintroduced in early June.
- Conclusion** – We consider this JV and the rapid construction of the new CoalSwitch™ reference plant in Ashland as being extremely positive for the Group. It will make good use of existing unutilised assets, enable AEG to showcase the CoalSwitch™ biomass fuel to a growing list of interested parties in a more timely manner and secures the supply of CoalSwitch™ fuel to PacifiCorp.

**Year End: December**

(US\$m)	2019A	2020E	2021E	2022E
REVENUE	1.9	Financial projections currently under review		
ADJ. EBITDA	(0.3)			
ADJ. (L)/PBT	(3.0)			
ADJUSTED EPS (cents)	(0.17)			
NET (DEBT)/CASH	(17.9)			

Source: Active Energy Group plc; Allenby Capital. Allenby Capital act as joint broker to Active Energy Group plc.

Please refer to the last page of this communication for all required disclosures and risk warnings.

## Joint venture

**Increased interest for CoalSwitch™ from potential customers and partners...**

### Background

Since announcing the initial order for CoalSwitch™ from PacifiCorp in December 2020 and post the balance sheet restructuring which was completed in February 2021 AEG has experienced an increase in interest from potential customers and commercial partners to exploit the opportunities to produce and utilise the Group's next generation pellet technologies.

**...especially for small scale production that can be combined with existing lumber mill operators...**

In particular, the Group has noted interest in CoalSwitch™ production facilities that can easily be combined with existing lumber mill operations in order to address the environmental challenges faced by potential partners particularly with regard to waste and residual matter.

**...utilising existing infrastructure**

AEG is aware of an increasing interest in small-scale CoalSwitch™ reactor facilities which can be deployed within existing lumber facilities and constructed to utilise the existing infrastructure and logistics within lumber mill operations. It added that most interest is being seen in north eastern USA and Atlantic Canada.

**JV formed to address this interest**

To address this heightened interest in the technology and to better demonstrate this next generation biomass fuel pellet AEG has established a JV with PDI.

**JV partner PDI well known to AEG**

### CSW2Maine LLC

AEG and PDI have established a JV to produce CoalSwitch™ from a new 5tph reference plant currently nearing completion at PDI's facility in Ashland, Maine. PDI is well known to AEG and was appointed by the Group in September 2020 to complete the engineering process for the CoalSwitch™ reference plant in Lumberton.

**A 50/50 partnership**

The JV has been named CSW2Maine LLC and is owned equally between AEG and PDI. The JV will be led by PDI's founder and CEO Tyler Player as CEO with AEG's CEO Michael Rowan and Finance Director, Andrew Diamond also forming part of the management team.

**PDI operation in Maine expanded to accommodate new CoalSwitch™ plant**

Player Design is a market leading engineering service business focused as an EPC provider for the provision of drying and energy systems. Player Design has offices in the US and has completed major projects in North America, South East Asia and Australia. They have recently completed the construction of a series of EPC Pellet Plants worldwide, including a recent project in Canada producing up to 200,000 metric tonnes per annum of biomass pellets. PDI already has an operational lumber production and log processing facility in Ashland which has been expanded to accommodate the new CoalSwitch™ plant.

**Temporary operating permit issued for production of 1,000 tons of CoalSwitch™**

A temporary operating permit was granted to the JV to allow the construction of the plant and facilitate immediate production of 1,000 oven-dried tons of fuel from 15 May to 31 July 2021 with an obligation to provide the Department of Environmental Protection within the State of Maine with all relevant operating and environmental data with the aim of securing a long-term operating permit for the Ashland facility.

**JV initially established for one year**

The JV has been initially established for a period of one year, plus the initial temporary permit period following which AEG and PDI, subject to various milestones hope to elect to extend the JV.

**Capital and asset contributions made by both partners**

### The JV operation and plant

Both AEG and PDI have made capital contributions toward the JV. AEG has provided additional CoalSwitch™ equipment, including spare reactors and pelletising equipment to accelerate development at the Ashland facility.

AEG has also provided a licence to the JV to enable it to utilise the Company’s CoalSwitch™ intellectual property. PDI has reconfigured some of its existing lumber mill operations at the Ashland Facility to accommodate the CoalSwitch™ production plant, completed construction of this facility and is recruiting key personnel for the facility to operate. PDI will also train AEG personnel for forthcoming operations at Lumberton.

**ASHLAND PLANT CONSTRUCTION**



Source: Active Energy Group plc

**Construction began in late April and production is scheduled to commence in late May**

Construction of the plant at Ashland commenced in late April in anticipation of finalising the JV and is due to begin production of CoalSwitch™ biomass fuel in late May with first deliveries of CoalSwitch™ commencing shortly afterwards.

Given the extended gestation of the plant at Lumberton, which commenced construction in December 2020 but is still not finished, the rapid deployment at Ashland is all the more remarkable. This has been achieved through the availability of a facility in Ashland with pelleting capabilities, the immediate grant of the temporary operating permit, the availability of spare reactors and other auxiliary AEG equipment and the commitment of PDI’s management and construction crew.

**Sufficient feedstock for existing and future orders**

The JV has already secured sufficient waste hardwood residuals from lumber partners in close vicinity to the Ashland facility to enable initial CoalSwitch™ production.

Once the facility at Ashland is operational, AEG will be able to accelerate the CoalSwitch™ fuel testing and data programme which is currently being established. This is important as it should enable AEG to supply any additional operating data required by Maine and also to NCDEQ in North Carolina to address any supplementary concerns it may have regarding AEG’s CoalSwitch™ operations at Lumberton.

**Revenues and costs to be shared equally by the partners**

It is expected that all revenues generated from the sale of biomass fuel from CoalSwitch™ and PeatSwitch™ will be shared equally between the JV parties, as such we expect AEG to consolidate its share of revenues and costs from the JV into its financial statements.

## The Lumberton Activities

### Lumberton reference plant construction began in December 2020

#### The Lumberton reference plant

Construction of the CoalSwitch™ reference plant at Lumberton has been underway since December 2020 and the core construction has been completed with the construction being coordinated by PDI who acted as the EPC contractor.

### Delays due to receipt of Notice of Violation...

As noted by the Company on 7 May 2021, the Company received a Notice of Violation issued by the NCDEQ on 6 May 2021. The background leading to the Notice was as follows: During construction, additional control devices to enhance emissions reductions from the plant were installed by AEG. These additions were notified by AEG to NCDEQ, who acknowledged the additions as improvements to the plant's construction, however any modifications to the original specification require an amendment to the Company's existing air quality permit granted on 4 August 2020, hence the delay.

### ...but AEG working with NCDEQ to expedite matters

AEG has completed and filed all relevant applications and is working with the NCDEQ, its partners in Robeson County and other NC state officials to expedite this process. The Company was in the final stages of construction prior to this issue arising and, as the completion of construction is dependent on approval from NCDEQ, AEG is not currently able to provide a revised timetable for completion of the Lumberton reference plant.

### Lumber and timber operating at a lower production rate

#### Lumberton lumber and timber activities

AEG's existing lumber mill and timber operations have continued to operate throughout the construction period, albeit at a lower production rate, producing rail ties for domestic consumption and saw logs for export. Another objective for these operations was to identify reliable local lumber suppliers and to source feedstock materials for initial CoalSwitch™ production, which has met with success.

### Over 5,000 tonnes of feedstock ready for use

AEG has confirmed that the lumber mill has successfully produced the requisite feedstock and currently, over 5,000 tonnes of material is now ready for use when CoalSwitch™ production at Lumberton commences.

### Lumber and timber revenues expected to be below expectations...

In recent months, the Board's attention has increasingly been focused on completing the construction of the CoalSwitch™ facilities at Lumberton and Ashland at some detriment to the lumber activities. This, together with the global challenges surrounding shipping containers, has led the Board to anticipate that revenues from the lumber and timber activities will be materially below prior expectations for FY2021.

### ...and the Board is now re-evaluating these activities

Given the delays experienced in the construction of the Lumberton plant, these activities are now being re-evaluated and the Board will update shareholders on its conclusions with the results for FY2020 which are expected to be published in the first half of June.

### Financial impact limited

However, while revenues from the lumber and timber activities will be materially lower than previous expectations, the margins associated with this business are low and the anticipated growth in scale of the higher margin CoalSwitch™ operations should substantially compensate for any impact on the eventual financial outcome for FY2021.

## Financials and forecasts

### **AEG undergoing positive changes to its business model**

It will be clear from the above, that AEG is undergoing some fundamental but positive changes to its operations. Thus, the composition of the business for the rest of FY2021 and beyond is likely to change substantially from that which formed the basis of our earlier financial projections.

We view very positively that the Board's focus is now concentrated on capitalising on the opportunities that CoalSwitch™ and other biomass fuels offer, and especially now that CoalSwitch™ will be more readily available for customer testing through two reference plants rather than one.

In addition, there is the expectation of the Ashland plant increasing capacity to 10tph in relatively short order, the planned construction of a 35,000 tonnes pa plant by the JV as well as the 35,000 tonnes pa prospective plant at Lumberton.

It is also clear that the lumber and timber activities and now being re-evaluated and more detail will be given on this with the Group's results in June.

### **Financial projections are under review but any bottom-line negative impact likely to be limited**

We expect any reduction in the low margin lumber and timber activities in FY2021 to be largely compensated by the growth opportunities available to CoalSwitch™ and the higher margins that this business attracts and so any impact on the outcome for the financial year will not be as material as the potential revenue reduction.

Clearly, both strands of AEG's business are currently going through a dynamic period of change and consequently we are temporarily withdrawing and reviewing our financial modelling with an intention to re-introduce projections when more information becomes available with the results for the year to December 2020 due in early June.

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