Mid-Scale Wind and Net Metering

MWWG – October 8th, 2009

America's Mid-Scale Wind Turbines

AERONAUTICA Windpower™

- **Goal: Manufacture and Market the first American-Built turbine in the 101-1000kW range**
- **Emphasis on High Quality machines and components**
- **Market space: Distributed Generation, Commercial, Industrial and Community**

AW/Norwin 29–225kW & 47–750kW

America’s Mid-Scale Wind Turbines

Announcements:

Manufacturing Partner: Goss International

- 500,000 s.f. Facility ISO 9001, 14000 certifications
- Experienced with large, rotating devices with close tolerances (like turbines)

Manufacturing Partner: Goss International

- Teaming allows AW to cut 12-18 months off production
- Now committing to shipments in Q2 of 2010

Personnel: We're Growing

Jeff Warren
President
(Matt Glynn remains as CBD)

Shaun Lockett,
National Sales Manager

Mid-Scale and Net-Metering: A Natural Fit

225kW avail. on 40m tower (180')
30m available
50m to come

750 kw avail. on 65m tower (290')
50m to come

'Queen-size' machines suited for on-site, BTM, & NM generation:

- Class II rate structure optimizes <1mW machines
- 'In-scale' size reduces community 'push back' from utility-class turbines
- Smaller sizes are easier to site, both for elevation and setbacks…

Class III Net Meter, 1.5MW

Facility	
Wind Turbine Desired	GE 1.5xle
Number of Turbines	1
Wind Resource	
Avg Wind Speed (m/s)	6.5
Hub Height	65m
Measurement Height	65m
Financing	
Project Financed?	Y
Machine Only Cost	$2,300,000
Bal. of Plant Cost	$1,230,000
Project Cost	$3,900,000
Interest Rate	8.5%
Down Payment	25%
Loan Term	10 Years
Type Fed. Tax Credit	Cash

Electrical Costs	
Value of Retail Electricity (BTM/NM)	$ .126
Contracted Discount over Current Price	.0%
Value of Merchant Electric Sold to Grid	$ .126
% Power Used On Site	100%
Value of RECs (per kWhr)	$ .035
Value of PTCs	$ .021
Value of Forward Cap. Mrkt	$ .00
Price Escalations (yrs 1-10)	0%
Price Escalations (yrs 11-20)	0%
Salvage Values	
Percent Salvage Value	25%
$ Salvage Value	$975,000

Class III Net Meter, 1.5MW (*cont'd*)

Outputs			
Production			
Energy (kWHrs/yr)	**4,424,408**	Cost/kW	$**2,600**
(kWHrs/mo)	**368,701**		
Revenue (20 yr avg/$ yr)	$**651,946**	Y1 Cash Flow (bfr fin. P&I)	$**1,677,956**
(20 yr avg/$ mo)	$**54,329**	Y2 Cash Flow (aftr fin. P&I)	$**1,232,164**
Investment Ratings			
Net Present Value (NPV)	$**4,356,317**	(where investment = total cost – salvage value)	
Avg, ROI, 20 yrs	**16.7**%	(not including cost of finance & depreciation	
Ann. Ret. on Inv. Cap, 20 yrs	N.A.	(If financed, uses downpyament, else Cap. Cost = no investment capital)	
Gross Income Multiplier	**2.32**	(Investment /Net Monthly Income)	
10 Year IRR	**18.1**%	20 Year IRR	**21**%

Class II Net Meter, 750kW

Facility	
Wind Turbine Desired	Norwin 750
Number of Turbines	1
Wind Resource	
Avg Wind Speed (m/s)	6.5
Hub Height	65m
Measurement Height	65m
Financing	
Project Financed?	Y
Machine Only Cost	$1,265,000
Bal. of Plant Cost	$560,000
Project Cost	$1,975,000
Interest Rate	8.5%
Down Payment	0%
Loan Term	10 Years
Type Fed. Tax Credit	Cash

Electrical Costs	
Value of Retail Electricity (BTM/NM)	$ .167
Contracted Discount over Current Price	.0%
Value of Merchant Electric Sold to Grid	$ .167
% Power Used On Site	100%
Value of RECs (per kWhr)	$ .035
Value of PTCs	$ .021
Value of Forward Cap. Mrkt	$ .00
Price Escalations (yrs 1-10)	0%
Price Escalations (yrs 11-20)	0%
Salvage Values	
Percent Salvage Value	25%
$ Salvage Value	$493,750

Class II Net Meter, 750kW (*cont'd*)

Outputs			
Production			
Energy (kWHrs/yr)	**1,714,608**	Cost/kW	$**2,633**
(kWHrs/mo)	**142,884**		
Revenue (20 yr avg/$ yr)	$**318,809**	Y1 Cash Flow (bfr fin. P&I)	$**829,813**
(20 yr avg/$ mo)	$**26,567**	Y2 Cash Flow (aftr fin. P&I)	$**528,808**
Investment Ratings			
Net Present Value (NPV)	$**2,065,533**	(where investment = total cost – salvage value)	
Avg, ROI, 20 yrs	**16.1**%	(not including cost of finance & depreciation	
Ann. Ret. on Inv. Cap, 20 yrs	N.A.	(if financed, uses downpyament, else Cap. Cost = no investment capital)	
Gross Income Multiplier	**2.38**	(Investment /Net Monthly Income)	
10 Year IRR	**16.5**%	20 Year IRR	**20.0**%

NM Gives Mid-Scale with Parity

Project Type	10 Year IRR	20 Year IRR
Class III (MA NM) $.126/kWhr	18.3%	21%
Class II (MA NM) $.167/kWhr	**16.5%**	**20%**
Class II (Before NM) $.08/kWhr + cap. pmt.	5.6%	10.4%

Other Benefits of Mid-Scale

Easier to Permit

More ‘In-Scale’ with Communities

Fit on more sites

Easier to Transport

225 ships in Containers

Can be Helicoptered

Assembly with ‘Available’ Cranes

Reduces costs

Ease of Scheduling

Easier to Afford

Cost effective output

Great for Net Metering


Thank You!
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