

## Case Study – Albert Darnell Ltd

**Outline:** System Size: 185kWp Panels: 740x FuturaSun FU250P Inverters: Delta RPI Series M50A & M20A G59/3 Relay: Provided by Control and Power Solutions (CPS)



Flixborough Eco Technologies work at Albert Darnell, on the Europarc in Grimsby, illustrates what they can offer. The 185kW solar installation follows the introduction of LED lighting, with the intention of eventually converting the whole site, and a power procurement audit. This means the company is now able to move to a green energy tariff and make substantial savings on their energy bills. Flixborough Eco Technologies were recommended to Albert Darnell thanks to their growing reputation. Their team of energy saving experts have all worked in and around the industry for many years, enabling them to take projects from conception to completion. This project illustrates the huge range of services they can offer, and one reason for the rebranding of the company is to showcase this wide selection, including energy procurement.

A £240,000 investment into solar energy has transformed Albert Darnell Ltd into a completely self-sufficient business in a move which will bring long-term benefits.

A total of 740 solar panels have been installed on the processing factory roof, generating enough electricity to power the entire operation, as well as generating income by selling excess back to the national grid.

“Obviously, our kind of business demands the use of a lot of power, and the costs per year are very high,” said general manager Mark Rodgers

“It has been a massive investment for us to turn to solar energy, but it is one we know will bring big rewards for us over the next 20 to 30 years. We are already seeing the benefits as we are generating enough energy to power all of our operations, which is incredible.”



Mr Rodgers says that given the day to day operation costs of running such a big business, it takes long-term thinking and vision to commit to such an investment.

“I don’t imagine there are many, if any, companies in our line of work putting this sort of investment into renewable energy, but we have looked at the long term benefits, savings and incomes and they are significant,” he said. “It shows that as a company, our vision is long-term. It is also important for us in terms of our Corporate Social Responsibility and further underlines our commitment to responsibly sourcing and sustaining our products.”

**£240,000 Solar investment makes Albert Darnell Ltd completely energy self-sufficient.**

# Performance Data



ALBERT DARNELL LTD

	MCS Data			Industry Data		Actual Data	Over Performance Figures			
Month	Annual Generation Percentage	kWh/kWp	Predicted Annual Generation	kWh/kWp2	Annual Generation	Actual Generation (Meter Read 52,733)	Over Performance on MCS (kWh)	Over Performance on MCS (%)	Over Performance Industry Data (kWh)	Over Performance Industry Data (%)
Jan	3%	27.8	5,140	35	6,558	0				
Feb	5%	39.6	7,334	51	9,356	0				
Mar	8%	69.9	12,936	89	16,504	0				
Apr	12%	98.5	18,216	126	23,240					
May	12%	103.0	19,051	131	24,305	26,367	8,150	38.40%	3,126	11.86%
Jun	12%	100.8	18,651	129	23,794	26,367	7,315	41.37%	2,062	7.82%
Jul	14%	112.5	20,809	144	26,548	0				
Aug	10%	83.6	15,463	107	19,727	0				
Sep	10%	79.2	14,652	101	18,693	0				
Oct	6%	51.9	9,607	66	12,257	0				
Nov	4%	33.8	6,256	43	7,982	0				
Dec	3%	27.4	5,063	35	6,459	0				
<b>Totals</b>	<b>100</b>	<b>828.0</b>	<b>153,180</b>	<b>1,056</b>	<b>195,423</b>	<b>52,733</b>	<b>15,465</b>		<b>5,188</b>	

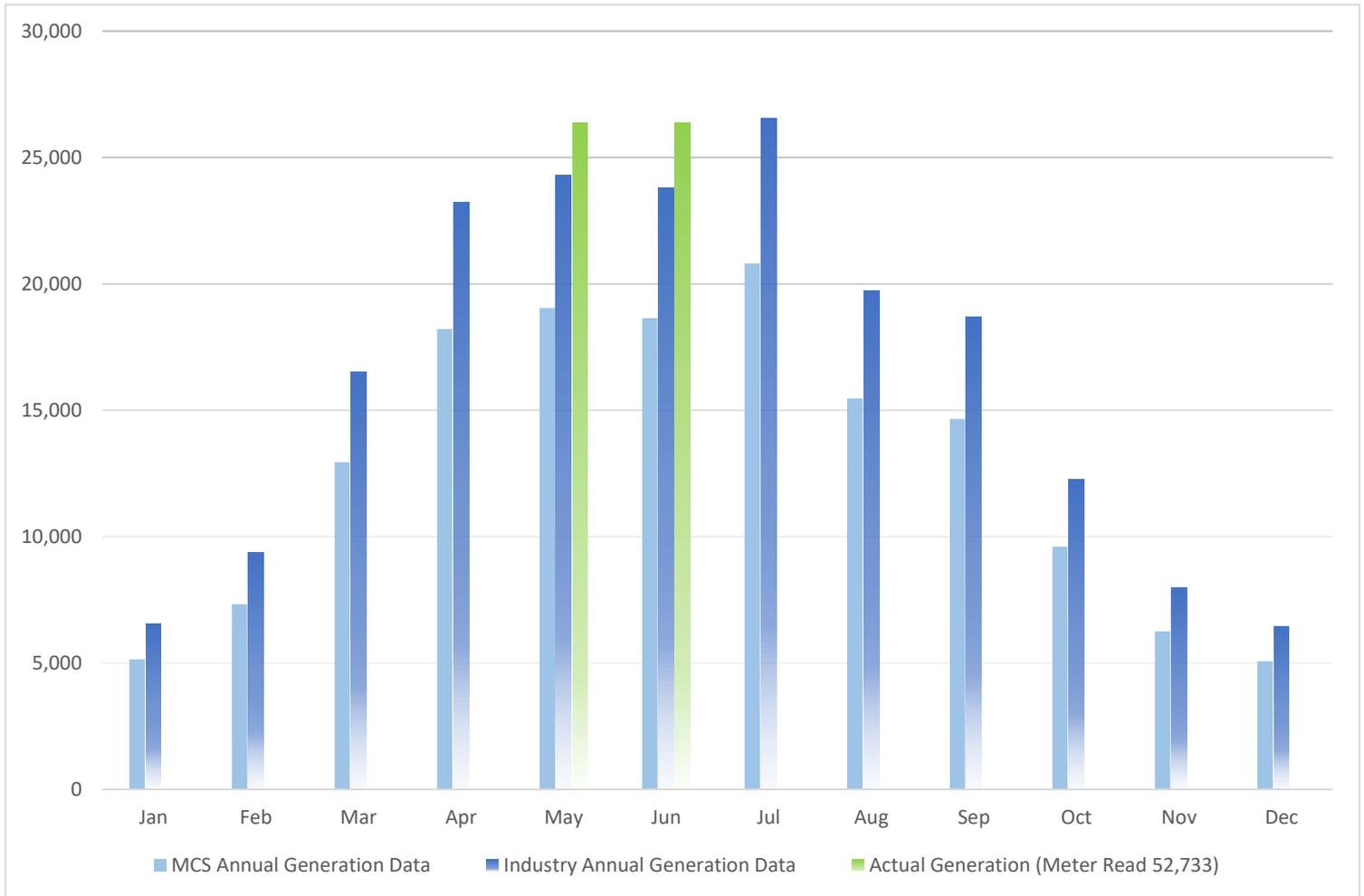




# Generation Data



ALBERT DARNELL LTD



### Conclusions:

The solar PV system at Albert Darnell is currently over performing operational predictions by approx. **10%** on industry data and **39%** on Micro-Generation Certification Scheme data. Our industry data is based on a number of commercial installations which are monitored monthly.



# Project Delivery

## Project Management Outline:

**Scheme:** Albert Darnell Ltd **Technology:** Supply and Installation of Solar PV **System Size:** 185 kWp Solar Array.

### Project Planning:

As with every scheme we do we pride our project planning and scheme management. We had a Pre-start meeting with the client to keep them fully informed of the plan for the installation. Due to the scale of the Albert Darnell installation we agreed an extensive project delivery system plan put in place. Utilising Microsoft Project were able to structure the project specifics, and allocated tasks. This is turn organised the project and limited exposure to risk and allow us to build in contingency so we would meet client expectations. In addition to project management software, we utilised our own in house task sheets and customer database to record job processes. These document were shared on an update basis with live versions available at all times. Finally we held weekly update meetings with the client prior to installation

### Customer Engagement:

Pre-start meeting: Upon receiving signed contract.

Progress meetings: Formal weekly until project start with teleconferences if required.

Installation Phase: Daily phone calls to enable us to work without hindering the client's normal operational procedures.

Post installation: Handover to client on commissioning day.

Final Post installation meeting: 1 week after commissioning with full O&M manual presented to client

Performance review: 2 months after installation.

### Implementation:

We had a daily liaison with the client when we registered our team on the site. All employees and subcontractor were provided with branded PPE to identify all of our personnel to site staff. We were made fully aware of the tight time scale for this delivery due to Feed in Tariff constraints so we called in addition skilled employees to complete the scheme.

We planned to supply and install this scheme within 20 working days with 5 days contingency due to forecast gale force winds. Our roof works were completed within 10 working days to minimise weather disruption forecast for the following week. We held daily update phone calls with the client during installation this enabling the client to accommodate us when considering operational requirements. We delivered the scheme using our own installation team.



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## Risk management and risk mitigation:

We worked out of hours and weekends to minimise the impact on client operations and impending weather disruption. We liaised with the client prior to the scheme commencing on site as there were Health and Safety and food hygiene inspections scheduled while we were on site. Due to regularly reviewing weather forecasting we were able to mitigate any delay in installation schedule by increasing staffing levels to deliver the most likely affected roofing working. As a matter health and safety we mount a wind speed meter on the roof of the installation to instruct us when it is too windy to operate and allow our installation teams to operate safely.

Reason for installation – to increase the efficiency of the building and reduce the overheads and running costs of the building.

## Management of sub-contractors:

We as the main contractor have performed extensive due diligence on both our suppliers, subcontractors and installation partners, to enable us guarantee quality, reliability and consistency. Due to this we have written agreements between ourselves and our subcontractors and partners who agree to adhere to our standards, expectations and health and safety procedures.

Managing the subcontractors on site starts every day with sign in, followed by a prestart meeting to discuss the days schedule and completion of tool box talks if necessary. Each contractor is then provided with all relevant information and equipment to complete the task. Each site has a dedicated site supervisor who is the client's onsite point of contact and person responsible for all sub-contractors.

