

**STATE OF MINNESOTA
PUBLIC UTILITIES COMMISSION**

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Nancy Lange	Commissioner
Dan Lipschultz	Commissioner
Betsy Wergin	Commissioner

October 1, 2014

**In the Matter of the Petition of Northern States
Power Company, dba Xcel Energy, for Approval of
its Proposed Community Solar Garden Program**

Docket No. E002/M-13-867

**COMMENTS IN RESPONSE TO THE COMMISSION'S SEPTEMBER 8, 2014 NOTICE BY
FRESH ENERGY, ENVIRONMENTAL LAW & POLICY CENTER,
INSTITUTE FOR LOCAL SELF-RELIANCE, AND
IZAAK WALTON LEAGUE OF AMERICA**

Fresh Energy, Environmental Law and Policy Center, Institute for Local Self-Reliance, and Izaak Walton League of America (“Solar Interveners”) respectfully submit these Comments in response to the Commission’s September 8, 2014 notice in this docket.

In our June 19, 2014 Comments, Solar Interveners respectfully requested that the Commission “provide further guidance to stakeholders regarding the process and timeline for final review and approval of Xcel’s corrected CSG VOS rate (along with any necessary program incentives).”¹

On September 17, 2014, the Commission issued an Order in this docket, which stated that “one way to bring the value-of-solar [VOS] rate up to a financeable level would be to employ an incentive or adder. However, . . . [t]he Commission is not convinced that an appropriate incentive can be determined on the current record.”² The Commission also stated that “Developing the record on what constitutes an appropriate incentive will take time.”³

The Commission then set forth two steps in a process for developing an adequate record as to the appropriate adder. First, the Commission “direct[ed] the parties to engage in further discussions” regarding the appropriate adder, and file comments on the topic by October 1, 2014.⁴ Second, the Commission stated that it “will set a March 1 deadline for Xcel to file annual value-of-solar inflation updates and updated rate calculations[.]”⁵

Solar Interveners thus submit these initial comments in response to the Commission’s request for comments by October 1, 2014.

¹ June 19, 2014 Solar Intervener comments at 5.

² Sept. 17, 2014 Order Approving Solar-Garden Plan With Modifications, at 9.

³ *Id.* at 9.

⁴ *Id.* at 19.

⁵ *Id.* at 10. (The Commission stated that “[t]his requirement will allow stakeholders to continue to compare the [VOS] rate with the applicable retail rate” and “ensure that an up-to-date [VOS] calculation is available at such time as the Commission may order Xcel to adopt a [VOS] rate for solar gardens.”)

COMMENTS

On September 8, 2014, the Public Utilities Commission issued a notice of comment period, asking stakeholders to submit information on an “appropriate adder to apply to a proposed value-of-solar rate to ensure compliance with statute.”

After engaging in discussions with the relevant parties, as directed by the September 17 Commission Order, we conclude that:

- A rate below what is necessary to finance projects in a broadly accessible program (VOS or otherwise) is inconsistent with the Community Solar Garden statute, and therefore requires an appropriate adder to meet the program’s statutory requirements, which we discuss below.
- If a VOS adder is approved by the Commission, it may be advisable to develop a multi-year schedule for the adder (to enable and support business planning and market growth) that takes into account expected changes in project costs and tax incentives; and
- the Commission may wish to request additional, specific categories of relevant information from stakeholders (e.g., based on initial comments to this notice) to inform and build a record supporting a determination of a rate, or rates, necessary to comply with the statute, which would then inform any necessary adder.

Thus, rather than suggest an appropriate adder magnitude or design, we use these initial comments to set forth our understanding regarding:

- 1) the statutory requirements; and
- 2) the types of information potentially relevant to the determination of an appropriate adder, including but not necessarily limited to:
 - a. the actual total cost of Solar*Rewards Community projects of various types and sizes;
 - b. potentially relevant cost proxy data; and
 - c. the expectations and preferences of potential subscribers.

1) Statutory requirements

As the Commission has noted, the solar-garden statute “mandates that any plan approved by the Commission reasonably allow for the creation, financing, and accessibility of solar gardens.”⁶ The Commission has also established that the Xcel Energy’s current estimated value-of-solar (“VOS”) rate for the purposes of community solar gardens is “significantly below the level needed to support the financing and development of solar gardens as required by the applicable statute.”⁷

The statute and the record in this docket therefore establishes that the Commission has both the authority and obligation to order a rate adder for the Xcel’s Solar*Rewards Community (S*RC) subscriber rate (e.g., with cost recovery through the fuel clause).⁸ It has already been established that an adder would be needed for Xcel Energy’s estimated 2014 VOS rate. However, the VOS is recalculated each year; if a future VOS recalculation results in a financeable rate for community solar gardens, an adder may not be appropriate for projects interconnected in that year.

⁶ April 7, 2014 Commission Order at 15 (citing Minn. Stat. § 216B.1641(e)(1)).

⁷ Sept. 17, 2014 Order Approving Solar-Garden Plan With Modifications, at 9.

⁸ See June 16, 2014 Fresh Energy Comments at 1 (regarding approval of program incentives and cost recovery through the fuel clause adjustment factor).

The community solar statute does not, however, define the terms “creation”, “financing”, or “accessibility”, but the statutory language and legislative history support the following meanings.

a. Creation

A program that “reasonably allows for the creation” of community solar gardens would, at a minimum, allow for the development and subscription of a wide diversity of rooftop and ground-mounted S*RC project locations – despite potentially different project cost structures. This may necessitate a differentiated VOS adder that varies depending on project size.

As described in section 2.c. below (and related Appendices), a survey developed by Dr. Steve Hoffman and Dr. Angela High-Pippert reveals that potential residential subscribers may have a preference for participating in CSGs that are located within their neighborhood or community, or that are located on particular type of site (e.g., church or school roofs). Thus, a S*RC subscriber rate that doesn’t allow for (say) the practical creation of mid-size rooftop CSG projects may exclude an significant market segment.

b. Financing

A program that “reasonably allows for the . . . financing” of community solar gardens would, at a minimum, allow for both short-term project financing (e.g., lender provides project capital to developer) and longer-term subscriber financing (e.g., lender-developer agreements that enable developers to offer bundled financing offers to subscribers). For this reason, it is important that a subscriber rate be high enough to cover expected short- and long-term financing costs (in addition to site-acquisition costs, developer costs, subscription management costs, etc.).

c. Accessibility

A program that “reasonably allows for the . . . accessibility” of community solar gardens would, at a minimum, include rules and subscriber rates that enable widespread participation by (credit-worthy) residential and low-income subscribers – in addition to participation by larger commercial or institutional subscribers. This may necessitate a differentiated VOS adder that varies by customer class in order to ensure accessibility for all customer classes. (More specifically, ensuring accessibility to residential customers may require an additional premium, compared to larger customers, in order to cover the relatively higher per-subscriber acquisition costs.)

In general, if the S*RC program allows for creation of a wide diversity of projects, and long-term subscriber financing for credit-worthy residential and low-income subscribers (as described immediately above), the program would also meet the statutory accessibility requirement.

2) The types of information potentially relevant to the determination of an appropriate adder

As stated above, the need for (and magnitude of) an adder is likely to depend on at least three type of information, discussed below.

a. The actual installed costs of S*RC projects of various types and sizes

For a project to be economically viable, subscribers’ bill credits (paid out over 25 years) must, at the very least, exceed the developer's cost of installing and operating the project. The actual installed cost of S*RC projects is thus an important consideration in determining a rate that complies with the statute and any necessary VOS adder.

Under a provision in the 2014 energy omnibus bill, Minnesota electric utilities are obligated to request installed-cost data from distributed solar projects' new interconnection requests as of July 2014.⁹ The data includes: facility nameplate capacity, total system cost (before any incentives), and the system location by zip code. The information will then be available from the utility and should track project costs for community solar gardens as a project class (including break-downs by, e.g., county, zip code).

We recommend that the Commission request this cost data from the utility as it becomes available to inform its decision-making on this issue.. Assuming that there are enough S*RC projects submitted to justify taking an initial 3-month data sample, the Commission could have actual cost data by the middle of 2015.

Once actual S*RC project cost data does becomes available, we may find that S*RC costs vary significantly depending on the project size, type and location. (An urban rooftop garden is likely to cost more, on a per-kilowatt-hour basis, than a rural ground-mounted project.) S*RC costs may also vary over time (e.g., if the Federal Investment Tax Credit expires as scheduled in late 2016, project costs would presumably increase).

Finally, S*RC costs may also vary across developers. In order to achieve a robust market (*i.e.*, many players competing on price, and on other relevant dimensions), it will be important to not exclude developers because they are perceived to be a "high cost" provider. Under market-savvy regulation, that weeding out will be performed collectively by market participants. In other words, if the Commission enables a robust market with many providers, one would not expect a "high cost" provider to obtain much market share.¹⁰

b. Potentially relevant cost proxy data

In addition to actual cost data for S*RC projects, the Commission may also consider other categories of information, e.g., "proxy" cost data or developer cost estimates.

One potential cost proxy may be community solar projects already developed outside of Xcel's S*RC program. For example, at least five Minnesota-based cooperative utilities have announced subscriber pricing for a utility-sponsored community solar offering:

- Wright-Hennepin Cooperative Utility;
- Tri-County Electric;
- Lake Region Coop;
- Connexus Energy; and
- Kandiyohi Power Cooperative.

See Appendix I for the publicly announced subscriber cost (and other relevant) data for these CSG projects. The range of subscriber costs for these five projects runs from \$3.07 to \$4.74 per watt (DC), with the largest system being 245 kW in size.

⁹ Minn. Stat. § 216B.1611 subd. 3a. This legal requirement is intended to enable increased market competition and price transparency, and to inform future legislative and regulatory rule making.

¹⁰ A "high cost" provider could gain market share by providing other project characteristics (e.g., location, community affiliation, Minnesota products, access to low-income participants) that are valuable to subscribers.

This is not to necessarily suggest that there is a close proxy between cooperative costs and S*RC project costs. Like all potential cost proxies, it is possible to articulate a number of potential cost differences. For example, the above-described cooperative projects are relatively modest in size, which may lead to relatively higher costs. One project incorporated battery storage (to improve the overall project economics), which would also raise the cost.

On the other hand, cooperative utilities may have access to relatively lower cost labor, interconnection, insurance, subscriber marketing, and land (e.g., utility-owned or controlled land near distribution infrastructure).¹¹ In addition, Xcel's S*RC program includes a number of program-specific fees and cost components (e.g., opinion-letter requirement).

Thus, while cooperative community solar cost data may be useful as a proxy, these costs are likely not directly comparable to the cost of an S*RC project.

c. Expectations and preferences of potential CSG subscribers

The question of whether Xcel's S*RC rules and rates "reasonably allow for the creation, financing, and accessibility" of community solar gardens depends, in part, on obtaining sufficient subscriber interest, which depends, in turn, on the extent to which the program is successful in meeting subscriber expectations and satisfying subscriber preferences.

We do not know of an extensive, scientifically rigorous survey of Xcel Energy's Minnesota customers on these topics. But Dr. Steve Hoffman, Chair of the Political Science Department, and Dr. Angela High-Pippert, Associate Professor, Department of Political Science, University of St. Thomas, (see Appendix IV for expert credentials), have conducted a two small surveys of Xcel's residential customers.

One of these surveys asked residential respondents to provide information including, but not limited to, their:

- perceived importance of economic factors in making a purchase decision;
- preferences regarding potential CSGs locations and proximity to subscriber;
- willingness to pay for CSG subscriptions with various location and/or subscriber characteristics;
- likely number of CSG subscription offers respondents would like to review before making a purchase decision; and
- expectations regarding subscriber economics (under both pay up-front and pay-as-you-go models).

See Appendix II for the survey questions and raw response counts, and Appendix III for a description of the methodology used in the administration of the survey.

As of September 30, 2014 thirty-six individuals have responded to the survey, the results from which are reported in Appendix II. Professors Hoffman and High-Pippert are working with additional community partners in the administration of the survey in order to increase the number of survey respondents.

¹¹ According Minnesota Public Radio News, at the end of 2013, "[Minnesota] farm land sold for an average of about \$4,800 an acre." MPR News, *Potential fall of farmland prices sparks fears of a bust*, August 25, 2014 (citing the Federal Reserve Bank of Minneapolis). Last accessed September 30, 2014 at <http://www.mprnews.org/story/2014/08/25/farmland-prices>.

Professors Hoffman and High-Pippert do not claim that the initial results from this survey are representative of all residential customers in Xcel's Minnesota service territory. Rather, as explained in their methodology statement (Appendix III), "it is likely . . . that all of the respondents would be 'early adopters', having already either expressed interest in the technology or having an orientation that would likely favorably predispose them towards adoption[.]"

Based on the raw survey data (see Appendix II), it appears that many respondents view "potential economic benefit" to themselves as a likely key factor in their decision to participate as a subscriber (Question 4), and would be unlikely or "very unlikely" to subscribe to a project that has a payback period in excess of twenty years (Question 7). Many respondents also expressed a preference to consider two or more community solar offers before making a purchase decision (Question 11).

Professors Hoffman and High-Pippert are working on a more substantial and complete analysis of survey responses, which they expect will be available for inclusion in a future Commission filing.

Conclusion

The community solar statutory language clearly identifies the "creation," the "financeability," and the "accessibility" of community solar gardens as the criteria by which to evaluate Xcel Energy's community solar garden program. If the proposed VOS rate for the purposes of community solar garden rate is too low, an adder is appropriate to comply with the statute.

Development of a potential adder to a VOS rate for the purposes of community solar gardens has many facets, including establishing the financeable rate, or rates baseline from which to start, and considering project and customer characteristics that influence what constitutes a financeable rate. In these comments, we have attempted to provide further details as to what characteristics the Commission may wish to consider in designing an adder, and what information may be helpful to determine an effective community solar program adder. We look forward to working with stakeholders and the Commission in determining a successful path forward for the Xcel Energy Solar*Rewards Community program.

Very truly yours,

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Appendix I

Cooperative community solar project costs

This table presents publicly announced subscriber cost data for Minnesota community solar gardens outside of Xcel Energy’s Solar*Rewards Community program:

<u>Owner</u>	<u>Project location</u>	<u>Project size [DC]</u>	<u>Subscription term</u>	<u>Reported subscriber cost</u>	<u>Subscriber cost in \$/watt</u>
Wright-Hennepin Cooperative Utility [1]	Rockford, MN	40 kW	20 years	\$900 per 190-watt panel ¹²	\$4.74
Lake Region Coop [2]	Pelican Rapids, MN	40 kW	20 years	\$750 per 205-watt panel	\$3.66
Connexus Energy [3]	Ramsey, MN	245 kW	20 years	\$950 per 309-watt panel	\$3.07
Tri-County Electric [4]	Rushford, MN	73 kW	20 years	\$1,400 per 410-watt panel	\$3.41
Kandiyohi Power Cooperative [5]	Spicer, MN	42 kW	25 years	\$1250 per 300-watt panel	\$4.17

Sources:

- [1] <http://www.whe.org/assets/documents/whe-cec-educational-presentation-slides-july-2012.pdf>
- [2] <http://www.lrec.coop/solar/solar-panel-facts/>
- [3] <https://www.connexusenergy.com/residential/programs-rates/solarwise/solarwise-faqs/>
- [4] <http://www.tec.coop/programs/renewable-rays.php>
- [5] <http://www.kpcoop.com/communitysolar> and associated FAQ page.

¹² Project cost includes integrated battery storage.

Appendix II

Preferences and Expectations Survey questions and results

36 respondents as of September 30, 2014

Respondent data compiled by Ross Abbey, Fresh Energy

FOR PROJECTS LOCATED IN YOUR COMMUNITY [OR NEIGHBORHOOD]:

Q1. How important are the following features when it comes to influencing your decision to participate in a community solar project?

	Very important <u>1</u>	<u>2</u>	<u>3</u>	Not at all important <u>4</u>	Not applicable <u>n/a</u>
Project site (e.g., commercial building, school, etc.)	9	10	4	13	0
Whether or not project site is owned and/or operated by a group to which you belong	3	11	9	13	0
Size of project site	6	12	7	11	0
Distance of project site from your residence	4	9	8	15	0
Visibility of project from street	4	6	14	12	0
Whether a project is located in your neighborhood	3	10	9	14	0
Personal economic benefit	11	11	12	2	0

Q2. What is your preferred location for a community solar project *IN* your community [or neighborhood]?

	Strongly Prefer <u>1</u>	<u>2</u>	<u>3</u>	Makes no difference <u>4</u>	Not applicable <u>n/a</u>
A small commercial roof (e.g., a local hardware store)	11	7	5	12	0
A church/faith community roof	17	5	4	10	0
A school roof	23	3	1	9	0
A large commercial roof (e.g., a Walmart-type store)	12	7	5	9	2
An empty city lot	3	5	12	13	0
A farm field	1	8	9	14	3
A brownfield site (e.g., capped landfill)	12	9	2	9	2

Q3. Would you be willing to pay MORE for a project located *IN* your community [or neighborhood] that had the following design features?

	Would pay a great deal more <u>1</u>	Would pay more <u>2</u>	Would pay a little more <u>3</u>	Would not pay any more <u>4</u>	Not applicable n/a
Guaranteed access for low-income households	6	14	8	7	1
Panels located on a <i>church/faith community roof</i>	3	8	12	11	1
Panels located on a <i>school roof</i>	3	15	8	8	1
Panels located on the roof of a <i>small commercial building</i>	2	5	9	17	1
Panels located on the roof of a <i>large commercial building</i>	1	3	9	21	1
Panels located on an <i>empty city lot</i>	0	5	10	17	1
Panels located on a <i>farm field</i>	0	3	7	21	3
Panels located on a <i>brownfield site</i>	1	9	10	11	2

FOR PROJECTS LOCATED OUTSIDE OF YOUR COMMUNITY [OR NEIGHBORHOOD]:

Q4. How important are the following features when it comes to influencing your decision to participate in a community solar project?

	Very important <u>1</u>	<u>2</u>	<u>3</u>	Not at all important <u>4</u>	Not Applicable n/a
Project site (e.g., commercial building, school, etc.)	10	5	4	16	0
Whether or not project site is owned and/or operated by a group to which you belong	2	8	9	16	0
Size of project site	6	10	4	15	0
Distance of project site from your residence	2	7	7	18	0
Visibility of project from street	4	5	7	19	0
Whether project is located in your neighborhood	2	7	8	15	2
Personal economic benefit	9	8	13	4	0

Q5. What is your preferred location for a community solar project *OUTSIDE* of your community [or neighborhood]?

	Strongly Prefer <u>1</u>	<u>2</u>	<u>3</u>	Makes no difference <u>4</u>	Not applicable <u>n/a</u>
A small commercial roof (e.g., a local hardware store)	8	5	4	16	1
A church/faith community roof	9	7	6	12	0
A school roof	14	9	1	10	0
A large commercial roof (e.g., a Walmart-type store)	8	6	6	13	1
An empty city lot	2	8	6	16	0
A farm field	0	6	6	21	1
A brownfield site (e.g., capped landfill)	9	8	5	12	0

Q6. Would you be willing to pay MORE for a project located *OUTSIDE* of your community [or neighborhood] that had the following design features?

	Would pay a great deal more <u>1</u>	Would pay more <u>2</u>	Would pay a little more <u>3</u>	Would not pay any more <u>4</u>	Not applicable <u>n/a</u>
Guaranteed access for low-income households	6	12	8	8	1
Panels located on a <i>church/faith community roof</i>	2	7	9	14	1
Panels located on a <i>school roof</i>	2	15	8	8	1
Panels located on the roof of a <i>small commercial building</i>	1	5	10	17	1
Panels located on the roof of a <i>large commercial building</i>	1	5	6	20	1
Panels located on an <i>empty city lot</i>	0	4	8	19	1
Panels located on a <i>farm field</i>	0	3	8	21	1
Panels located on a <i>brownfield site</i>	2	9	8	14	1

PROJECT ECONOMICS

Q7. In general, if you were to choose a *lump-sum* or *up-front payment* method, what sort of “payback period” would you require to be interested in participating?

	Very LIKELY to be interested <u>1</u>	<u>2</u>	<u>3</u>	Very UNLIKELY to be interested <u>4</u>
6 – 10 years	30	4	1	1
11 – 15 years	17	15	1	2
16 – 20 years	7	11	9	7
21 – 25 years	2	9	9	15
26 – 30 years	1	4	13	17

Q8. How would the following factors influence your thinking about your required payback period?

	Very important <u>1</u>	<u>2</u>	<u>3</u>	Not at all important <u>4</u>
Current size of your monthly electricity bill	8	9	10	6
Size of initial investment	26	4	2	3
Monthly value of bill credit	10	15	4	5
Environmental benefit of project	30	5	0	0

Q9. If you were to choose a *pay-as-you-go* subscription (or a monthly payment with no long-term obligation) what sort of monthly PERCENT change in your bill (*i.e.*, net cost or savings) would you require to be interested in participating?

	Very LIKELY to be interested <u>1</u>	<u>2</u>	<u>3</u>	Very UNLIKELY to be interested <u>4</u>
Change in current bill:				
5 – 8 % increase	12	3	12	7
1 – 4 % increase	18	8	7	2
no change	25	6	2	2
1 - 4 % decrease	27	7	0	0
5 - 8 % decrease	31	3	0	1

Q10. How would the following factors influence your thinking about the required increase or decrease in your monthly bill?

	Very important <u>1</u>	<u>2</u>	<u>3</u>	Not at all important <u>4</u>
Current size of your monthly electricity bill	7	12	7	7
Size of initial investment	23	5	4	2
Monthly value of bill credit	10	15	3	6
Environmental benefit of project	28	7	0	0

Q11. How many community solar offers would you likely need to consider before making a purchase decision?

1 offer	7
2 - 4 offers	17
more than 4 offers	0

Appendix III

Survey Methodology

by Dr. Steve Hoffman,
Chair of the Political Science Department,
University of St. Thomas

In order to better understand the foundations for successfully recruiting participants in a community solar project, two surveys of prospective subscribers were undertaken in partnership with a number of Minnesota-based private and non-profit organizations.

The first survey ("**factors and entities survey**") addressed the relative importance of various potential barriers to going solar, factors affecting an individual's decision to participate in a community solar project; and the trustworthiness of information offered by various sources. A number of community partners participated in the survey, including Fresh Energy. Four hundred and eighty-nine individuals completed the survey. Individual reports have been prepared for each of the partner organizations, with a final and more comprehensive analysis being expected early in 2015.

Following the completion of the first survey, a second survey ("**preferences and expectations survey**") was designed that addresses in greater detail preferences for a community energy project and the willingness to pay for these projects.¹³ Two instruments were developed, one which refers to projects located in the respondent's "community" and one which refers to projects located in the respondent's "neighborhood." While future analysis will assess whether or not the distinction is relevant in shaping attitudes and preferences, the attached tables combine the responses from the two instruments.

To date, thirty six Fresh Energy members have completed the survey.¹⁴ Fresh Energy distributed the survey through their standard member-communication email channel. A follow-up request was made one week after the initial request. The surveys are housed on SurveyMonkey and all responses were completed electronically.

The individuals who participated in both of the surveys display a broad mix of demographic and locational characteristics. However, it is also likely that all of the respondents would be 'early adopters', having already either expressed interest in the technology or having an orientation that would likely favorably predispose them towards adoption, *i.e.*, an 'environmental' or 'green energy' sensibility. Caution should therefore be exercised in interpreting the results as they pertain to the general population.

The researchers are also working with a number of partners in Colorado on a survey that combines various aspects of both Minnesota surveys. These results are expected to be available sometime in early 2015.

¹³ See Appendix II (above) for list of questions included in the preferences and expectations survey.

¹⁴ See Appendix II (above).

Appendix IV

Curriculum vita for survey researchers

- 1) Dr. Steve Hoffman, Chair of the Political Science Department, University of St. Thomas
- 2) Dr. Angela High-Pippert, Associate Professor, Dept. of Political Science, University of St. Thomas

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University of Missouri at St. Louis, 1976, Bachelor of Science in Education/Political Science.

PROFESSIONAL EMPLOYMENT

University of St. Thomas. Department of Political Science. University of St. Thomas. St. Paul, MN. 1987 to present; Department Chair, 2005 to present; Professor, 1998 to present; Director, Environmental Studies Program, 1992 to 2004.

Visiting Professor. Victoria University of Wellington, New Zealand. Political Science Programme. 2005.

PUBLICATIONS

Books and Journals

The Global Challenge of Encouraging Sustainable Living. 2014. With Shane Fudge, Michael Peters, and Walter Wehrmeyer, editors. Edward Elger, Ltd. London, UK.

Power Struggle: Hydro Development and First Nations in Manitoba and Quebec. 2008. With Thibault Martin, editors. Winnipeg, MB: University of Manitoba Press.

Perspectives on Minnesota Government and Politics. 1998, 2003, 2007. With Angela High-Pippert and Kay Wolsborn, editors. 4th, 5th, 6th editions. Edina, MN: Pearson Custom Publishing Company.

Chapters, Articles and Book Reviews

- “Resisting the Inevitable: Tar Sands, Regionalism and Rhetoric.” Under review. With Paul Lorah and Joseph Janochoski. *European Journal of American Studies*. Special issue on Regionalism and North America. Florian Freitag and Kirsten Anika Sandrock, editors.
- “To Each a Piece of the Sun: Behavior Change, Urban Environments and Community Solar Initiatives.” Forthcoming. With Michael Peters, Angela High-Pippert, Shane Fudge, and Peter Sinclair. In *Low Carbon Communities*. Shobhakar Dhakal, editor. London, UK: Future Science Group.
- “A Legacy of Dependence: Minnesota, Alberta and the Coming Tar Sands Future.” Forthcoming. In George Vrtis and Chris Wells, eds. *Minnesota’s Environmental History*. University of Pittsburgh Press.
- “If the Rivers Ran South: Tar Sands and the State of the Canadian Nation.” Forthcoming. In John McNeill and George Vrtis, editors. *Mining North America*. University of California—Berkeley Press.
- “Institutional and Community-based Initiatives in Energy Planning.” 2014. With Angela High-Pippert. In *The Global Challenge of Encouraging Sustainable Living*. With Shane Fudge, Michael Peters, and Walter Wehrmeyer, editors. Edward Elger, Ltd. London, UK. Pp. 236–255.
- “The Persistent Challenge of Encouraging Public Participation in the Low Carbon Transition.” 2013. With Michael Peters and Shane Fudge. *Carbon Management*. Volume 4, Number 4: 373-375.
- “Public Values and Community Energy: Lessons from the US and UK.” 2013. With Michael Peters, Lissa Pawlisch, Angela High-Pippert, Shane Fudge and Joel Haskard. *Sustainability, Special Issue in Energy Policy and Sustainability*. Volume 5: 1747-1763.
- “Carbon Management, Local Governance and Community Engagement.” 2012. With Michael Peters, Shane Fudge and Angela High-Pippert. *Carbon Management*. Volume 3. No. 4: 357-368.
- “Enduring Dreams: Social Capital and Hydro Development in Northern Manitoba.” 2012. With Thibault Martin. *International Journal of Critical Indigenous Studies*. Volume 5, Number 1: 31-53.
- “Energy: Fossil Fuels.” 2011. In Paul J. Quirk and William Cunion, editors. *Governing America: Major Decisions of Federal, State, and Local Governments from 1789 to the Present*. New York, NY: Facts on File. Pp. 132-144.
- “From Private Lives to Collective Action: Recruitment and Participation Incentives for a Community Energy Program.” 2010. With Angela High-Pippert. *Energy Policy, Special Section: Carbon Reduction at a Community Scale*. Yacob Mulugetta, Tim Jackson, and Dan van der Horst, eds. Volume 38, Issue 12. Pp. 7567-74.
- “Going Nuclear: Ireland, Britain and the Campaign to Close Sellafield.” By Veronica McDermott. 2008. Reviewed for *New Hibernia Press*. Pp. 155-8.
- “Engineering Poverty: Colonialism and Hydroelectric Development in Northern Manitoba.” 2008. In Thibault Martin and Steven M. Hoffman, eds. *Power Struggle: Hydro Development and First Nations in Manitoba and Quebec*. Winnipeg, MB: University of Manitoba Press. Pp. 103-28.

- “In Service to Globalization: Manitoba Hydro, Aboriginal Communities, and the Integration of Electrical Markets.” 2008. With Kenneth Bradley. In Thibault Martin and Steven M. Hoffman, eds. *Power Struggle: Hydro Development and First Nations in Manitoba and Quebec*. Winnipeg, MB: University of Manitoba Press. Pp. 145-68.
- “Environmental Policy Despite the Bush Administration: Federalism, Divided Powers, and the Last Six Years.” (Федерализм и разделение властей в политике США по охране окружающей среды). 2007. *Development: Journal of International Relations and Law*. International Society for Research and Educational Programs. Belarusian State University. Number 3. Pp. 57-65.
- “Who Speaks for the Trees (and the Prairie and the Lakes and the Air): A Brief Look at Minnesota’s Environmental Advocacy Community.” 2007. In Steven M. Hoffman, Angela High-Pippert and Kay Wolsborn, eds. *Perspectives on Minnesota Government and Politics*. 6th Edition. Edina, MN: Pearson Custom Publishing Company. Pp. 151-72.
- “In Fear of the Bicycle: Environmental Issues and the 2005 Election.” 2007. In Nigel Roberts and Stephen Levine, editors. *The New Zealand 2005 Parliamentary Elections*. Wellington, NZ: Victoria University Press. Pp. 340-58.
- “Community Energy: A Social Architecture for an Alternative Energy Future.” 2005. With Angela High-Pippert. *Bulletin of Science, Technology and Society*. Volume 25, Number 5: 387-401.

Conference Papers/Technical Reports

- Results of a Community Solar Survey for Minnesota Interfaith Power and Light*. 2014. With Angela High-Pippert. Similar reports were developed for Clean Energy Resource Teams; Fresh Energy; Izaak Walton League, Midwest Office; Minnesota Renewable Energy Society; and MN Community Solar.
- “Tar Sands, Oppositional Activity, and Transborder Networks.” 2014. With Paul Lorah, Joseph Janochoski, and Randolph Haluza-DeLay. Presented at the Canadian Sociological Association. Brock University, St. Catharines, Canada.
- “Many Pieces, One System: Regulatory Fragmentation and the Political Economy of Tar Sands.” 2014. Presented at the meetings of the Midwest Political Science Association.
- “Cutting the Cord: Motivations Regarding Participation in a Shared Solar Program.” 2014. Presented at *Solar Powering Minnesota*. Sponsored by CERTs, the Midwest Renewable Energy Association, and the Minnesota Department of Commerce. St. Paul, MN.
- “Structuring an Opposition: Collaboration and the Development of Alberta’s Tar Sands.” 2013. With Maria Dahmus. Presented at the *International Symposium for Society and Resource Management*. Estes Park, Colorado.
- “Bedfellows and Other Strangers: Tar Sands, Coalitions and Oppositional Rhetoric.” 2013. With Maria Dahmus. Presented at the Meetings of the Association for the Study of Literature and the Environment. Lawrence, KS.
- GreenStep Cities Two Years On: What have We Learned?* 2012. With Angela High-Pippert and Sarah Steinman. For the Minnesota Pollution Control Agency.
- “Decentralizing the Electricity System: Public Values and Community Energy.” 2012. With Shane Fudge, Michael Peters, Lissa Pawlisch, Angela High-Pippert, Shane Fudge and

- Joel Haskard. Presented at *Creating Public Value in a Multi-Sector, Shared-Power World*, sponsored by the University of Minnesota.
- “Hijacking Canada: Tar Sands and Oppositional Movements.” 2012. Presented at *Petrocultures*, sponsored by University of Alberta.
- “‘If You Can’t Do It Here’: Institutional versus Community-based Initiatives in Energy Planning.” 2010. With Angela High-Pippert and Daniel Carr. Presented at the Midwest Political Science Association.
- “Drill Baby Drill: Oil, the Environment and U.S.—Canadian Energy Relations.” 2008. Presented at the Minnesota Political Science Association.
- “‘It Takes Money to Buy Whiskey’: Local Energy Systems and Civic Participation.” With Angela High-Pippert. 2008. Presented at the 2008 Annual Meeting of the Midwest Political Science Association.
- “Beyond the Rhetoric: Distributed Technologies and Political Engagement.” 2007. With Angela High-Pippert. Proceedings of the 7th International Summer Academy on Technology Studies. *Transforming the Energy System: The Role of Institutions, Interests & Ideas*. The Inter-University Research Centre for Technology, Work and Culture (IFZ). Graz, Austria.
- Report on the Clean Energy Resource Teams. Phase Two: Analysis of Online Survey of CERTs Participants*. July 2007. With Angela High-Pippert. Prepared for the Minnesota Department of Commerce, the Minnesota Project, University of Minnesota Sustainable Development Partnerships, the Rural Minnesota Energy Board, the Metro County Energy Task Force and the Resource Conservation and Development Councils. Phase One Report prepared in July 2005.
- “The Power of Words: The Rhetoric of Community and the Reality of Community Energy.” 2005. Presented at the Australasian Political Science Association. Dunedin, NZ.
- “Parting Ways: Aboriginal Communities and Hydroelectric Development in Quebec and Manitoba.” 2005. Presented at the Australasian Political Science Association meetings. Dunedin, NZ.
- Assessing the Feasibility of Solar Energy on the University of St. Thomas’ St. Paul Campus*. 2005. With Dr. Greg Mowry, Jamie Borell, Ralph Jacobson, and J.L. Sustar. For the University of St. Thomas’ President’s Staff. St. Paul, MN.
- “Community Energy: A Social Architecture for an Alternative Energy Future.” With Angela High-Pippert. Presented at the International Solar City Congress, Daegu, South Korea and Seoul National University, November 2004; De Montfort University, Leicester University, June 2004; the International Society for People and Society, Vienna, Austria, July, 2004; and the Minnesota Political Science Association, 2003.

AWARDS AND GRANTS

- University Scholars Grant*. Project title: “Tar Sands: the Next Stage of the Petroleum Economy.” 2011-14. Grant awarded by the University of St. Thomas Faculty Development Program.
- Bringing Home the Energy: Governing Community Energy Initiatives in the United States and Canada*. 2008. Funding provided by the University of St. Thomas. Faculty Development Center.

OTHER PROFESSIONAL POSITIONS/ACTIVITIES

Organizing Committee. September 2010. *Tar Sands*. Symposium organized in collaboration with Twin Cities Sierra Club and the Minnesota Public Interest Research Group. Held at the University of St. Thomas.

Editorial Board. *Low Carbon Economy*. 2014 – present. Scientific Research Publishing, Inc. Irvine, CA and Wuhan, Hubei Province, China.

Visiting Scholar. Faculty of International Relations, Belarusian State University. Minsk, Belarus. March 2010.

Anonymous reviewer for *United Nations University Press; Technology and Society Magazine; New Hibernia Review; Indo-U.S. Science and Technology Forum; Energy Policy; Publius: the Journal of Federalism; United Kingdom National Environment Research Council; Sustainability; Royal Society of New Zealand; Environmental Science and Policy; International Journal of Climate Change Strategies and Management*

TEACHING

Study Abroad and Off-campus courses and programs:

- *The Politics of the New Europe*. January, 2007, 2011 and 2013. Co-instructor with Dr. Kenneth Kemp, Department of Philosophy, University of St. Thomas. On site in Poland, Ukraine, Belarus and Lithuania.
- *Students for Amity Amongst Nations (SPAN)*. A Program of the University of Minnesota. Summer, 2007. On site in Minnesota and New Zealand. Program director.
- *Sustainable New Zealand: Policy, Politics and Ecology*. January, 2000-2006, 2008, 2010. On site throughout New Zealand.
- *University of St. Thomas* Numerous courses in Environmental Policy, Energy Policy, Urban Studies, Political Science, and Public Administration.

2) DR. ANGELA HIGH-PIPPERT

CURRICULUM VITA

Associate Professor of Political Science
Associated Faculty in Women's Studies
Coordinator of Classroom Consulting Program

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St. Paul, MN 55105
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EDUCATION

Ph.D. University of Nebraska, 1999

Dissertation:

“The Situational Explanation Revisited: Gender, Work, Family, and Political Participation.”

PROFESSIONAL EMPLOYMENT

Fall 2005 - Present	Associate Professor University of St. Thomas
Fall 1999 – Fall 2005	Assistant Professor University of St. Thomas
Fall 1995 – Summer 1998	Instructor

PUBLICATIONS

Hoffman, Steven M. and Angela High-Pippert. 2013. “Institutional and Community-based Initiatives in Energy Planning.” *The Global Challenge of Encouraging Sustainable Living: Opportunities, Barriers, Policy and Practice*, edited by Shane Fudge, Michael Peters, Steven M. Hoffman, and Walter Wehrmeyer. Edward Elgar, Ltd. London, UK. Pp. 236-255.

Hoffman, Steven M., Shane Fudge, Lissa Pawlisch, Angela High-Pippert, Michael Peters, and Joel Haskard. 2013. “Public Values and Community Energy: Lessons from the US and UK.” *Sustainability* 5 (4): 1747-1763.

Peters, Michael, Shane Fudge, Steven M. Hoffman, and Angela High-Pippert. 2012. “Carbon Management, Local Governance and Community Engagement.” *Carbon Management* 3 (4): 357-368.

Hoffman, Steven M. and Angela High-Pippert. 2010. "From Private Lives to Collective Action: Recruitment and Participation Incentives for a Community Energy Program." *Energy Policy. Special Section: Carbon Reduction at Community Scale* 38 (12): 7567-7574.

High-Pippert, Angela. 2011. Book review of *Hillary Clinton's Race for the White House: Gender Politics and the Media on the Campaign Trail* by Regina G. Lawrence and Melody Rose. *Journal of Women, Politics, and Policy* 32: 158-159.

Hoffman, Steven M., Angela High-Pippert, and Kay M. Wolsborn (editors). 2007. *Perspectives on Minnesota Government and Politics*. Boston: Pearson.

High-Pippert, Angela. 2007. "What a Couple of Sweethearts': Women Running for Congress in Minnesota." *Perspectives on Minnesota Government and Politics*, edited by Steven M. Hoffman, Angela High-Pippert, and Kay M. Wolsborn. Pearson.

Hoffman, Steven M. and Angela High-Pippert. 2005. "Community Energy: A Social Architecture for an Alternative Energy Future." *Bulletin of Science, Technology, and Society* 25: 387-401.

High-Pippert, Angela. 2005. "A Million Moms, MADD Mothers, and Feminists: Media Coverage of Women Activists." *Women in the Media: Diverse Perspectives*, edited by Theresa Carilli and Jane Campbell. University Press of America.

High-Pippert, Angela. 2003. "See Jane Run: The Minnesota Women's Campaign Fund." *Perspectives on Minnesota Government and Politics*, edited by Steven M. Hoffman, Homer Williamson, and Kay Wolsborn. Pearson.

High-Pippert, Angela and John Comer. 1998. "Female Empowerment: The Influence of Women Representing Women." *Women and Politics* 19: 53-66.

SELECTED CONFERENCE PRESENTATIONS

Hoffman, Steven M., Angela High-Pippert, and Daniel L. Carr. 2010. "If You Can't Do It Here': Institutional versus Community-based Initiatives in Energy Planning." Presented at the Midwest Political Science Association Annual National Meeting, Chicago, Illinois. April 22-25.

High-Pippert, Angela and Steven M. Hoffman. 2008. "It Takes Money to Buy Whiskey': Local Energy Systems and Civic Participation." Presented at the Midwest Political Science Association Annual National Meeting, Chicago, Illinois. April 3-6.

Hoffman, Steven M. and Angela High-Pippert. 2007. "Beyond the Rhetoric: Distributed Technologies and Political Engagement." Presented at the International Summer Academy on Technology Studies, *Transforming the Energy System: The Role of Institutions, Interests & Ideas*, The Inter-University Research Centre for Technology, Work and Culture. Graz, Austria. August 27 – 31.

High-Pippert, Angela and Steven M. Hoffman. 2005. "Building Up the Third Leg of the Stool: Community-Based Energy and the Reinvigoration of Civic Life." Presented at the Midwest Political Science Association National Meeting, Chicago, Illinois. April 7-10.

Hoffman, Steven M. and Angela High-Pippert. 2005. "Community Energy: A Social Architecture for an Alternative Energy Future." Presented at the International Association for Science, Technology and Society Annual Conference, Baltimore, Maryland. February 10-12.

Hoffman, Steven M. and Angela High-Pippert. 2004. "Community Energy: A Social Architecture for an Alternative Energy System." Presented at the International Solar Cities Congress, Daegu, South Korea. November 14-18.

Hoffman, Steven M. and Angela High-Pippert. 2004. "Community-Based Energy and the Reinvigoration of Civic Culture." Presented at the International Perspectives on Sustainable Energy and People-Environment Studies Symposium of the International Association for People-Society Studies Annual Meeting, Vienna, Austria. July 7-10.

REPORT

High-Pippert, Angela. 2013. "Creating a Place: Women's Studies at the University of St. Thomas." Research supported by the University of St. Thomas Women Faculty Leadership Council and the Luann Dummer Center for Women.

SPECIFIC COURSES TAUGHT

University of St. Thomas:

- Political Science 101: American Government and Politics
- Political Science 105: Politics and Government in Comparative Perspective
- Political Science 205: Introduction to the American Public Policy Process
- Political Science 301: American Political Behavior
- Political Science 302: Women and Politics
- Political Science 404: Seminar in American Politics
- Women's Studies 205: Foundations in Women's Studies

AWARDS

- Distinguished Educator Award, University of St. Thomas, 2012 and 2005.
- Nominated for National Society of Collegiate Scholars Faculty of the Year Award, 2006.
- Nominated for Sister Pat Kowalski Women's Leadership Award, University of St. Thomas, 2007-2008.

SELECTED PROFESSIONAL PRESENTATIONS AND ACTIVITIES

“Developing a Research Agenda: The Case of Community Energy” (with Steven Hoffman). Beyond the Classroom Political Science Department Colloquium. University of St. Thomas. March, 2010.

“Building Up the Third Leg of the Stool: Community-Based Energy and the Reinvigoration of Civic Life.” Center for Senior Citizens’ Education series, *Energy and Society: History, Consequences, and Alternatives*. April, 2006.

“The Power of Civil Discourse.” Keynote Address, League of Women Voters of Minnesota Convention. Rochester, Minnesota. May 20-22, 2011.

PROFESSIONAL, UNIVERSITY, AND DEPARTMENTAL SERVICE

Professional:

- Past President, Minnesota Political Science Association. 2011-2013.
- President, Minnesota Political Science Association. 2009 – 2011.
- Treasurer, Minnesota Political Science Association. 2007- 2009.
- Private College Representative, Minnesota Political Science Association Board. 2003-2007.
- Organizer, Student Poster Sessions for the Minnesota Political Science Association annual conference. 2004-2006.
- Board Member, Leaders of Today and Tomorrow Advisory Committee. League of Women Voters of Minnesota Education Fund. 2000-2005.
- Member, Minnesota Women’s Campaign Fund. 2001-2005.
- Consultant, “Women Legislators Make State Government Work Better for all Minnesotans: The Twenty Year Impact on Minnesota Public Policy.” Research conducted by the Minnesota Women’s Campaign Fund. 2002.

University:

- Co-Director, ACTC Women’s Studies Coordinating Committee, 2011-2013.
- Director, UST Women’s Studies Program. 2007-2013.
- Member, Luann Dummer Center for Women Advisory Board. 2007-2013.
- Member, Women Faculty Leadership Council. 2012-present.
- Classroom Consultant and Faculty Development Fellow, Center for Faculty Development. 2008-present.

Department:

- Faculty Advisor, Chi Theta chapter of Pi Sigma Alpha, the national political science honor society. 1999-2009.
- Faculty Advisor, Political Science Club. 2002-2008.
- Director, local internships for political science majors and minors. 1999-2008.

ACADEMIC AND PROFESSIONAL ASSOCIATIONS

- American Political Science Association
- National Women's Studies Association
- Midwest Political Science Association
- Minnesota Political Science Association
- Midwest Sociological Society

REFERENCES

Available upon request.