

Expanding Your Business with Renewable Energy



The Melink Story

- Started in 1987
- Commissioning Services & Ventilation Controls
- Headquarters LEED Gold Certified (soon Platinum)
- Renewable Solutions



Renewable Energy

- Solar PV
- Wind Turbine
- Geothermal
- Solar Thermal
- Hydro
- Biomass/fuels



How Solar PV Works

- Modules
- Inverter
- DC/AC Wiring
- Racking
- Disconnects



Why Get into Solar PV

- Ohio Renewable Portfolio Standard (SB 221)
The law requires it! 12.5% benchmark by 2025 (with solar carve-out)
- Triple Bottom Line:
Economy, National Security, Environment

Options for Manufacturers & Contractors

- Custom vs. Pre-Engineered Systems
- Commercial vs. Residential

Custom Systems

- Production Goals of Customer
- Available Space of Customer
- Budget of Customer
- Contractor Designs & Installs



Pre-Engineered Systems

- Contractor purchases a complete system that comes with all components for a particular size
- Typically geared toward small residential or light commercial installations



Potential Customers

- Residential
- Light Commercial



Typical Costs to Customers

- Custom: \$8 - \$10 per Watt (> 2kW)
- Pre-Engineered: \$8 - \$10 per watt (<2kW)

Note: This does not include incentives

Federal Incentives

- 30% Residential Renewable Energy Tax Credit
- 30% Business Energy Investment Tax Credit
- Accelerated Cost-Recovery + Bonus Depreciation

Note: Taxpayers may take grant in lieu of business ITC.
This doesn't apply to residential energy tax credit.

State Incentives

- Residential Grant
 - Eligible for \$3.00 per Watt
 - Minimum size is 2kW
 - Max incentive is \$25,000
- Commercial Grant
 - Eligible for \$3.50 per Watt
 - Minimum size is 10kW
 - Max incentive is \$150K (building owner); \$250K (third party)

Note: System must be grid-tied and within service areas of Duke Energy, DP&L, AEP, or First Energy

The Payback

Residential 8-10 Years

Commercial 3-5 Years

How Wind Turbines Work

- Blades
- Generator
- Inverter
- Controls
- Pole/Tower

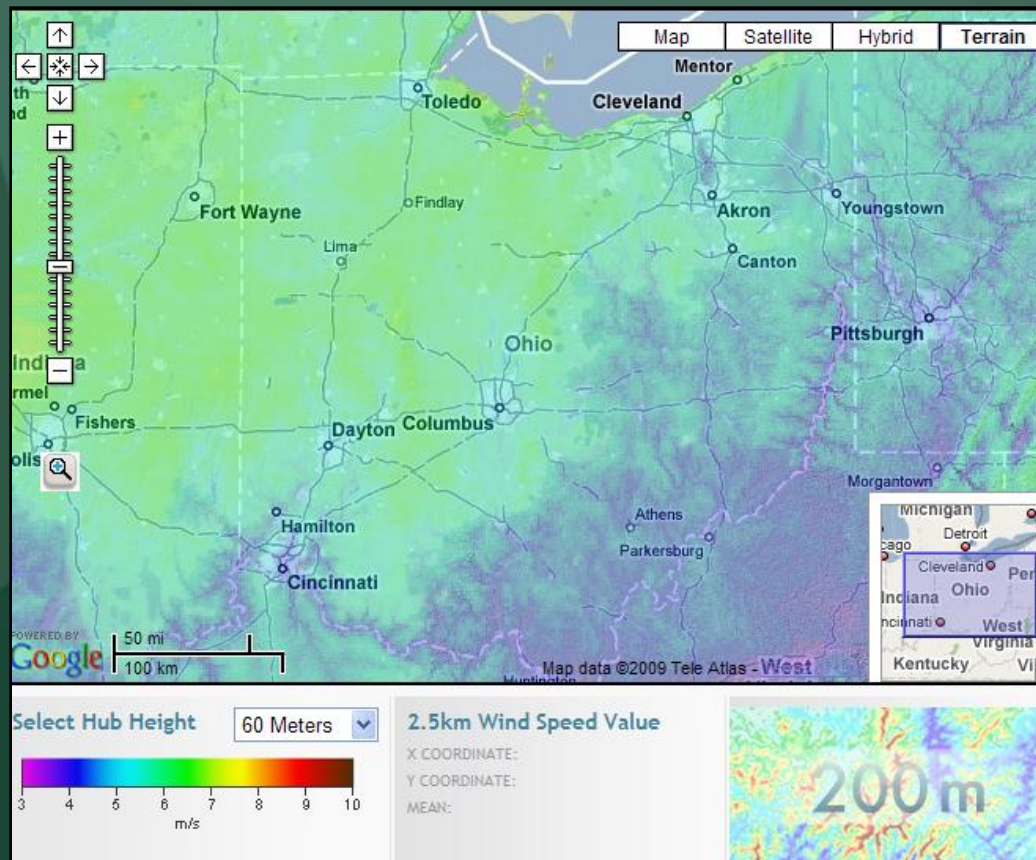


Why Get into Wind

- Same Reasons as Solar PV
- Complement Solar PV



Wind Maps



Example Turbine

- Aventa AV-7
- Size: 6.5 kW
- Tower Height: 60 ft.
- Blades: 21 ft. radius
- 8,000 – 24,000 kWh/yr



Advantages of Low Wind Turbine

- Suitable for use in areas like SW Ohio
- Utilizes larger blades and belt-drive



Potential Customers

- Residential
- Small Businesses
- Large Businesses
- Agricultural
- Schools
- Government



Typical Costs to Customers

- Example: Aventa AV-7
- \$100,000 - \$120,000

Note: Before incentives

Federal Incentives for Small Wind

- 30% Residential Renewable Energy Tax Credit
- 30% Business Energy Investment Tax Credit
- Accelerated Cost-Recovery + Bonus Depreciation

Note: Taxpayers may take grant in lieu of business ITC. This does not apply to residential energy tax credit.

State Incentives

- Residential Grant
 - Eligible for \$2.00 per kWh of estimated annual output
 - Must generate a minimum of 3,000 kWh per year
 - Max incentive is 50% of system cost or \$25,000
- Commercial Grant
 - Eligible for \$2.00 per kWh of estimated annual output
 - Must generate a minimum of 3,000 kWh per year
 - Max incentive is 40% of system cost or \$200,000

Note: System must be grid-tied and within service areas of Duke Energy, DP&L, AEP, or First Energy

The Payback

- Commercial: 4-6 Years

Additional Information Sources

- North American Board of Certified Energy Practitioners (NABCEP) – www.nabcep.org
- Green Energy Ohio (GEO) – www.greenenergyohio.org
- Midwest Renewable Energy Association (MREA) – www.the-mrea.org
- Database of State and Incentives for Renewables and Efficiency (DSIR) – www.dsireusa.org

MELINK®

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