



AMPIL2

Ticker: AMPILT

ISIN	Issuer Short Name	Issue Size	Coupon	Min Piece	Maturity	Amortisation	Next Call	Offer Price	YTC*
GB00BYVQM755	AMPIL2	£52m**	8%	£1	Oct-36	10.5% p.a. minus coupon	Any time at 125 and at 104 after Oct 2021	100	9.54%

* callable at 104 first on 19th October 2021

** excludes the currently proposed tap issue of an additional £11m

Aggregated Micro Power Infrastructure 2 plc (“AMPIL 2”)

Introduction

Aggregated Micro Power Infrastructure 2 plc (“AMPIL 2”) is seeking to issue a further £11m of notes at par, which upon completion, will funge with the existing deal.

AMPIL2 currently has £52m of the notes outstanding; a “Use of Proceeds” clause states that the notes can be used to acquire or develop biomass boiler projects, as well as other renewable assets that seek to deliver carbon emissions reduction such as grid balancing projects - subject to a 30% cap of the issue size.

Currently, the existing notes are principally secured on non-domestic biomass boilers, with only one grid balancing project developed and owned to date within the SPV. However, the proposed raise of £11m of additional notes will enable the pursuit of further identified and assessed grid balancing opportunities which are shovel ready (leases are signed, planning consent secured, grid and gas offers obtained).

AMPIL2 is a bankruptcy remote special purpose vehicle, which is owned by a charitable trust. The biomass projects are operated via a service agreement on an arm’s length basis by Amp Clean Energy (<https://www.ampcleanenergy.com>); the AIM listed holding company for the group, Aggregated Micro Power Holdings, has a current market capitalisation of £52m (ticker: AMPH LN).

The complete documentation package is available upon request. For a summary of the terms and conditions of the notes, please see Annex 1.

About AMP Clean Energy (“AMP”)

AMP Clean Energy (“AMP”) is active in the development and management of a portfolio of renewable energy and flexible power generation assets in the UK.

It owns a leading wood fuels distribution business, serving approximately 4,000 commercial customers as well as a service and maintenance business for circa 900 biomass boilers.

AMP focuses on two types of assets - non-domestic biomass boilers and grid balancing solutions. The assets developed by AMP are typically held by Ampil 2 (which is wholly funded by the existing notes), or by other third-party financing vehicles.

About the Biomass Boilers

AMPIL2 contracts with end-users on a ‘take or pay’ basis where the counterparties agree to pay for a minimum amount of heat. The contracts are supported by the government backed renewable heat incentive scheme (RHI). The

subsidy is paid directly to Ampil 2, the owner of the boilers. The RHI payments are fixed but indexed for inflation and calculated in relation to the amount of heat produced by the accredited boilers.

The boilers are built off-site by internationally recognised companies such as Hargassner, Binder, Herz and ETA, and in one case coupled with a small scale Heliex steam expander to generate electricity. Some installations also encompass drying equipment for wood fuel.

The boilers are installed in a variety of facilities including but not limited to schools, care homes, small leisure units, green houses, wood chip drying sites, and industrial heat users.

AMP subsidiaries (AMP Energy Service Limited, AMP Biomass Fuel Ltd and HWE Energy Ltd) act as originator, service provider and fuel provider.

Each unit is tailored to the client's heat requirements and cost between £0.1m and £2.0m. The boilers are housed in a 'container' that is delivered to the installation site or a purpose-built boiler house, from where it is connected to the customer's heating system via a heat exchanger.

The contracted energy offtake is priced to achieve a minimum return of 12.5%; AMPIL2 may purchase lower yielding assets as part of a portfolio provided that the blended return remains above 12.5% (calculated until the bond matures in 2036). The projected net cash flow covers the debt service costs (8% coupon, plus scheduled amortisation payments from the end of 2022).

The notes benefit from a 1st lien secured over the boilers and underlying revenues, backed by the 20-year contribution from the RHI scheme. No other debt is outstanding.

RHI Scheme

The government backed RHI scheme pays a cash contribution to compensate for the higher capital cost of a biomass boiler versus fossil fuel boilers. This payment is made quarterly in arrears directly to AMPIL2 over the life of the 20-year contract. The subsidy is attached to a specific boiler, so the contract remains valid even if the project is transferred to a different customer. The subsidy provides roughly 50% of the projected gross income. For background reading see: [Renewable Heat Incentive](#)

Grid Balancing Assets - Urban Reserve



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The generation capacity mix in the UK is undergoing significant change. Both nuclear and coal generation are being reduced, with coal being phased out completely by 2025. Solar and wind, which are weather dependent, significantly increase the problems of managing grid volatility.

Peak demand and local grid constraints are also set to increase in urban areas, where population density is greatest, driven by a multitude of factors including automation, digitalisation, electric vehicles as well as heat pumps. AMP have observed that many industrial estates are increasingly finding it harder and more expensive to source power.

Gas reciprocating engines delivering flexible power to both the National Grid and local distribution networks are currently the only practical solution as energy storage is not yet competitive. Urban Reserve is different from other grid balancing projects because they are smaller (typically 4-6MW) and are connected at lower voltage levels, where demand for power is greatest.

AMP has a strong track record; to date the group has developed 7 grid balancing projects with a total capacity of 150 MW. Only one project (3MW) installed at Villa Nurseries alongside a biomass plant in March 2017 has been bought and retained by AMPIL2. One asset of 21MW (Ashford) was financed through a separate vehicle and is managed by AMP. The other 5 sites were sold as “shovel ready” projects to professional third-party owner operators.

Now that AMP has gained experience in this sector, it feels comfortable for AMPIL2 to own and operate Urban Reserve assets. AMP observes higher returns when placing smaller generators feeding the 11kV network directly in urban environments. The counterparty is not the National Grid but DNOs (District Network Operators). DNOs make additional payments to local generators on top of any price established in the daily power market auctions. Localised generation capacity bridges the growing and volatile gap between grid supply and local demand. AMP has secured long leases on small plots of land with easy connection to the gas network and the 11kV network operated by the DNOs in the South East (e.g. UKPN, a subsidiary of Cheung Kong Holdings), Greater Manchester (ENW an investee company of Colonial First State and JPMorgan) and Greater Liverpool (SPEN, Iberdrola subsidiary).

AMPIL2 is seeking to raise £11m to build out the first 19MW of Urban Reserve Projects which are now shovel ready (i.e. leases are signed, planning consent secured, grid and gas offers obtained).

AMPIL2 is in the final stages of negotiations with a so-called ‘optimiser’ whose task it is to dispatch the assets into multiple markets or make them available to the National Grid or the DNO’s for the provision of flexibility services, in order to maximise their profitability. The optimiser will be paid on performance.

The projects have an assumed life of 20 years, although in practice the engines are expected to have an economic life well beyond this because of their low annual run hours (circa 2,000/year). The engines are manufactured by MTU (a Rolls Royce subsidiary) and will be maintained by HWE Energy Ltd, an AMP subsidiary.

The flexibility of the engines, their ability to ramp up to full output in 2-5 minutes and be controlled remotely via an internet platform make them an ideal technology for reserve power. National Grid has recently set up a ‘Distributed Resources Desk’ to enable these assets to participate in the balancing mechanism, which previously has been a market for large plants.

As a result, the Urban Reserve assets can participate in a variety of markets, stacking revenues to maximise profitability, whilst at the same time having very low fixed costs. The project returns have been modelled independently by Enappsys, a specialist energy trading consultancy. The average income stack (£/MW of capacity) over 20 years (adjusted for inflation) across three DNO areas is shown overleaf.

	Average Income/Costs per year over 20-year life £/MW
Red band credits	52,346
Balancing mechanism, intra & day ahead	44,795
Gross Profit before CM and TNUOS	97,141
Capacity Market	24,136
TNUOS fees	3,558
Total gross profit	124,835*
Total fixed costs (including provision for overhaul costs)	-36,868
EBITDA	87,967
Capex	550,000
Target Portfolio Return for Grid Balancing	12.5%

*Net of Optimiser fees. A detailed breakdown of the revenue streams run hours and annual cash flows behind these numbers can be provided on request.

The sources of income are as follows:

- Generator Distribution Use of Systems (GDUOS)** - commonly referred to as red band credits. This is a payment charged by DNOs to electricity consumers and passed on to embedded generators who can generate in a specific area, and only on Monday to Friday between 4-7pm for 52 weeks a year. This equates to 780 hours/year, which when divided by the modelled average 20 year income (adjusted annually for inflation) of £52k/MW gives an implied credit of £67/MWh. This payment, coupled with their EU ETS exempt status, makes the Urban Reserve assets more competitive than the technically more efficient GTCC (Gas Turbine Combined Cycle Plants) which have traditionally fed into the National Grid. It should be noted that all network charges are currently being reviewed by Ofgem, however no change is expected to take effect before April 2023. AMP tries to mitigate regulatory risk by selecting sites in areas which are not generation dominated and where flexible assets maximise system value.
- Capacity Market (CM)** - are payments made by Ofgem to generators to encourage the ongoing investments in flexible generation capacity. It is an availability payment and requires recipients to turn on within 4 hours of a system stress event. It is expected to increase from its current lows as more renewables are built and older capacity starts to come off line. The CM is currently under review as it may be deemed illegal state aid. However, the industry expects it to be reinstated shortly, or for an alternative to be put in place in order to secure flexible capacity. The average CM value assumed in the model over 20 years is £24k/MW.
- Merchant Income** - the optimiser will be incentivised to sell electricity either intra-day, day ahead or into the balancing mechanism which will yield an expected £45k/MW of gross trading margin on top of the gas cost. This income is driven by the assumption of increasing volatility in the system, driven by the intermittent nature of renewables and the loss of traditional baseload generators from the supply mix.
- Transmission Network Use of Systems (TNUoS)** - are fees charged by the National Grid for consuming power during the three half hours of the winter (November – February) when demand is greatest. Embedded generators, particularly in the south of England, can offset the locational element of this charge and therefore receive a credit. From March 2020, this revenue is expected to be relatively modest, and is forecast to average £3.5k/MW in the model over the next 20 years, reflecting the portfolio's southern locational bias.

In combination, the above revenues can deliver annual gross profit of £125k/MW, less £37k/MW of fixed costs for operating and maintenance and machine overhaul, resulting in an average EBITDA of £88k/MW. The total capex per MW is £550k including development costs suggesting an approximate 13% IRR.

Performance of AMPIL2

AMPIL2 publishes a detailed model for noteholders every 6 months. The model forecasts EBITDA rising to £6m on an annual basis in 2021. This appears to be achievable despite the relatively high interest costs incurred to date and the fact that there have been some delays in cash deployments. A summary of the initial spending is reflected in Annex 3.

2018 Results and modelled forecasts

(LTM 000's)	Jun-18	Dec-18	Jun-19	Dec-19	Jun-20	Dec-20	Jun-21	Dec-21	Jun-22
Project Level EBITDA	1,355	2,135	3,144	4,260	5,270	5,896	6,198	6,213	5,889
AMPIL 2 Project Co: Company Level Opex	-144	-600	-697	-218	-108	-108	-109	-110	-111
Project Company Level EBITDA	1,211	1,535	2,447	4,043	5,162	5,788	6,090	6,103	5,778
AMPIL2: Income on Cash Balances	-	-	-	-	-	-	105	244	292
AMPIL2: Intercompany Management Fees	-55	-27	-	-	-	-	-	-	-
AMPIL2: Recurring Opex	-510	-1,100	-847	-192	-209	-209	-210	-213	-216
AMPIL2: Asset Management fees catch-up	-475	-	-	-	-	-	-	-	-
AMPIL2 Company Level EBITDA	171	407	1,600	3,851	4,953	5,579	5,984	6,134	5,853
DCSR Calculations									
EBITDA for DSCR Computations	171	407	1,600	3,851	4,953	5,579	5,984	6,134	5,853
Debtors Movements	-584	-498	2,207	2,668	-1,227	-675	286	305	-54
Creditors-Operational Movements	315	139	-1,312	-639	35	26	-12	-12	2
Stock Movements	-23	-1	-117	-389	-317	-108	22	26	-4
DSCR Coverage Amount	-121	47	2,378	5,491	3,444	4,821	6,281	6,453	5,798
Debt Service for DSCR Calculations	-4,160	-4,160	-4,177	-4,160	-4,160	-4,160	-4,160	-4,160	-4,160
DSCR x	-0.03	0.01	0.57	1.32	0.83	1.16	1.51	1.55	1.39

During 2018 there were a number of one-off costs which impacted the reported company level EBITDA. A £537k brokerage fee and a £520k management fee can be added back along with a £371k asset write-off. The brokerage fee is from the acquisition of a boiler portfolio which otherwise would have been capitalised and the sale of two larger grid balancing projects and the management fee is no longer being charged (in recognition of the delays in investing the loan note proceeds). The asset write-offs relate to boilers acquired as part of larger portfolios that have either underperformed or were purchased for their RHI accounts. For revenue purposes they have been considered non-generating and subsequently written down, but their RHI payments are being transferred to other new projects within the AMPIL2 structure.

Adding back these figures aligns the 2018 Company Level EBITDA number closer to the forecasted figures (see table overleaf for breakdown). Two assets in the portfolio have had issues due to a regulatory change regarding their fuel source, and cost AMPIL2 a combined £195k. Negotiations for a new arrangement of the fuel cost are due to close soon which will lead them to be profitable going forward.

Adding back the total value of the exceptional items and non-recurring charges of £1.62m to the realised £407k then the Company Level EBITDA figure for the year is similar to the anticipated value. As these charges have been fully accounted for, the forthcoming years are expected to follow the projected figures.

For more clarification please see the model with explanatory notes produced by AMPIL2, available upon request.

(000's)	Dec-18	Dec-19
Realised EBITDA	407	
<u>Non-Recurring Charges</u>		
Brokerage & Management Fees	1,057	
Asset Write Off	371	
Total	1,429	
<u>Exceptional Items</u>		
Heliex Villa Nursery	146	
Villa Nursery - Boiler 2	48	
Total	195	
Normalised EBITDA	2,030	3,851
End of Year Assets	27,366	36,790

A DSCR of at least 1.1x on more than two separate occasions on 30th June (not 31st of December) starting the sixth anniversary (6th October 2022) needs to be achieved to avoid an event of default and 1.25x to allow dividend payments. Based on the company's projections this covenant will be satisfied well before the first test date.

Use of Proceeds

The AMPIL2 current cash position of £12m is largely committed or earmarked to be used for biomass boiler pipeline acquisitions. A cash buffer of approximately £3m will be maintained.

The proceeds of the intended tap will be used for Urban Reserve roll-out. The financial close of the project rights acquired by AMPIL2 are imminent.

This investment will fall within the maximum 30% allocation for grid balancing assets and has a modelled minimum 12.5% return. The collateral pool of biomass boilers and proposed urban reserve assets are comingled for the all existing and any new notes.

The issuer pays a 10% development fee to the project developer upon financial close of each individual project which is dependent upon acceptance of the Further Assets Letter by the directors of AMPIL2.

AMPIL2 expects the Urban Reserve assets to start generating cash by November 2019.

Comment

The AMPIL2 vehicle demonstrates AMP's ability to source, install and commission micro-boilers and is on track to meet its covenants and expected cash generation during 2019. The structure of AMPIL2 allows for the limited cash generation during the ramp-up phase.

The intended addition of the Urban Reserve assets is not expected to negatively impact AMPIL2's path towards DSCR compliance, although the nature of the cash flow differs from the RHI supported biomass boilers.

AMPIL2's expectation is that the Urban Reserve assets will be commissioned before winter season 2019/2020 and hence will contribute operational cash flow in a relatively short time frame.

The note structure will restrict cash outflows from AMPIL2 based on a Debt Service Coverage Ratio of 1.25x from the end of year 5. The RHI support and contracted cash flow with the utilities underpins asset value and cash flow of AMPIL2.

Cor Timmermans

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Annex 1

Summary of terms and conditions AMPIL 2

Issuer	Aggregated Micro Power Infrastructure 2 PLC, a SPV owned by Law Debenture PLC as trustees for charitable purposes
Directors	Nominated by Law Debenture
Security Trustee	Prudential Trustee Company
Issue size	£100m programme, outstanding £ 52,000,000
Placement Agent	Guy Butler Limited
Maturity	17th October 2036
Tap issues	The Issuer will from time to time issue additional bonds. All consequent issues will have the same terms and conditions and the same ISIN, including the same maturity date. The issue price of further Tap issue will be done at the prevailing market price. There will be no further Tap Issues after the 5 th anniversary of the bond.
Status	Senior secured, with negative pledge restricting structural or contractual senior debt.
Minimum Subscription / Denominations	£ 1,000
Applicable Law	Law of England and Wales
Listing	Cayman Islands
Placement Agent	Guy Butler Limited
Coupon	8% p.a. payable quarterly
Use of Proceeds	<p>The acquisition or development of: (i) biomass boiler projects or other renewable energy assets or projects that seek to deliver a carbon emissions reduction; and/or (ii) assets or projects which support the de-carbonisation of the UK electricity grid, which may include grid balancing projects (subject to 30% cap of outstanding notes).</p> <p>The Issuer may also provide fully secured debt finance to biomass boiler projects or other renewable energy assets or projects or assets that seek to deliver a carbon emissions reduction or projects which support the de-carbonisation of the UK electricity grid, subject to the portfolio investment restrictions described below (subject to a 10% cap of the outstanding notes).</p>
Investment Criteria	<p>Minimum IRR of 12.5% at financial close in respect of a single asset. Single assets below 12.5% may be added as long as the total portfolio IRR remains above 12.5% over the remaining life time.</p> <p>In case of a portfolio acquisition, the weighted average return of the portfolio assets will be a minimum of 12.5%.</p> <p>Single project size: each single project cannot exceed 30% of the total Notes outstanding as at the date of acquisition.</p> <p>Re-investment of free cash flow is permitted.</p> <p>Risk mitigants including insurance & limited warranties.</p>
Portfolio Acquisitions	The issuer may consider from time to time the acquisition of existing portfolios of Renewable Assets, as long as the target assets meet the minimum Investment Criteria.

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Covenants	<p>If on any DSCR calculation date, the DSCR is less than 1.25 no dividend can be paid and from issuance date.</p> <p>A DSCR lower than 1.1 on more than two separate occasions on 30th June DSCR calculation dates starting on the sixth anniversary constitutes a default.</p>
Amortisation	<p>Amortisation begins in year 6. Sculptured amortisation profile such that total debt service cost (i.e. interest and principal) equal to 10.5% of the original Loan Note Principal Amount. Principal is paid annually.</p> <p>The issuer can purchase bonds in the open market for cancellation. Bonds purchased in the open market can also be used to satisfy amortisation requirements.</p>
Early Redemption Premium	<p>Early Redemption Premium. 125% for the first 5 years, then 104% decreasing by 1% per annum.</p>
Combination AMPIL	<p>AMPIL vehicles can be merged subject to the agreement of 50% of the Noteholders in the vehicle that is being acquired, and subject to the assets being acquired meeting all Investment Criteria.</p>

Annex 2. Risk mitigation

Bankruptcy Risk-Off Taker	<p>Contract terms will allow for some of the units to be removed by AMPIL on any default, with the RHI support content going with it. AMPIL 2 installations are envisaged to cost between £0.5m and £7m per installation, thereby creating diversification. Maximum investment into any one project to be no more than 30% of the size of AMPIL 2, without prior bondholder consent.</p> <p>On Urban Reserve, the optimiser will be a credit worthy counterparty and where required benefit from a guarantee from a credit worthy counterparty.</p>
Break Down / Damage of Boiler	All installations are insured against risks of physical damage and business interruption and are purchased with standard manufacturers' warranties which do not include output.
Governance	<p>AMPIL directors are independent and employees of Law Debenture</p> <p>AMP as service providers, produces the necessary certificates to the directors of AMPIL confirming expected project returns and debt service coverage ratios</p> <p>Fuel will be supplied at the input price in the financial model. AMPIL 2 uses indices to pass on cost increases in the heat supply agreement.</p>
Regulatory	<p>RHI legislation is a UK government payment scheme based on generation of renewable heat, with a budget of approximately £1.1bn enshrined in UK, and not EU law.</p> <p>On Urban Reserve, the risks of regulatory change are partly managed by developing projects in non-generation dominated areas.</p>
Ramp-Up Risk	A delay in ramp-up negatively impacts the Issuer's ability to generate income to support coupon payment. AMP has significant experience in securing contracts, installing and commissioning assets through its HWE Energy subsidiary. Urban Reserve contracts also contain liquidated damages for the main contracts to incentivise contractors to commission on time.
Feed Stock Price	Wood fuel may vary due to commodity cycles and building activity. The contract allows for an increase of off-take prices as a result of prolonged elevated fuel prices. On Urban Reserve, the gas price is netted off from electricity sales, so that we don't take uncovered positions in gas.
Change in Technology	The RHI payment is linked to a specific boiler and will continue even if newer improved technology becomes available. On Urban Reserve battery storage remains expensive for the time being and to date has only been deployed to provide frequency regulation, rather than energy.
Supplier Risk	The suppliers are well-established firms with ample track record in supplying the biomass boilers, gas engines and other applicable equipment. Payments are typically made against milestones or advance payment bonds.

Annex 3. Funding breakdown of initial £52m issue

From AMPIL model	At Feb 19
	(£000's)
Funds Raised	52,000
Acquired Assets	-£29,644
Assets under offer	-£9,424
Funds after acquisitions	12,932
	Total
Project Level EBITDA	£4,832
Company costs	£2,939
AMPIL Company Level EBITDA	1,893
Change in working capital (debtors, stock, creditors)	
Change in Debtors	-£1,068
Change in Stock	-£141
Change in Current Liabilities	-£76
Change in AMP Deferred Development Fees	£0
Total	-1,285
Cost of capital	
Less: Financial Close Costs	-£1,712
Loan note interest paid	-£9,079
Total	-10,791
Cash Outflows	-10,184
Cash available for new investments	2,748