AARDVARK
Certification Ltd

JLEN Investment Portfolio

CO_2 Analysis & Community Benefits Report

July 2021

Prepared for: JLEN Environmental Assets Group Ltd

JLEN Investment Portfolio

CO_2 Analysis & Community Benefits Report

AARDVARK Certification Ltd.

Executive Summary

Aardvark Certification Ltd (ACL) has been instructed by JLEN Environmental Assets Group Ltd to assess and report against the carbon savings achieved across their investment portfolio. The portfolio consists of a total of five asset classes, wind turbines, solar photovoltaic installations, anaerobic digestion plants and, hydro and waste and wastewater facilities. As of 31st March 2021, the portfolio consists of 32 individual assets with a total capacity of 310.7 MW.

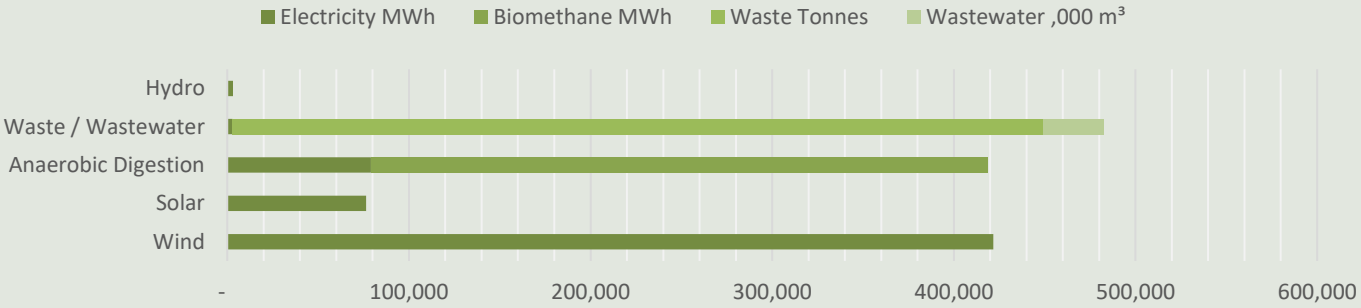
Asset Introduction

The JLEN Investment Portfolio is widely distributed across the UK with assets strategically located in order to benefit from the natural resources such as wind and solar irradiance. JLEN hold a 100% stake or majority stake in virtually all of the assets within the portfolio and all assets are managed under service contracts with specialist O&M providers.

The portfolio has produced a total of 5,551,007 MWh of renewable energy to date. During the course of the portfolio's total lifetime it is anticipated that a further 15,073,919 MWh of renewable energy will be produced. In addition to energy generation, the assets within the portfolio also treat wastewater and residual household and commercial waste. The waste processing facilities process up to 518,494 tonnes of waste and wastewater per annum.

CO_2 Avoidance

The CO_2 avoidance achieved by the JLEN Investment Portfolio are achieved through the generation of renewable energy as well as through diverting waste from landfill. The types of renewable energy produced includes electricity and biomethane. An overall performance summary showing annual average generation or processed volumes for each asset class is shown below. The chart shows that the anaerobic digestion and waste/wastewater asset classes contribute to decarbonisation in multiple ways.



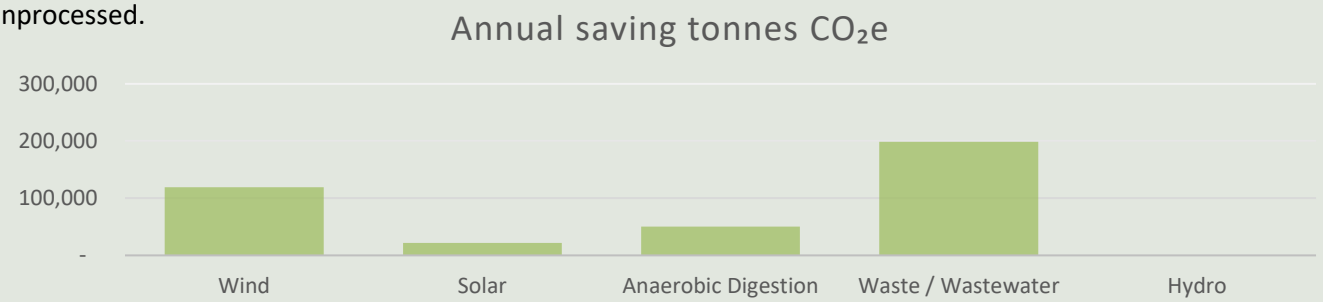
Energy production and waste volumes processed have been considered over the lifetime of the individual assets in order to quantify the contribution each asset will make over its operational lifetime.

Asset Class	Unit	Annual	Operation to date	Operational lifetime
Wind	*MWh*	421,769	2,544,764	10,407,306
Solar	*MWh*	76,420	521,014	1,684,466
Anaerobic Digestion	*MWh*	418,629	2,414,640	8,259,417
Wastewater	*MWh*	2,771	54,036	72,048
Waste / Wastewater	*tonnes*	479,960	6,719,446	11,999,010
Hydro	*MWh*	3,192	16,553	201,689

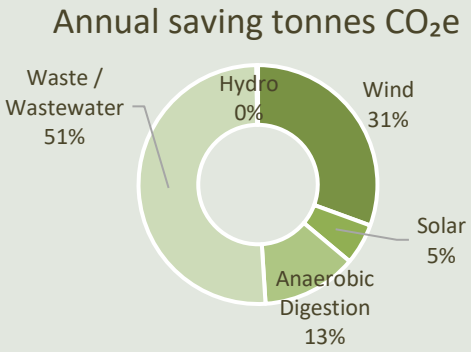
JLEN Investment Portfolio

CO_2 Analysis & Community Benefits Report

The above renewable energy generation and waste processing data has been converted to show the tonnes of CO_2e per annum the various JLEN assets have avoided. The CO_2e avoidance is achieved through negating the need for energy to be produced from traditional fossil fuel sources and had the waste streams gone unprocessed.



From this data it is possible to illustrate by asset class the contribution made to overall CO_2e avoided. This data is shown as percentage contribution below. It can be seen that the contribution of the waste/wastewater assets is a significant contributor towards the overall emissions avoided contributing some 51%. This is due to the fact that diverting waste from landfill has a greater impact on avoiding emissions to atmosphere than the avoidance of emissions from fossil fuel derived energy at the scale being achieved via the renewable energy assets in this portfolio.



CO_2 Forecast

Based on the quantity of energy, renewable fuels and waste processed each year by the the JLEN portfolio, it is possible to quantify historic emissions avoided as well as full operational lifetime emissions which will be avoided by asset class. For those assets producing renewable energy, this analysis is shown below with the waste asset shown mid-table. Data for CNG Foresight is not included as the data is potentially market sensitive. It is expected that over the remaining lifetime of the JLEN portfolio, a further 5,662,880 tonnes CO_2e will be avoided. Over the total operational life of the JLEN portfolio, a total of 9,434,145 tonnes CO_2e will be avoided.

	Total Energy			t CO_2e			
Asset Class	Generation to date MWh	Avg Annual Generation MWh	Forecast generation MWh	Emissions avoided to date	Avg annual emissions avoided	Lifetime emissions avoided	Forecast emissions avoided
Wind	2,544,764	421,769	7,862,542	720,346	119,390	2,945,996	2,225,650
Solar	521,014	76,420	1,163,452	147,483	21,632	476,822	329,338
Anaerobic Digestion	2,414,640	418,629	5,844,777	314,459	50,350	998,133	683,674
Wastewater	54,036	2,771	18,012	15,296	784	20,395	5,099
Hydro	16,553	3,192	185,136	4,231	816	51,552	47,321
	Waste			**t CO_2e**			
	Waste Type	**Avg Annual Tonnage**	**Forecast Tonnage**	**Emissions avoided to date**	**Avg annual emissions avoided**	**Lifetime emissions avoided**	**Forecast emissions avoided**
Waste	All Wastes	446,494	5,357,928	2,569,449	197,650	4,941,247	2,371,799

JLEN Investment Portfolio

CO_2 Analysis & Community Benefits Report

AARDVARK Certification Ltd.

What do these savings mean?

The forecast CO_2 savings the JLEN Investment Portfolio will achieve over its lifetime can be difficult to fully appreciate when stated in tonnes. We therefore convert these figures to real-life equivalents to assist the reader in interpreting the reporting. For the total portfolio, the above figures equate to:

- removing the combined emissions of 179,324 medium sized diesel cars every year from UK roads for the lifetime of the asset portfolio.
- power 247,461 residential properties based upon the national average electricity consumption statistics from the renewable electricity generated
- provide enough renewable electricity to drive a Nissan Leaf 2,714,062,930 miles a year – equivalent to driving 108,994 times around the circumference of the earth
- provide enough renewable electricity to boil enough water for 23 billion cups of tea

Community Benefits

As well as the various environmental benefits the JLEN Investment Portfolio delivers, the majority of individual assets also contribute directly to their respective local communities. The individual assets have in the last year contributed £383,117 to local community funds managed by local parish councils or foundations with ongoing commitments to donate to these funds over the lifetime of the projects. In most cases the funding is index linked ensuring that it won't diminish with inflation and will continue to make a meaningful contribution at a local community level. The projects the funds are allocated to are for the betterment of the local community with preference for projects which promote sustainability.

A summary of individual asset community funding for the last payment year is shown below:

Asset Class	Asset Name	Community fund contribution per annum (£)	Recipient/s
Anaerobic Digestion	Egmere	250	Holkham Hall, Norwich CBS FC, Wells Carnival Ltd, RAF North Creake
	Vulcan	8,074	Various local groups including scouts, brownies, schools and local associations
	Meden	5,000	Warsop Parish Council
	Merlin	4,800	Hibaldstow Village Hall and newspaper, local primary school, parish council rotary club and RUFC
Wind Portfolio	Bilsthorpe	22,500	Eakring and Bilsthorpe Parish Councils
	CREPL	44,950	Fund administered by Foundation Scotland
	Hall Farm	42,589	East Riding of Yorkshire Council
	Burton Wold	15,075	Northamptonshire Community Foundation
	New Albion	36,237	Northamptonshire Community Foundation
	Dungavel	72,801	South Lanarkshire Renewable Energy Fund
	MM2	19,834	Conwy County Borough Council
	Llynfi	103,243	Cymmer and Gwynfi (Neath Port Talbot) & Blaengarw and Caerau (Bridgend)
Solar Portfolio	Amber	1,000	Local parish notice board
	CSGH	6,764	Mwanan Parish Council

JLEN Investment Portfolio

CO_2 Analysis & Community Benefits Report

AARDVARK Certification Ltd.

Methodology

This report has been prepared in good faith by Aardvark Certification Ltd based on data obtained from the owner/operator of the asset reviewed. Our calculations of CO2 savings are based on IFI Approach to GHG Accounting for Renewable Energy Projects. Baseline Emission Factors used in this analysis are taken directly from the Department for Business, Energy & Industrial Strategy Greenhouse gas reporting which prevailed at the time the asset was individually analysed.

Liability

This document contains information and may contain conclusions and recommendations. Every effort has been made to ensure that the information is accurate and that the opinions expressed are sound. However, Aardvark Certification Limited cannot be made liable for any errors or omissions or for any losses or consequential losses resulting from decisions based on the information.

AARDVARK

Certification Ltd.