Promising Practices

Institutions

Ottawa-Carleton District School Board Practices What it Preaches

The Ottawa-Carleton District School Board (OCDSB) has installed solar panels on the roofs of 13 of its schools, with plans of eventually fitting all of its schools with panels.[1]

Generates Funding

The school board signed contracts under the Ontario Power Authority's microFIT (micro Feed-In-Tariff) Program. Each school is equipped with 10 kilowatt panels which produce electricity that is directly transmitted to the electricity grid. The OPA is paying 80.2 cents per kilowatt hour (kWh) of energy received for an expected total of $120,000 a year for the OCDSB over the next 20 years.[2]

Government-Sponsored

In addition to benefitting from the microFIT program, the school board received funding from the Ontario Ministry of Education to help pay the upfront costs of the installations. Through its Renewable Energy Funding for Schools initiative, the ministry covered $750,000 of the panel installations, leaving only $250,000 for the school board to pay.[3] [4]

Environmentally Sound

The school board proclaims that this is not solely a financial decision, but also an environmental one: every year, the 11,500 kWh of electricity produced by each school's microFIT system will reduce greenhouse gas emissions by an estimated 2.2 tonnes.[5]

From microFIT to FIT

The first 13 initial schools selected to receive solar panel installations were: D.Roy Kennedy Public School, Earl of March Secondary School, Emily Carr Middle School, Longfields-Davidson Heights Secondary School, Mutchmor Public School, Nepean High School, Osgoode Township High School, Queen Elizabeth Public School, Sir Guy Carleton Secondary School, Sir Wilfrid Laurier Secondary School, Stittsville Public School, West Carleton Secondary School, and York Street Public School.

Sixty-nine additional schools will have larger projects installed on their roofs, pending OPA approval. These larger installs will be part of the Feed-In-Tariff (FIT) Program and would have capacities of between 50 and 250 kW.[6] To reduce costs, the OCDSB decided to lease its roofs for the installation of the FIT projects. External companies will develop and own the projects. Leasing its roof space will generate less profit for the school board than its microFIT projects.[7]

Enhances Curriculum

The OCDSB aims to incorporate the solar panels into its schools' curriculum. One such application is at Nepean High School, where teacher Chris Drummond has designed a lab that has students think critically about the solar panels on the roofs.

As part of his Grade 11 Environmental Science "Energy Conservation" Unit, Drummond has students use small solar panels (purchased from Canadian Tire) and, using a voltmeter, they must

test out the optimal angle and direction of the solar panels. They then compare the results to the angle and orientation of the panels on the roof and explain any differences.[8]

As Drummond and his students discovered, the panels on Nepean High School's roof are not at the optimal orientation and angle, because of the way the cheapest mounts available fit on the roof. Thus the school board purchased oversized panels to compensate for the less than optimal orientation. By incorporating the school's solar panels into the curriculum, teachers expose their students to these real-life applications and issues relating to solar energy.

Having solar panels on the school roof has enriched the curriculum, Drummond says, because it highlights solar energy "as a viable source of energy" and not an academic "pie in the sky." It also proves that even at our latitude, solar energy can be harvested in a substantive way.[9]

The school board is also planning on making real-time data from the solar panel available online for students to access.[10] Drummond sees this as an opportunity for Grade 9 Geography and Science students to compare the energy produced by the solar panels to the quantity of oil that would be required to generate the same amount of energy in a simple but fun and educational manner.

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[3] Ontario Ministry of Education. "Environmental Education: Energy Conservation in Ontario's Schools." 16 April 2010. www.edu.gov.on.ca/eng/policyfunding/greenSchools.html. Accessed.June 2011.
[4] Supra note 1.
[5] Ottawa Carleton District School Board. "Renewable Energy Funding For OCDSB Schools." . Press release. 8 September 2010. www.ocdsb.ca/med/nr/Pages/sep82010.aspx. Accessed June 2011.
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[8] Drummond C. Telephone interview. 16 May 2011.
[9] Ibid.
[10] Supra note 5.