

DTE Energy®



MREP Solar Committee Meeting

April 28, 2011



Detroit Edison RPS Portfolio Plan – Forecasted Spending

As approved by the MPSC in 2009

RPS investments under Detroit Edison's renewable energy plan projected at \$2 B over 20-year plan

Detroit Edison-Owned

- 565 MW of wind assets (if 2 MW each, yields ~280 turbines)
- **15 MW of Detroit Edison-owned solar pilot program**
- Equivalent of 29 MW of co-firing renewable fuels in existing generating facilities (e.g., displaces non-renewable fuels)

Contracted (PPA & REC purchases)

- 586 MW of purchases from third parties over the 20 year program. Majority will be sourced from wind turbines, approximately the same scale and number as the Detroit Edison-owned wind turbines
- **5 MW Customer-owned solar pilot program** which may include up to 1500 homes or businesses if sized at 3kW each. Eligibility is consistent with the net metering program.



SolarCurrents™ Customer-owned Pilot Program Overview

- 5 MW in total nameplate capacity by 2015
 - 2.5 MW residential/2.5 MW commercial
- Program Budget: Limited to a maximum of \$25 million
- Customer funds and installs solar system to meet their electrical needs per the Net Metering guidelines.
- Program participants sign long-term contracts allowing Detroit Edison to purchase Renewable Energy Credits (RECs) Contract Term: 20 years
- Incentive Structure: Up-front REC payment and ongoing REC credits on monthly bill





SolarCurrents™ Customer-owned Program Requirements

- Eligible Technologies: Grid-Connected Solar Photovoltaic (PV)
- Eligible System Size: Single Installation ≥ 1 kW and ≤ 20 kW
- Eligible Systems:
 - New PV installed in 2009-2011
 - Existing PV systems with a valid Detroit Edison Parallel Operating Agreement installed after Jan. 1, 2005 (pro-rated based on age of system)
- Eligible Customers must:
 - Purchase energy from Detroit Edison for the term of the contract
 - Have a positive payment history with Detroit Edison (no past due balance for 6 months and no checks returned for insufficient funds within the last 12 months)
 - Agree to participate in the Detroit Edison Net Metering (Rider 16) program
 - Complete the Interconnection application within 90 days of submitting the SolarCurrents application



SolarCurrents™ Program Incentives

Incentives

- Up-Front Payment of \$2.40 per watt of DC installed nameplate capacity, paid by check after successful completion of Interconnection and SolarCurrents program requirements.
- Ongoing REC Payments of \$0.11 per kWh generated, paid by a credit on customer's monthly Detroit Edison electric bill for the length of the contract

Progress since program launch on 9/1/09 (as of 4/27/11):

- 380 customers fully commissioned in program
- 2.4 MW enrolled in the program
- \$11M of program budget allocated

SolarCurrents
Customer Contact Line:
313-235-4SUN (4786)
Website:
www.dteenergy.com/solar



Incentives Available to SolarCurrents™ Program Participants

EXAMPLE

A typical 4 kW residential installation may cost \$32,000 and require about 500 sq ft of roof space.

Incentives

- Detroit Edison up-front REC payment of \$2.40 per watt, or \$9,600
- Detroit Edison ongoing REC payments of 11¢ per kWh generated, totaling \$10,021 over 20 years
- Federal Tax incentives of 30%
- Reduction in electricity bills due to self generation and net metering





Detroit Edison-Owned Solar Pilot Program



- 15 MW in total nameplate capacity
- \$112 Million budget over 5 years
- Sited on large rooftops, ground-mounted or on DTE Energy facilities
- Using standard site easement agreements
- Purpose of pilot program is to gain knowledge and experience
 - Multiple technologies
 - Comparison of tracking versus fixed installation schemes
 - Physical and process integration with distribution system operations
- 2010/2011 plan assumes installation of up to 4.3MW of solar at multiple sites



Detroit Edison-Owned Solar Pilot Program

The Project Development Process:

- Select Customer – Through a Solicitation of Interest or an Economic Development opportunity.
- Negotiate site easement agreement with customer and conduct Initial Site Feasibility Assessment of - (3-5 Months)
- Engineer, Procure and Construct (EPC) project - (6-8 Months)

Planned Build Schedule

Detroit Edison Utility-Owned Solar Pilot Program Plan					
Year	2010	2011	2012	2013	2014
MW built by year in RE Plan	0.56	3.74	3.7	3	4
Cumulative MW Built	0.56	4.3	8	11	15

Detroit Edison standard Solar Power Easement Agreement



Basic Terms and Conditions

- 20 year agreement.
- Remain full-service bundled electric customer for the 20 year term.
- Up-front Construction Payment and an Annual Easement Payments.
- Removal/Relocation cost for early termination.
- DTE owns the Electric Energy and the Renewable Energy Credits (RECs) generated from project.



Projects committed or under development

	Project	Location	# of Projects	New Capacity (kW)	Estimated COD	Project Status
Committed projects	DTE Project #1	Scio Township	1	60	Oct. 2010	Project Complete
	Ford Michigan Assembly	Wayne	1	500	Mar. 2011	Project substantially complete
	Monroe County Community College	Monroe	1	500	Mar. 2011	Project substantially complete
	Blue Cross Blue Shield	Detroit	1	220	May. 2011	Project under construction
	GM Chevy Volt Plant	Hamtramck	1	500	July. 2011	Engineering and procurement underway.
	DTE Project #2 - Technical Training Center	Westland	1	375	July. 2011	Engineering and procurement underway.
TOTAL COMMITTED			6	2155		
Under Development	Smart Grid Project(s) (Customer TBD)	Oakland County	2	350	TBD	Two sites have been identified and are being developed.
	DTE Project #3 - Main Campus	Detroit	1	70	TBD	Feasibility study underway
	Other Unnamed projects	Southeastern MI	13	5500	TBD	Various phases of project development.
TOTAL UNDER DEVELOPMENT			18	5920		



MCCC Solar PV Project



- Array size 513kW
- Approximately 3.0 acres
- ~2000 PV modules
- One of the largest installations in Michigan
- Direct interconnect to DECo grid
- Utilize 100% Michigan Labor

Educational Kiosks are provided to Host Customers



Small Kiosk Option



Large Kiosk Option





Kiosk Features



Prototype Features

- 32" Monitor with video on solar basics.
- 19" Monitor with web based monitoring of the project.
- Solar panel sample.
- Solar messaging.

Production Enhancements

- Audio with volume control.
- Keyboard and trackball



Load-Watch SolarCurrents

Utility-Owned Program Aggregate Output - Windows Internet Explorer provided by DTE Energy

https://wap.load-watch.com/apps/solar/aggregate/

File Edit View Favorites Tools Help

Utility-Owned Program Aggregate ...

SolarCurrents™

Utility-Owned Program Aggregate Output



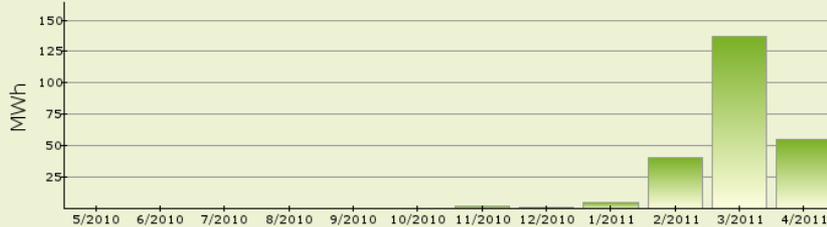
This page includes all power currently produced by DTE Energy-owned solar projects in southeastern Michigan. These sites include:

- [Ford Michigan Assembly Plant \(Wayne\)](#)
- [DTE Energy Scio Township facility \(Scio\)](#)
- [Monroe County Community College](#)

Current Output: 0.042 MW_{AC}

[Click here](#) to see how this technology helps the environment.

Monthly Solar Output



Website Features

1. Aggregate of all DTE Energy-owned solar sites
2. Each installation will have its own page with project description.
3. Real-time and historical data will be displayed.
4. Data displayed:
 - Current Output (MW)
 - Energy Production (kWh)
 - Carbon offset values

www.dteenergy.com/dtesolar

Done

Trusted sites

100%



Microsoft Po...

DTE Energy -...

Utility-Owned...



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Questions

