



Brighten US up

A Project to Bring Solar Energy to Campus

Alana Closs

Dakota Borys

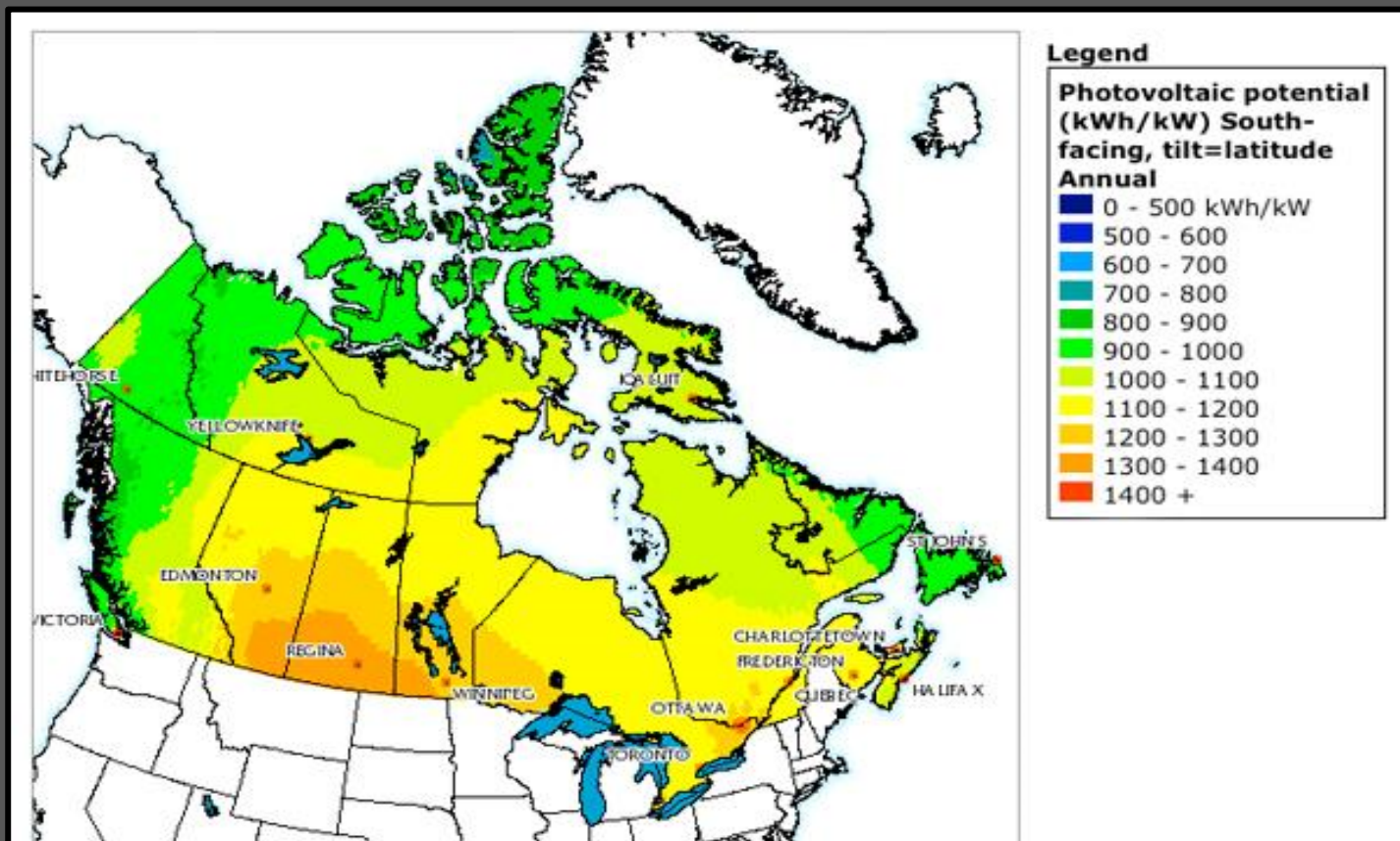
Chelsea Hebert

Presentation Outline

- Saskatchewan's Solar Potential
- Coal vs. Solar
- Our Educational Drivers
- Past Solar Project on Campus
- Economics
- Option One
- Option Two
- Option Three
- Educational Benefits
- Community Involvement and Leadership
 - LEED (Leadership in Energy and Environmental Design)
 - STARS
- Conclusion

Why Saskatchewan?

- Saskatchewan receives the most amount of sunlight than any other province or territory in Canada



Average number of days annually with some bright sunshine.

| City | Days |
|----------------------------|------|
| Calgary, Alberta | 333 |
| Edmonton, Alberta | 325 |
| Regina, Saskatchewan | 322 |
| Saskatoon, Saskatchewan | 319 |
| Winnipeg, Manitoba | 316 |
| Victoria, British Columbia | 308 |
| Montréal, Quebec | 305 |
| Toronto, Ontario | 305 |
| Thunder Bay, Ontario | 305 |
| Kelowna, British Columbia | 304 |

Average number of hours of bright sunshine a year in major Canadian cities.

| City | Hours |
|----------------------------|-------|
| Calgary, Alberta | 2396 |
| Winnipeg, Manitoba | 2353 |
| Edmonton, Alberta | 2345 |
| Regina, Saskatchewan | 2318 |
| Saskatoon, Saskatchewan | 2268 |
| Thunder Bay, Ontario | 2121 |
| Hamilton, Ontario | 2111 |
| Victoria, British Columbia | 2109 |
| Ottawa, Ontario | 2084 |
| Toronto, Ontario | 2066 |

Percentage of daylight hours that are sunny

| City | % sunshine |
|-------------------------|------------|
| Calgary, Alberta | 52 |
| Winnipeg, Manitoba | 51 |
| Edmonton, Alberta | 50 |
| Regina, Saskatchewan | 50 |
| Saskatoon, Saskatchewan | 49 |
| Thunder Bay, Ontario | 46 |
| Hamilton, Ontario | 45 |
| Ottawa, Ontario | 45 |
| Toronto, Ontario | 44 |
| Montréal, Quebec | 44 |

Coal vs Solar



Saskatchewan produces 74 million tons of greenhouse gas emissions annually; 3 times more than the Canadian average and 10 times more than the annual world average





U of S Classes that Teach us to

SAY NO TO COAL

- GEOG 125 - Environmental Science in Society
- BIO 312 - Life in the North
- SLSC 322 - Environmental Soil Chemistry
- GEOG 351 - Northern Environments
- GEOG 280 - Environmental Geography
- GEOG 385 - Analysis of Environmental Management and Policy Making
- GEOG 386 - Environmental Impact Assessment
- GEOG 381 - Development in the Canadian North Issues and Challenges
- GEOG 240 - Sustainable Cities and Regions
- ENSC 401 - Sustainability in Action

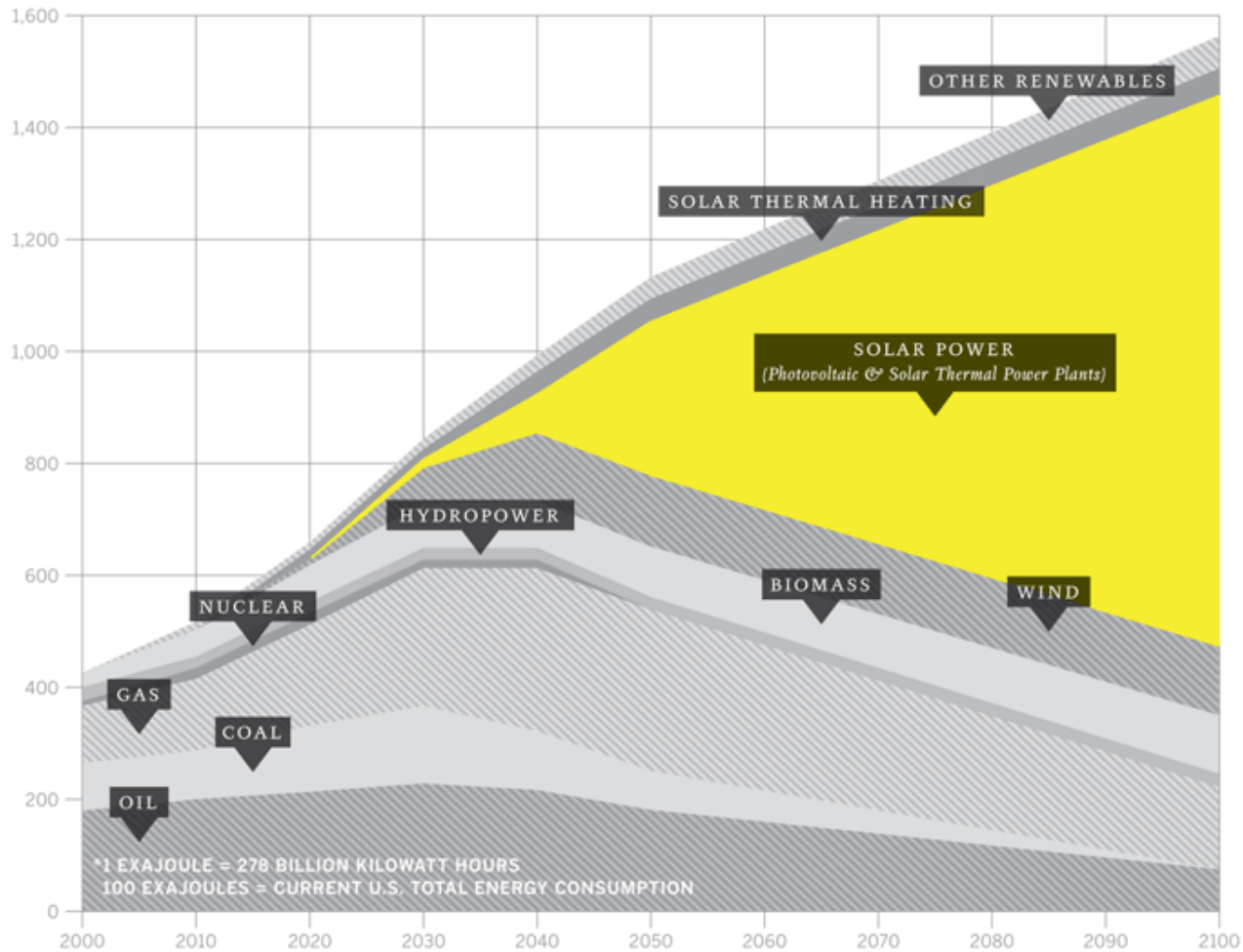


Past Solar Projects

- Power of the Sun
 - 24-kilowatt solar panel system at the Horticulture Science Field Facility
 - supply about 70 % Horticulture Facility's yearly power needs
 - about the same as it takes to power 3.7 homes
- Aspen Hall Residence
 - solar thermal collectors on roof
 - used for domestic hot water and heating each unit

The Graph

Projected share by source of annual global energy production, in exajoules* per year



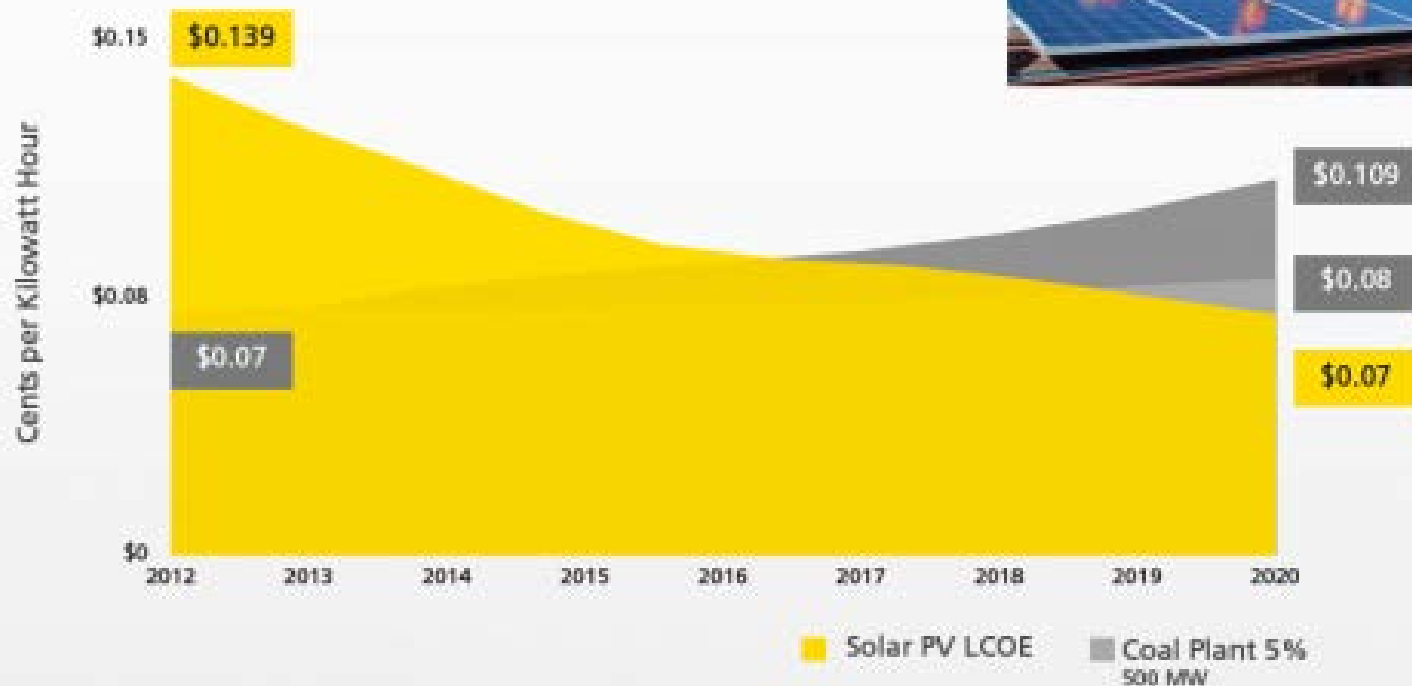
Created by: The German Advisory Council of Global Change

“Solar energy is as plentiful as daylight, as limitless as organic life itself, a fuel that comes free of charge and replenishes itself every time the earth rotates on its axis”

(Turner, 2015)

Economics: Thinking Ahead

New Coal Can't Deliver Power for 6-8 Years,
When Solar Will Be Competitive



Coal is predicted to increase in price; solar is predicted to decrease in price. Educational benefits and community leadership should offset immediate costs of solar.

Option One - Saskatoon Solar Co-op

Benefits of option one:

- Installation and maintenance of panels is taken care of
- Receive rate of ~10.2 cent instead of 6.3 cents
- Support a renewable energy community project
- Increase LEED and STARS ratings of a single building



Student Support

Event: EcoBash

For What: Fundraiser for the Saskatoon Solar Power Cooperative

Presented By: ESSA - A University of Saskatchewan student association

19+
essa presents
E CO BASH
AT CAPITOL

FEATURING:
• **REVENGE OF THE TREES** •
GEOFF SMITH • DJ WEATHERBOY • CAILA OF SILENT SEA

TICKETS \$15 | \$20 AT DOOR | DOORS OPEN @8PM
KIRK 212 | CAPITOL | THE BETTER GOOD

MARCH 28, 2015

fundraiser for saskatoon
SOLARPOWER COOPERATIVE
SASKATCHEWAN ENVIRONMENTAL SOCIETY

ESSA.CLUB@USASK.CA - FACEBOOK: ESSA U OF S

The poster features a background image of a forest with a grid overlay. At the bottom, there are five logos: Arts & Science Students Union, USSU (University of Saskatchewan Students' Union), Greenpeace, The Better Good, and ESSA (Environmental Students' Society of the University of Saskatchewan).



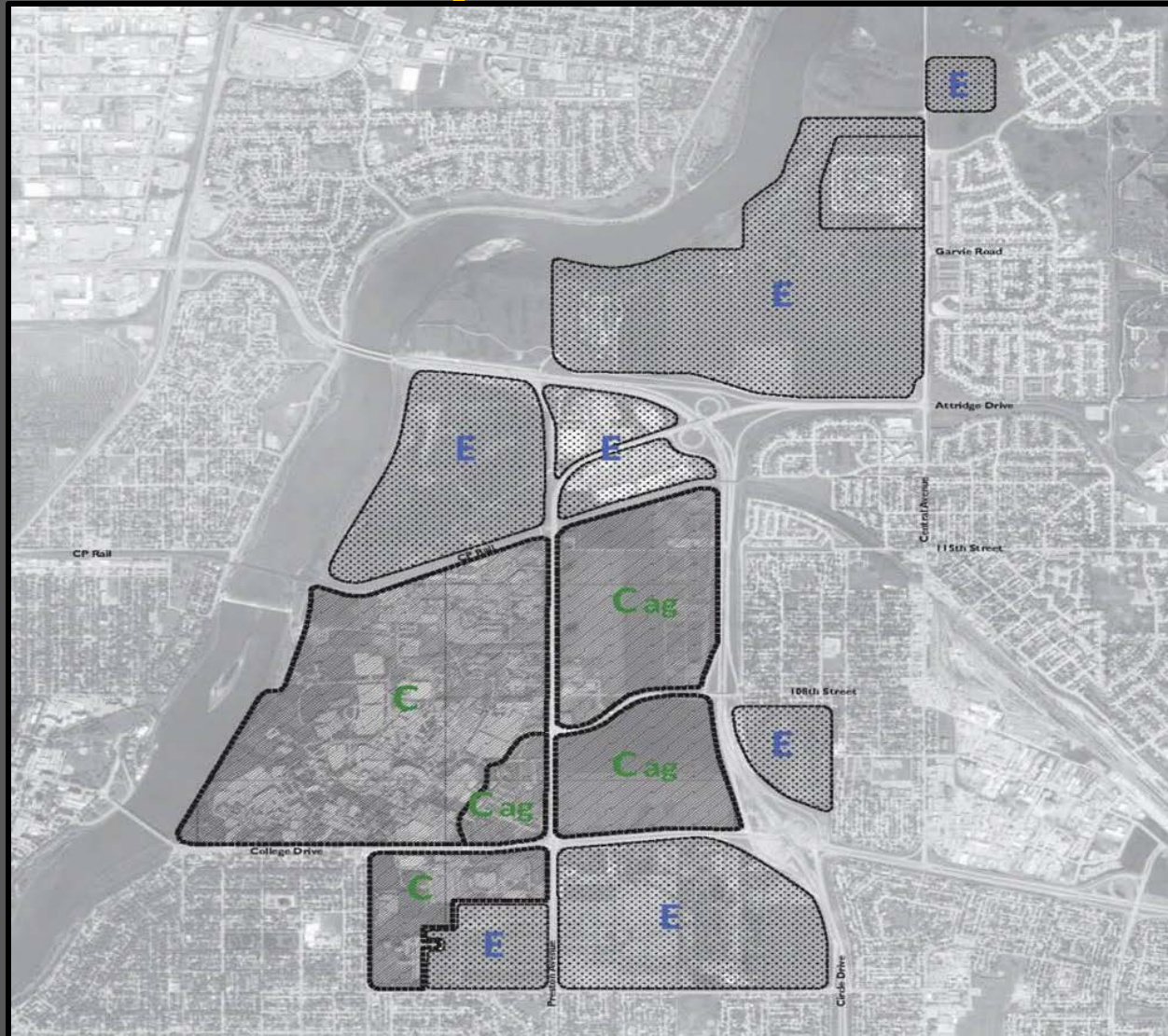
Option Two - Buildings/land not on Campus

- Put solar panels on University buildings and or land off of campus that pay 10.2 cents/kWh
- The solar panels will pay for them selves quicker
- The University will be supporting renewable energy
- Will provide educational benefits

The Williams Building



The University's Endowment Land





The University's Research Farm



The School of Architecture



Option Three - Panels on Campus



Red River College - Solar Troughs



“The training for students at both of our campuses will be enhanced by exposure to solar technology, electrical generation systems, interactive project design” *(Pontanilla, 2015)*



Educational Benefits

- Interdisciplinary classes introduced
 - mechanical and electrical engineering classes
 - environmental & renewable classes
 - installation and maintenance
- Hands on education
- Leadership for other universities and our province

Community Involvement and Leadership

- Improve LEED ratings
- Improve STARS rating
- Leader for other businesses and campuses
- Supporting community groups and projects
- Builds public relations
- Good for publicity
- Could encourage students to attend the U of S



Canada Green Building Council
Every Building Greener

Conclusion: We Need You to Lead US

The StarPhoenix

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BY EMMA GRANEY, LEADER-POST MARCH 15, 2015

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Solar co-op powers up big response

BY SCOTT LARSON, THE STARPHOENIX DECEMBER 16, 2014

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The first solar power cooperative in the province is a giant step closer to becoming a reality after the Saskatchewan Environmental Society (SES) Solar Power Co-operative won the Affinity Credit Union's inaugural...



DESMOG CANADA

CLEARING THE PR POLLUTION THAT CLOUDS THE PUBLIC SQUARE

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Sat, 2014-04-19 09:55

DEREK LEAHY

Ontario's Electricity Is Officially Coal Free



Last Tuesday the government of Ontario announced the Thunder Bay Generating Station – Ontario's last coal-fired power plant – had burnt off its last supply of coal. The electricity of Canada's most populous province is officially coal free.

"Today we celebrate a cleaner future for our children and grandchildren while embracing the

TRAVEL DESTINATIONS

- British Columbia
- Costa Rica
- Cuba

STORY TOOLS

- E-mail this Article
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Questions?

