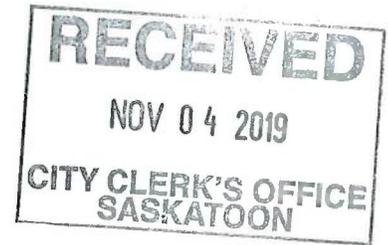


2000-1
X 1905-3

From: Michael Nemeth <michael@brightbuildings.ca>
Sent: Saturday, November 02, 2019 4:04 PM
To: City Council
Subject: Form submission from: Write a Letter to Council



Submitted on Saturday, November 2, 2019 - 16:04

Submitted by anonymous user: 204.83.42.41

Submitted values are:

Date Saturday, November 02, 2019

To His Worship the Mayor and Members of City Council

First Name Michael

Last Name Nemeth

Email michael@brightbuildings.ca

Address [REDACTED]

City Saskatoon

Province Saskatchewan

Postal Code [REDACTED]

Name of the organization or agency you are representing (if applicable) n/a

Subject Net Metering and a Renewable Energy Strategy (Power-to-gas)

Meeting (if known) STANDING POLICY COMMITTEE ON ENVIRONMENT, UTILITIES AND CORPORATE SERVICES November 04, 2019

Comments

Good day Mayor and Councillors,

I write to you today on my own behalf and as an engineer who's studied sustainable energy options in Saskatchewan. I should note I'm a board member of the SES Solar Coop and the townhouse development I live in, Radiance Cohousing, hosts a 40 kilowatt solar array, but I'm not speaking for either of those groups in this letter.

With action on climate change and sustainability it's hard to know what to do next. Thankfully the Low Emissions Community Plan provides a roadmap. We can develop renewable energy programs in the context of these future sustainability goals. Net Metering has been an important program in the development of renewable energy in Saskatchewan and I hope that it continues to be.

I'd like to first highlight two actions from the LEC Plan related to expansion of solar power:

32. Encourage existing residential building owners and mandate new buildings to install solar PV systems.
33. Encourage existing ICI building owners and mandate new buildings to install solar PV systems.

Reading further in the plan, both of these actions relate to the development of PACE financing programs to facilitate installation of solar arrays, but research isn't due to start on a PACE program until 2020 and implementation isn't expected until after 2022. There is a significant gap between now and then.

SaskPower's changes to the Net Metering program include a dramatic 50% reduction in the credit for solar

energy and the removal of the rebate. This will mean a substantial setback to the solar industry when the intention is to expand it.

I suggest that the City of Saskatoon maintain the previous Net Metering program until a new renewable energy strategy can be consulted on, developed and transitioned to.

There are many co-benefits with small scale, roof top solar that aren't achieved with utility scale systems. First is land use, and that it encourages businesses and individuals to maximize unused roof space instead of building on farm land or wildlife habitat. As well, roof-top solar is distributed generation, much of the power is used near the point it's produced, actually putting less load on transmission infrastructure.

Net Metering encourages consumers to play an active role in their energy production which leads to more conscientious energy consumption, consideration of energy conservation options, perhaps even net-zero energy or passive house. Seeing solar panels installed in the community is a powerful image, "We are generating our own sustainable energy and you can too."

I understand the need to cover grid maintenance costs. And having the grid back-up is not free. There is a cost to energy storage. I also suggest we expand our efforts in energy conservation. But to meet the goals of the Low Emissions Community Plan, the City of Saskatoon will need more incentives and comprehensive programming to rapidly roll out renewable energy infrastructure.

A comprehensive renewable energy strategy should be developed in the context of a future sustainable energy market where businesses and individuals wanting to generate sustainable energy would be paid for their surplus renewable energy by a central agency to be stored for on-demand consumption. It should demonstrate practical energy storage solutions. The LEC Plan indicates at least two action items on energy storage.

38. Install renewable energy storage over time.

40. Procure renewable natural gas from third party producers.

Energy storage is needed to provide a complete renewable energy picture. The City of Saskatoon should accelerate and facilitate the development of this energy storage system just as it provides other critical utilities.

Our current energy infrastructure, predicated on the technologies of the 20th century, needs to adapt to the new technologies of the 21st century. Unfortunately we need to subsidize an aging energy system we've been failing to invest in and modernize it to be sustainable.

Batteries are often mentioned for energy storage and while they offer high efficiency short term storage they do not offer seasonal storage as we require with our cold winters. Thankfully, Power-to-Gas technology has been developed and is being piloted in a 20 megawatt Enbridge project in Markham, Ontario, as well as several projects in Germany at 100 megawatts. These projects will supplement the natural gas grid with renewable hydrogen gas made from renewable electricity and water. There are technologies to make renewable methane / renewable natural gas from the resulting hydrogen, by combining atmospheric carbon.

The natural gas grid already exists and includes several vast natural gas storage caverns. A future 100% renewable energy system would re-purpose the gas network as a seasonal renewable energy storage system. SaskEnergy and TransGas would have an important role to play in piloting the technology. Electricity could be recovered from the carbon neutral gas through existing gas power plants or through stationary fuel cells.

Let's get started now, as with any new technology, there will be challenges to overcome. I feel that the concept alone is empowering, it's important to know there is a method to provide dispatchable renewable energy. Renewable methane also holds much potential for powering aerospace, heavy industry, agricultural equipment

and it can even be liquefied for export.

Let's take this opportunity to kick start a new era for the Saskatchewan energy industry. Let's start talking about building renewable pipelines and exporting sunshine. Let's develop a renewable energy strategy that gets it done in the next 10 years.

Attachments

The results of this submission may be viewed at:

<https://www.saskatoon.ca/node/398/submission/347354>