



Renewable Energy for Manufacturers
Onsite Renewable Solutions
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RENEWABLE ENERGY

Renewable energy is defined as energy that is generated from natural processes that are naturally replenished. In 2017, renewables accounted for 17.1% of US electricity generation.

Renewables	Share of total US Electricity Generation
Hydro	7.5%
Wind	6.3%
Biomass	1.6%
Solar	1.3%
Geothermal	0.4%
Total	17.1%



2025 SUSTAINABILITY GOALS



CLIMATE

GHG emissions reduction by 25% by 2025 (vs. 2017) - 3% to 5% per year.

40% of electricity from renewable energy achievement by 2020.



WATER

Water use reduction by 20% by 2025 (vs. 2017) - 2.5% per year.



WASTE

Waste to landfill reduction by 25% by 2025 (vs. 2017) - 3% per year

Food waste reduction by 50% by 2030 (vs. 2017) - 4% per year

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FY2018 ~576 million kWh of electricity annually at our manufacturing sites & offices

Generates ~27 million kWh of renewable energy annually

Renewables currently account for 4.7% of our total equivalent electricity usage



RENEWABLE PROJECTS PORTFOLIO

Project	Ownership	Contract Date	Scale
Napoleon, OH – Solar	PPA	Jan 2012	10.0 MW
Bloomfield, CT – Solar	PPA	May 2014	1.2 MW
Bloomfield, CT - Fuel Cell	Campbell	Aug 2008	1.2 MW
Bloomfield, CT - Fuel Cell	Campbell	Aug 2015	1.4 MW
Hanover, PA – Solar	Campbell	Oct 2010	3.5 MW
Bakersfield, CA - Fuel Cell and HRSG	PPA	June 2019*	5.0 MW
Camden, NJ – Solar	PPA	Feb 2016	4.4 MW
			26.7 MW

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NAPOLEON, OH – 10 MW GROUND MOUNT SOLAR





BLOOMFIELD, CT – 1.2 MW FIXED GROUND MOUNT SOLAR



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BLOOMFIELD, CT – 2MW FUEL CELLS





HANOVER, PA – 3.5MW FIXED GROUND MOUNT SOLAR





BAKERSFIELD, CA – 5MW FUEL CELL AND HRSG SYSTEM (165 PSIG STEAM)



Waste Heat Exhaust to HRSG

Fuel Cell Section



HRSG Unit

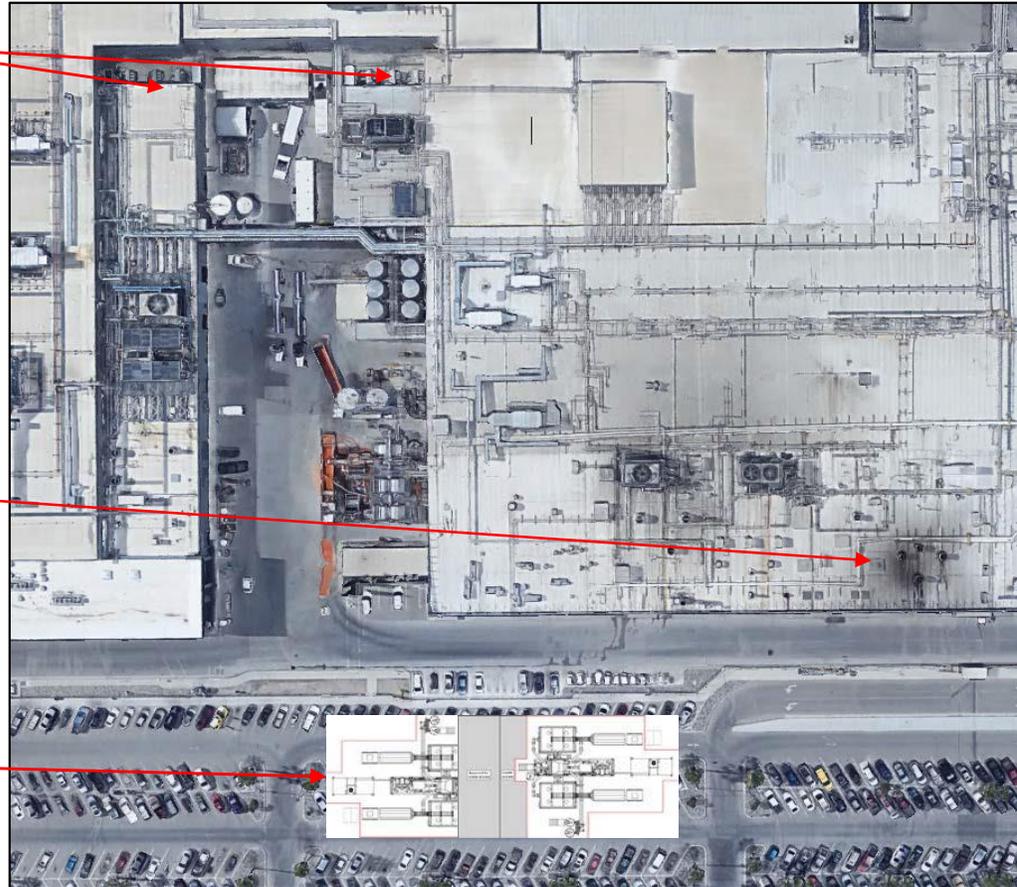


BAKERSFIELD, CA – 5MW FUEL CELL AND HRSG SYSTEM (165 PSIG STEAM)

12kV Transformers

Existing main plant 165
psig steam header

New Fuel Cell
Location





CAMDEN, NJ – 4.4MW GROUND MOUNT, ROOF MOUNT AND CARPORT SOLAR





CAMDEN, NJ – 4.4MW GROUND MOUNT, ROOF MOUNT AND CARPORT SOLAR







NEXT STEPS

- Considering anaerobic digester at our Bakersfield, CA site
 - Feedstock to the digester will be carrot waste and culls
 - Generated Biogas will be used as fuel supply to our new onsite 5MW fuel cell, supplementing our natural gas usage
- Supplementing our current solar systems with battery storage centers
- Investigating onsite wind turbines (1MW) at our product distribution center in Ohio.
- Considering 120MW offsite (virtual PPA) renewable project
 - Achieve our 40% renewable electricity goal
 - Contribute 12% GHG emissions reduction
 - Provide cash flow to the business under a 12 year VPPA contract

QUESTIONS?

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