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2022

Canadian Solar Landscape Study For Industry

5 Core Topics Covered in the Solar Landscape Study

1. **Introduction to the Solar Landscape Study**
   - Study purpose and objectives.
   - Defining solar engagement segments.
2. **Solar Trends and Behaviours**
   - All segments' actions taken to prepare for solar within the past 3 years.
3. **Solar Positive: Solar Committed and Considerers Segments**
   - Demographics & provincial breakdown.
   - Factors pushing towards solar.
   - Where this segment learns about solar.
4. **Solar Negative: Overcoming Barriers to Solar**
   - Demographics & provincial breakdown.
   - Barriers against solar adoption focusing on the two main barriers.
5. **Future Demands on Solar Innovations in Canada**
   - Product/company considerations
   - Future potential purchases and path towards the future.


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Introduction

Introduction to Canadian Solar Landscape Study

The **Canadian Solar Landscape Study** is the **first comprehensive** study in Canada examining homeowners' attitudes and behaviours toward solar and renewable energy.

Done in collaboration with IMI and Solr Solvr, this is a landmark survey evaluating the state of the industry in Canada.

- **Solr Solvr** is the study author, as an online marketplace to advise and connect Canadian homeowners and business owners to improve their energy footprint and go solar, allowing them to save money, save time and have more control.
- **IMI International** conducted the research as a full-service market research and consulting firm, established in 1970 in Canada, now with 7 offices and Fortune 500 clientele across the globe.

Purpose & Objectives

The purpose :

The purpose of this study is to collect information on consumers' attitudes and category involvement toward solar power and present the information to assist industry suppliers, sellers, and installers in making decisions regarding the industry.

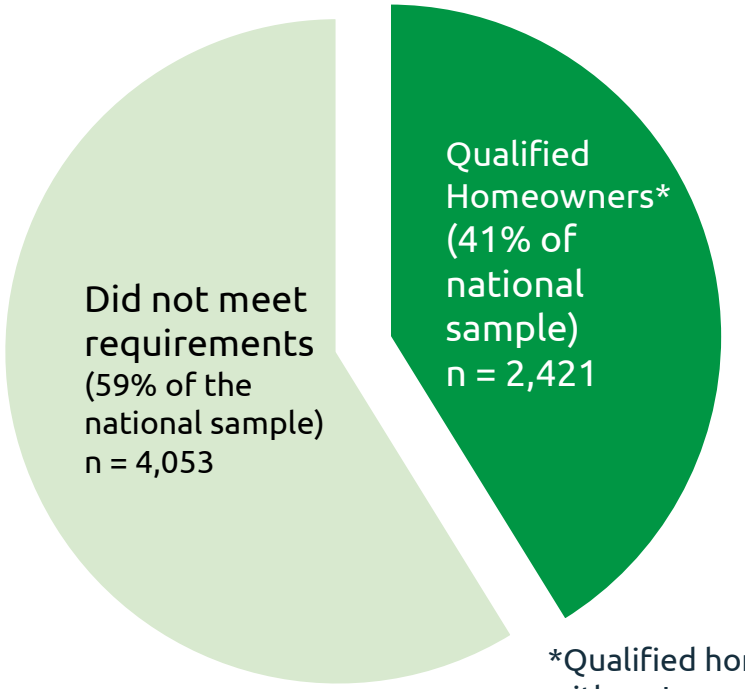
The Objectives :

- Establish an annual study detailing the baseline, sizing and trends for the Canadian Solar Landscape.
- Compare and contrast the attitudes, perceptions and behaviours of solar-interested consumers.
- Define opportunities and barriers in the solar marketplace.
- Determine the largest growth opportunities in the industry, going forward.

Survey Sample Size & Methodology

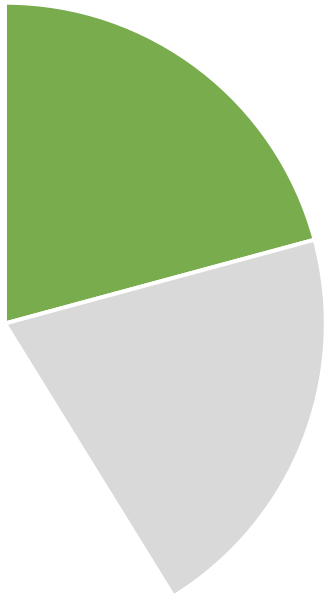
41% of Canadian households are 'Qualified Homeowners' for solar

Sample of **5,877** Nationally Representative Canadian Households



*Qualified homeowners own a house with an Income above $50k

Survey Sample Breakdown



Survey sample
n = 1,199

50% of qualified homeowners, or 20% of national households

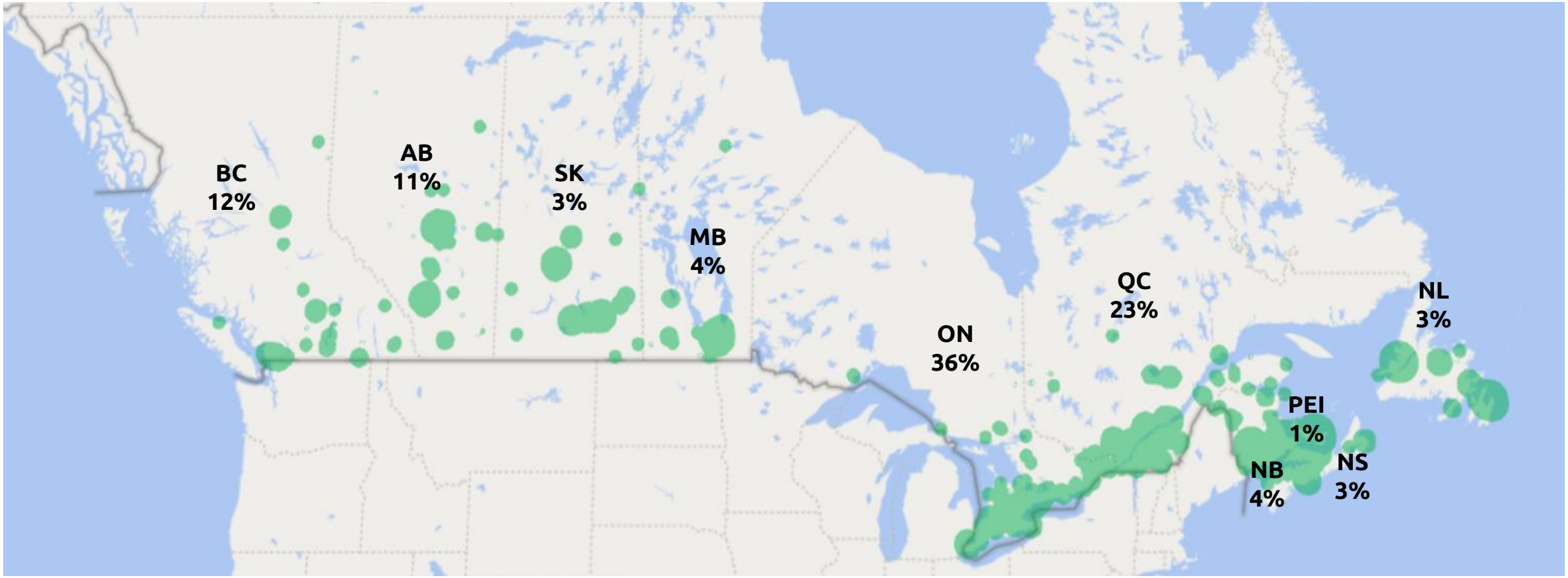
Excluded sample
n = 1,222

Due to study quotas

Base: n = 2,421
Base: n = 1,199

Survey sample methodology:

A nationally representative sample was conducted by online survey



National
N=1,199

Quick study facts

The total number of respondents was 1,199. Every region and province was represented (excluding territories)

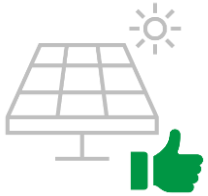
The survey was conducted in the field from August 10 to 17th, 2021

The survey was conducted with an online sample of volunteers, representative of Canadian households.

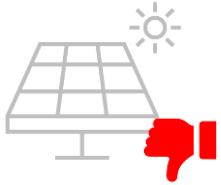
Respondents were asked about their lifestyle and attitudes about solar

Respondents are “qualified homeowners” (townhouse, semi or detached home) between the ages of 25 to 74; household income >$50,000/year

54% of respondents are male;
46% of respondents are female



The sample size of **n=999** homeowners who would consider solar energy for their home

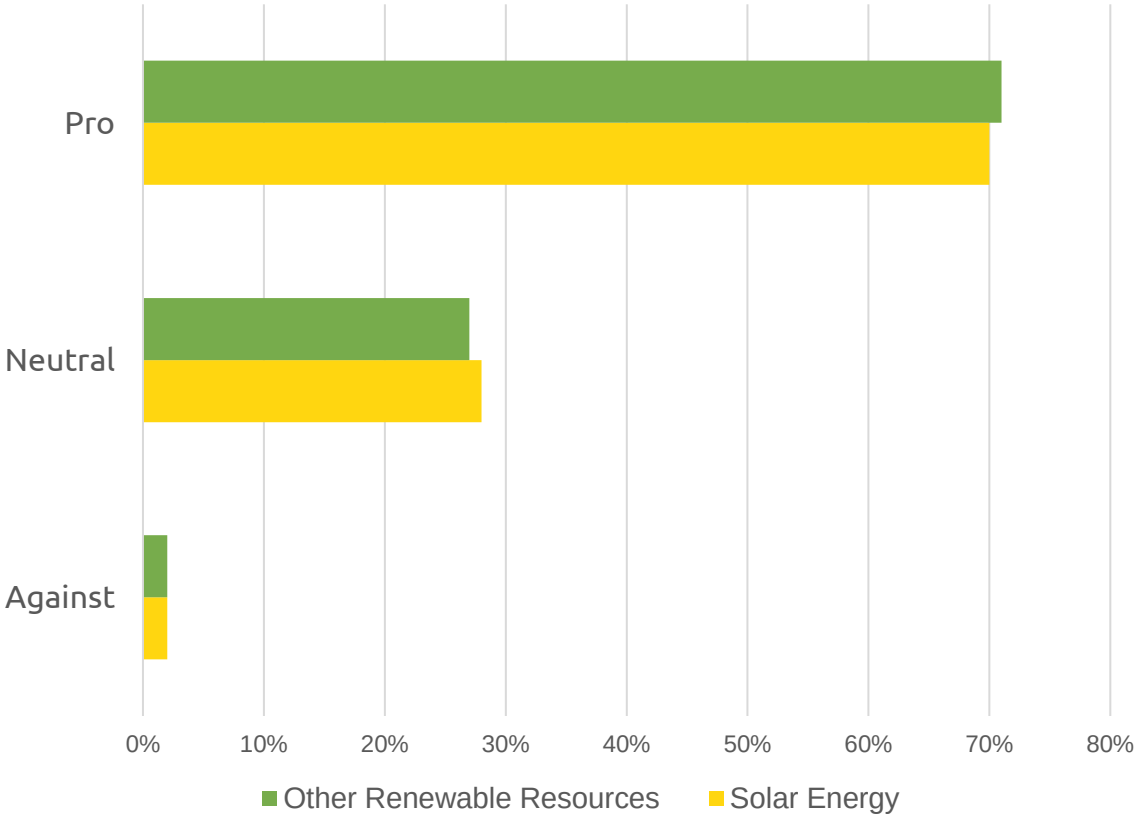


The sample size of **n=200** homeowners who would not consider solar for their home

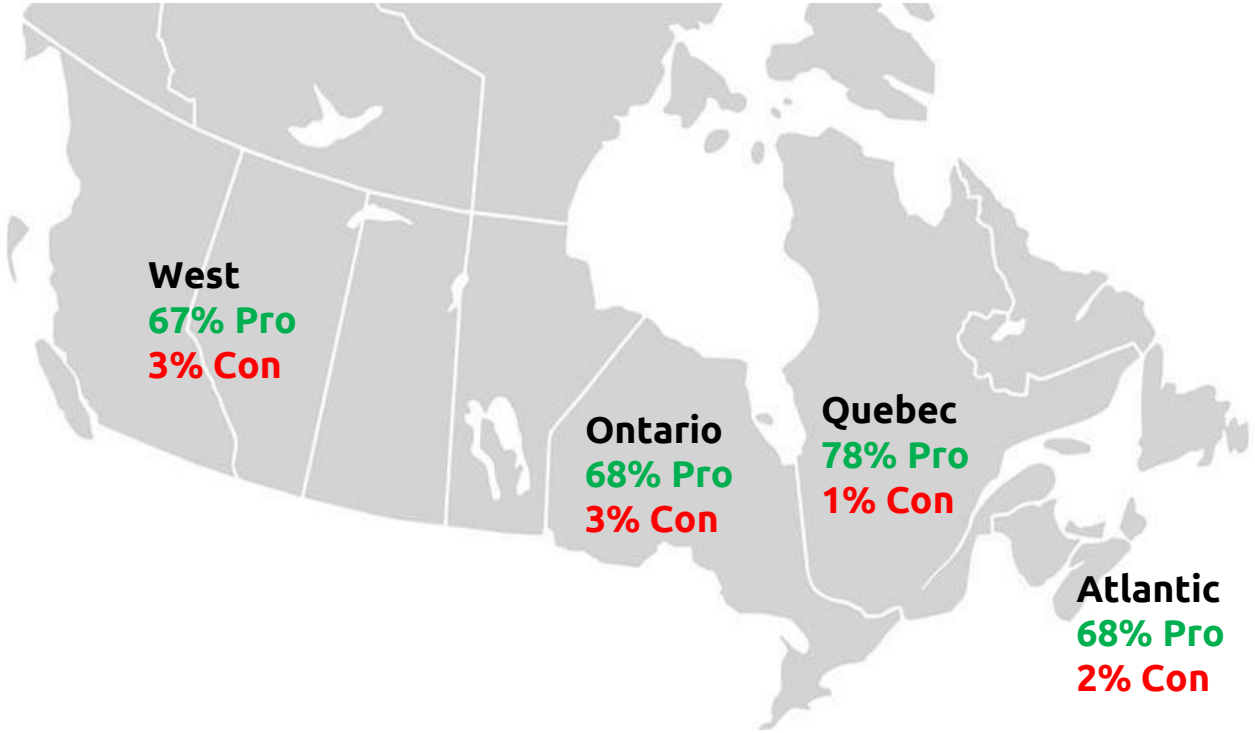
Base: n = 1,199

Most Canadian homeowners are in favour of solar and renewable energy, with very few against

Attitude Towards Solar Energy vs. Other Renewable Resources



Attitude Toward **Renewable Energy** by Region



Base: n = 2,421

Defining the five Solar Engagement Segments based on attitude towards solar. 57% are 'Committed and Considerers', the key target for solar

Solar owners
Households that already have solar panels installed.

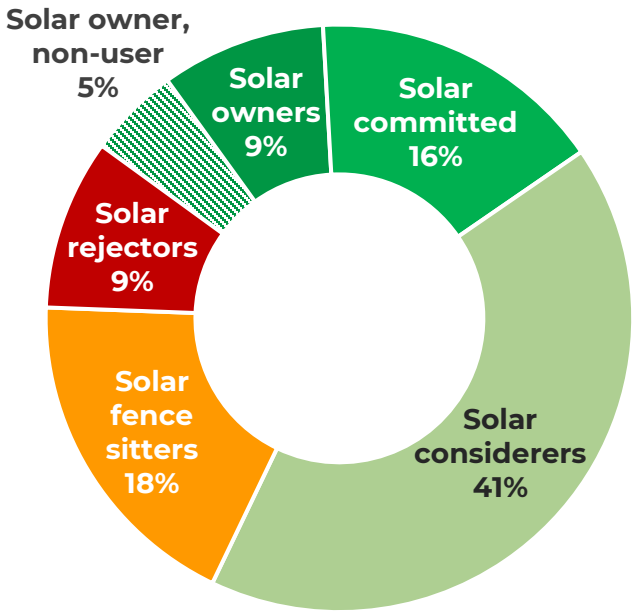
Solar Committed
Households that are planning to install solar in the next three years.

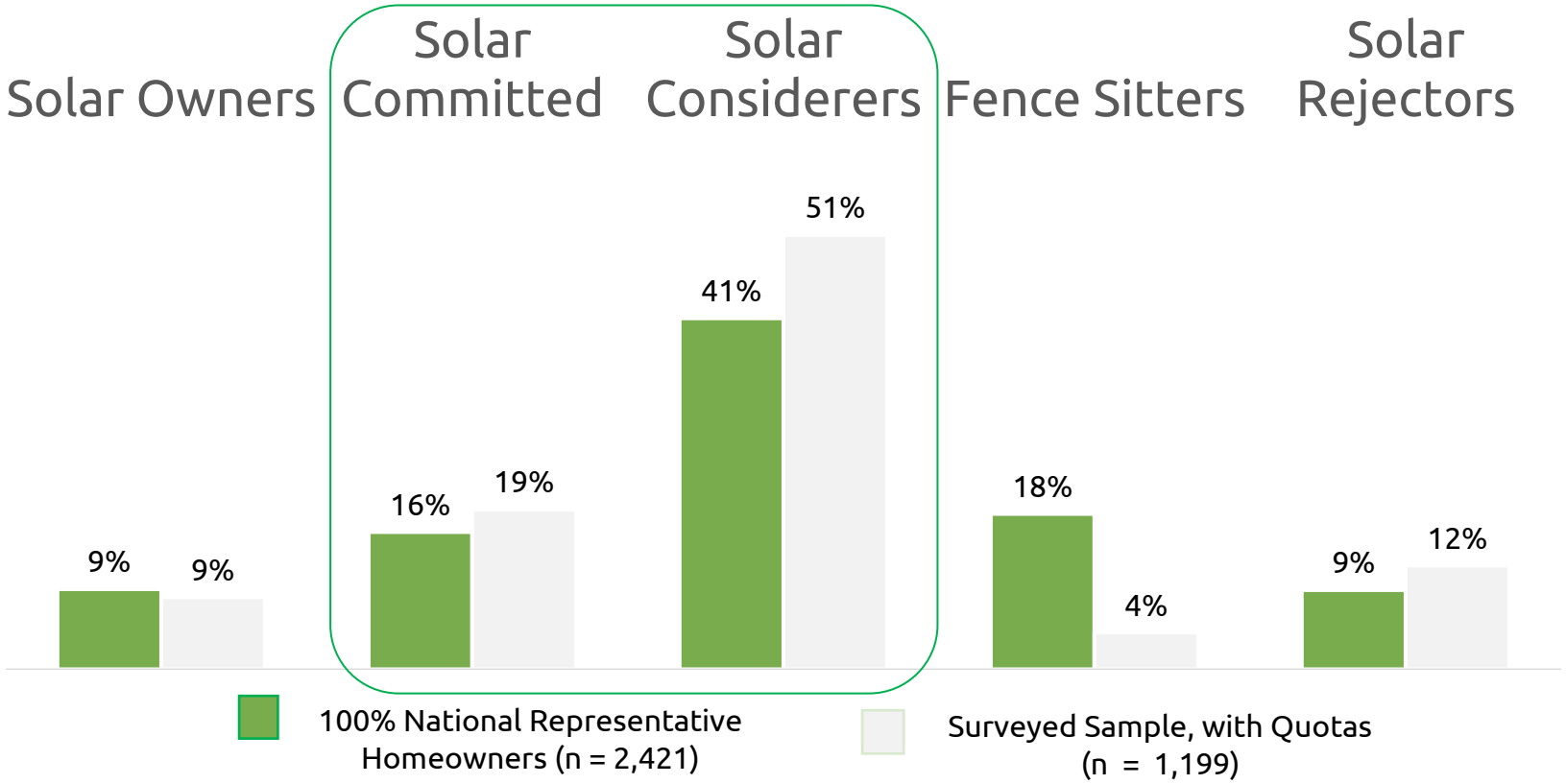
Solar Considerers
Households considering solar in the future.

Solar fence sitters
Households unsure if solar is right for them.

Solar rejectors
Households that will not consider solar for their home.

Solar Engagement Segments, % Among Qualified Homeowners





Solar owners that are not producing energy are excluded from bar graph.
Base: n = 2,421
Base: n = 1,199

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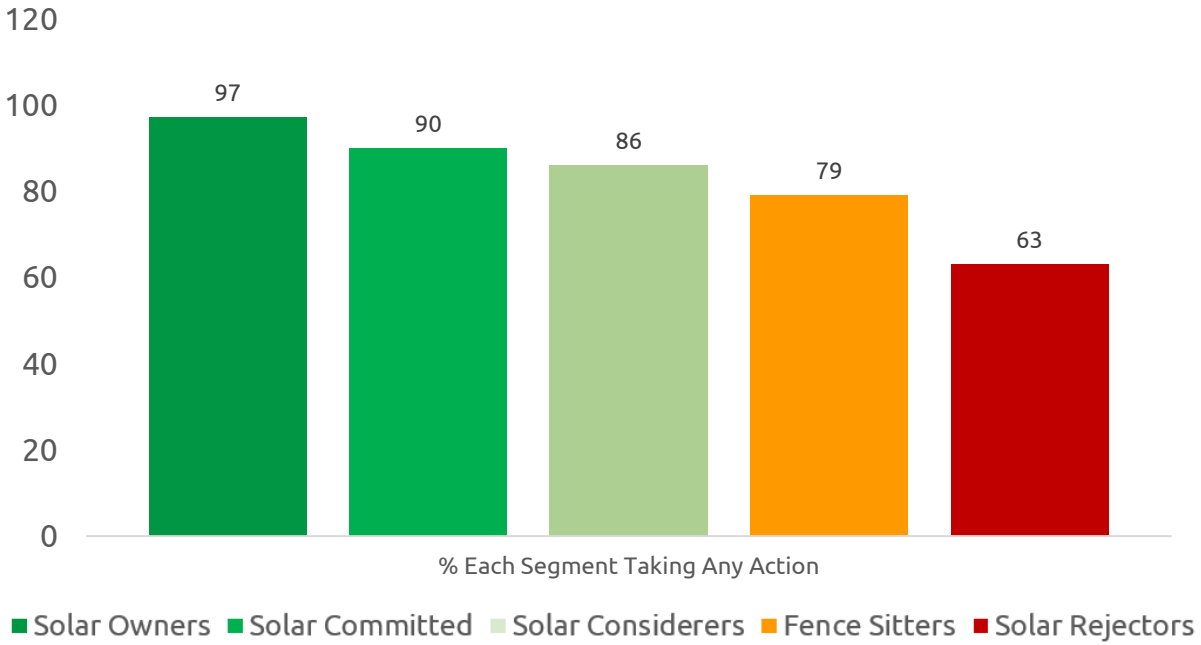
Solar Trends & Behaviours

All segments have taken action to optimize home energy usage

Took Any Action Towards **Making Home Energy Efficient** in Past 3 Years

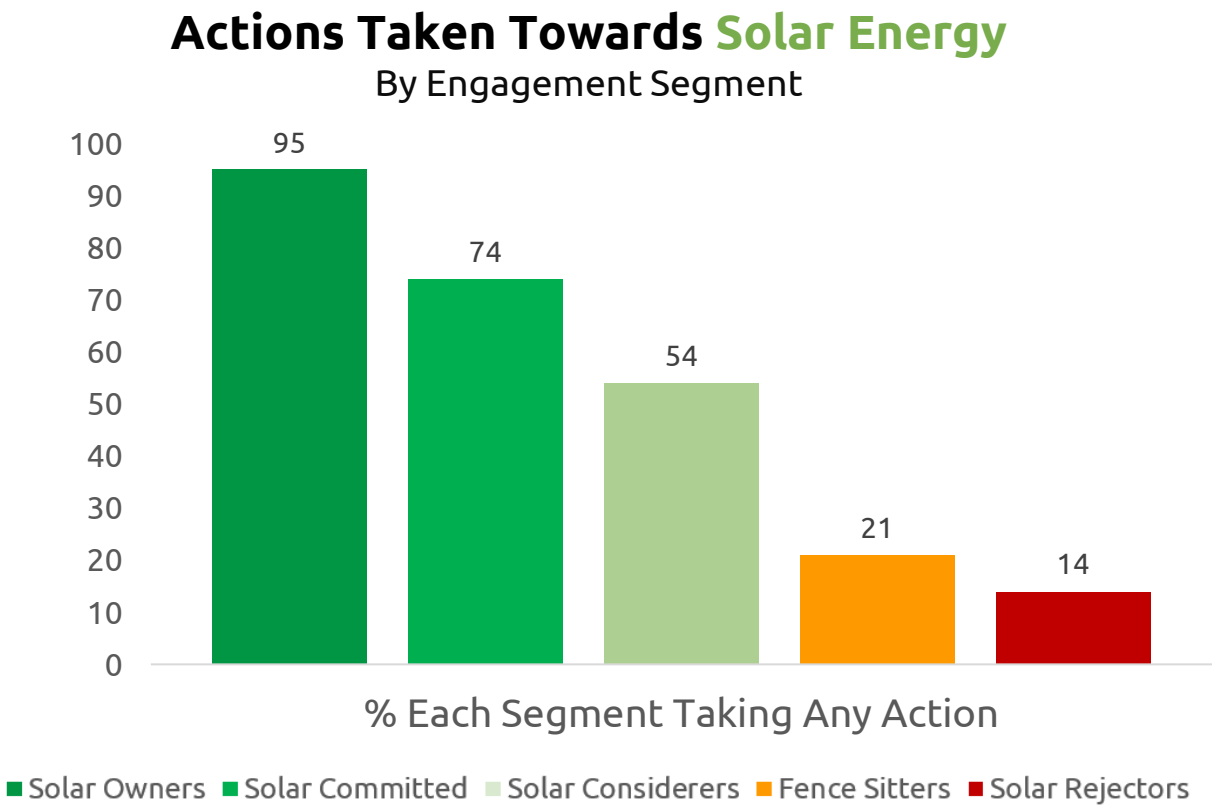


Some Possible Actions Include:

- Added higher R-rating for insulation in walls or attic
- Changed most bulbs to LED
- Conducted an energy audit
- Improved weather-stripping/caulking around windows/doors
- Installed a geothermal heat pump
- Installed a smart thermostat
- Put in a high-efficiency furnace
- Switched appliances from gas or propane to electricity

Base : n = 1,199
Solar Committed n = 589, Solar Considerers n = 405
Fence sitters n = 53, Solar Rejectors n = 152

Three-quarters of Committed and half of Considerers have taken actions toward solar: The Solar Positives



Some Possible Actions Include:

- Checked out solar installations in my neighbourhood
- Exchanged info with a rep from a solar energy company
- Looked into grants/incentives/rebates
- Requested a quote from a solar energy company
- Requested info from a company
- Researched online
- Spoke with friend/family/colleague
- Visited social media/forums/discussion groups
- Visited a solar energy provider's kiosk or display

Base : n = 1,199
Solar Committed n = 589, Solar Considerers n = 405
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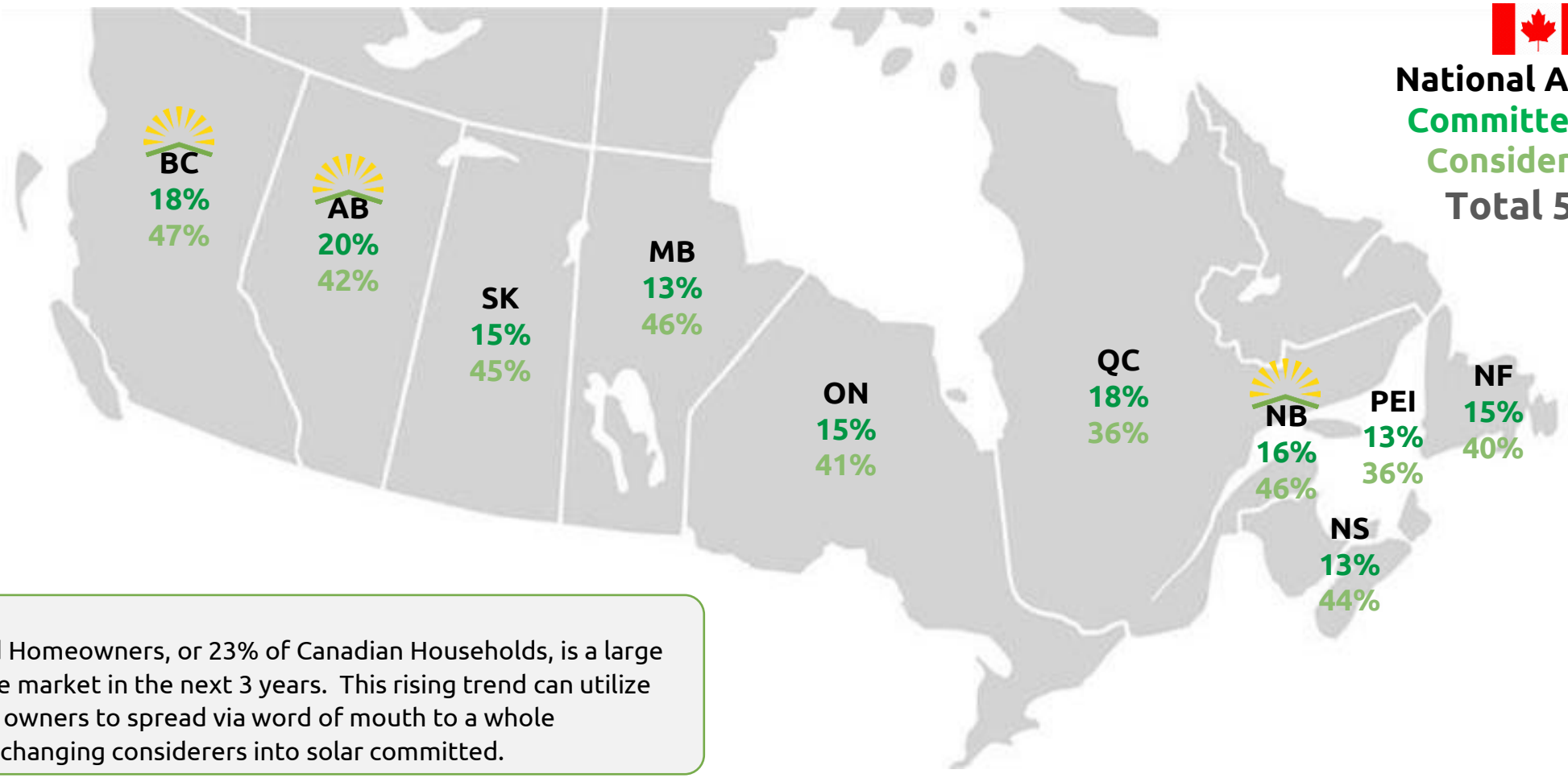
Solar Positives: Committed and Considerer Segments

Nationally, 57% are considering solar in the next 3 years. The largest solar opportunities by province are BC, AB, and NB, lowest in QC and PEI

Solar Committed / Considerers by Province



National Average
Committed 16%
Consider 41%
Total 57%

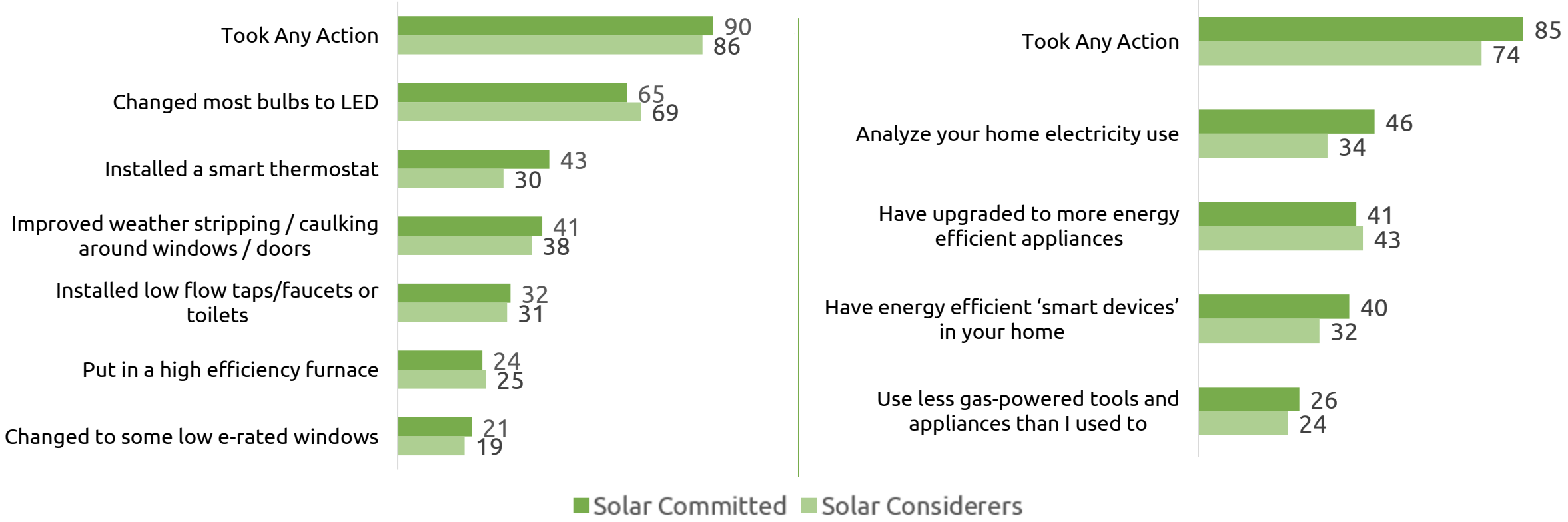
Industry Tip
57% of Qualified Homeowners, or 23% of Canadian Households, is a large proportion of the market in the next 3 years. This rising trend can utilize new and current owners to spread via word of mouth to a whole neighbourhood, changing considerers into solar committed.

Base : n = 994
Solar Committed n = 589, Solar Considerers n = 405

Nearly all Positives have taken action to improve home energy efficiency

LEDs, smart thermostats and energy-efficient appliance upgrades are the most common actions

Took any action towards making home energy efficient in the past 3 Years



Industry Tip

Reinforcing the clean energy message, along with the reassurance of strong warranties on products and dedicated customer service is important to remove risks.

Base : n = 994
Solar Committed n = 589, Solar Considerers n = 405

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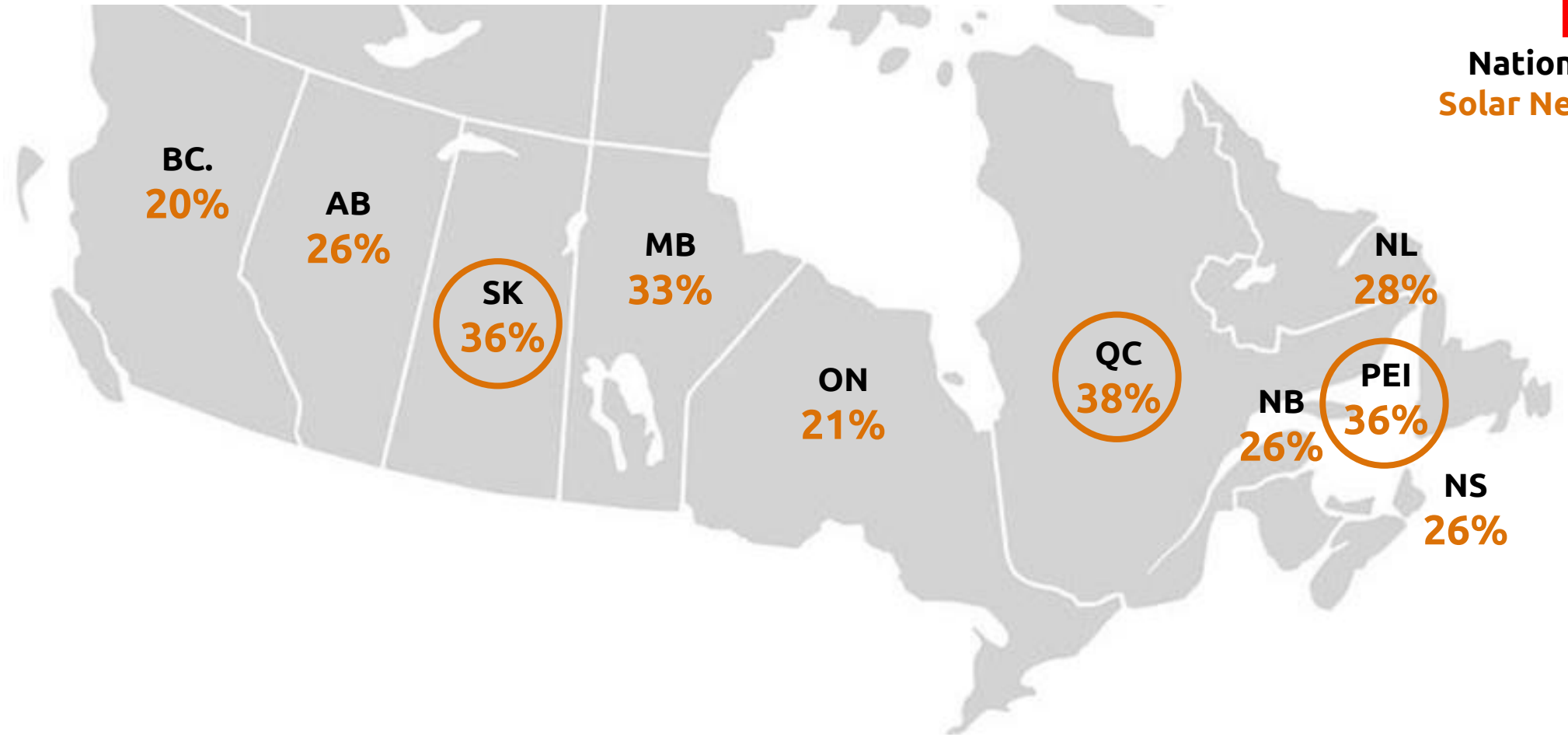
Solar Negatives: Overcoming Barriers

QC, PEI, SK and MB have the highest proportion of Solar Negatives

The low percentage of Solar Negatives in ON and BC brings the national average down to 27%

Provincial Breakdown of Solar Negatives



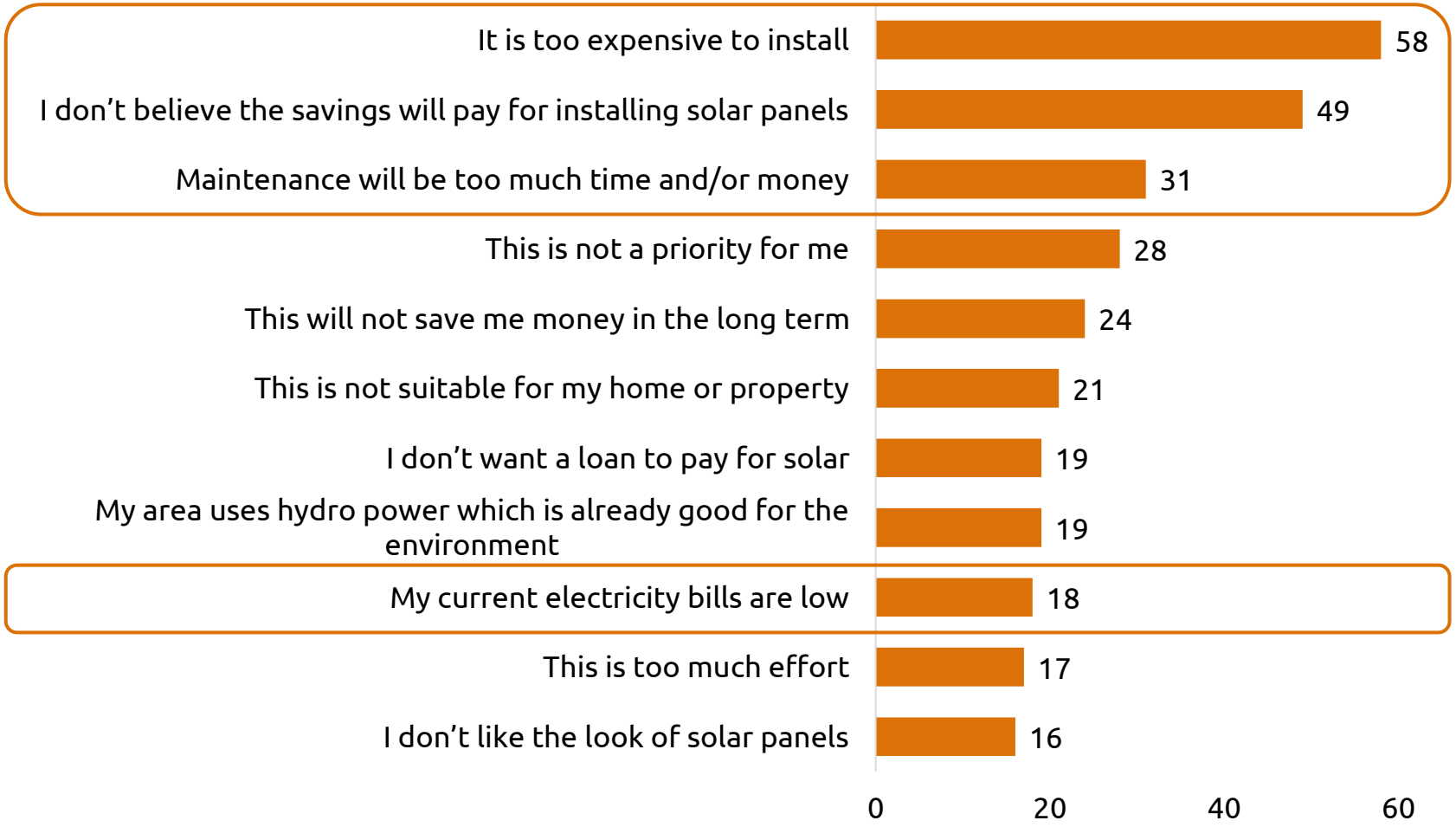
National Average
Solar Negatives: 27%

Base : n = 205
Fence Sitters n = 53, Solar rejectors n = 152

S-term and L-term costs are the biggest barriers to Solar Negatives

Panel maintenance is a large concern; highlighting low maintenance and a 25-year warranty is vital

Solar Negatives: Reasons for not Considering Solar



Industry Tip

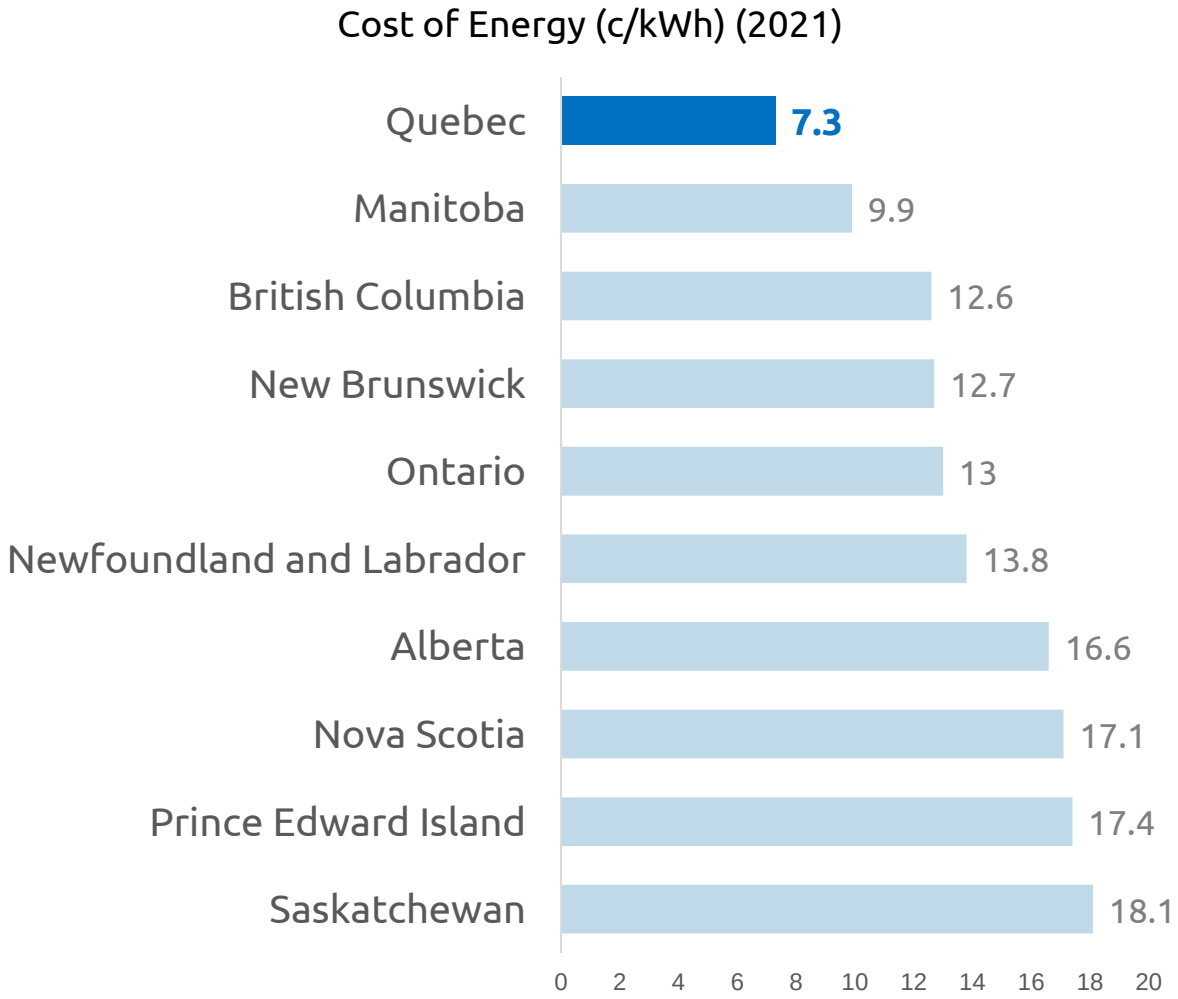
The top three barriers to adopting solar are cost-related. Increasing awareness about incentives and long-term savings could increase interest.

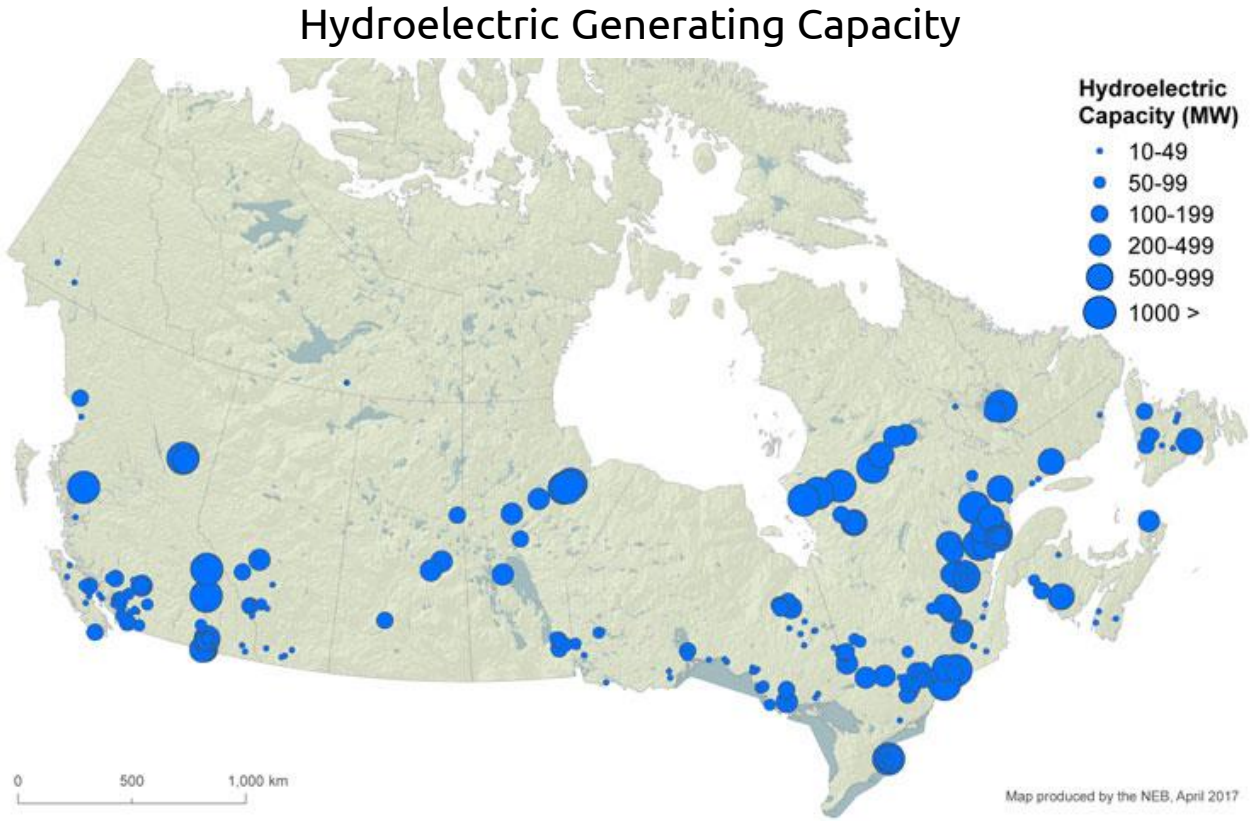
Homes with inexpensive hydroelectricity are less interested in solar. This is prevalent in Quebec-see next slide

Base : n = 205
Fence Sitters n = 53, Solar rejectors n = 152

Cheap electric power may lead to the large proportion of Solar Negatives % in QC

Large Hydro generation in QC already provides a somewhat effective renewable energy source



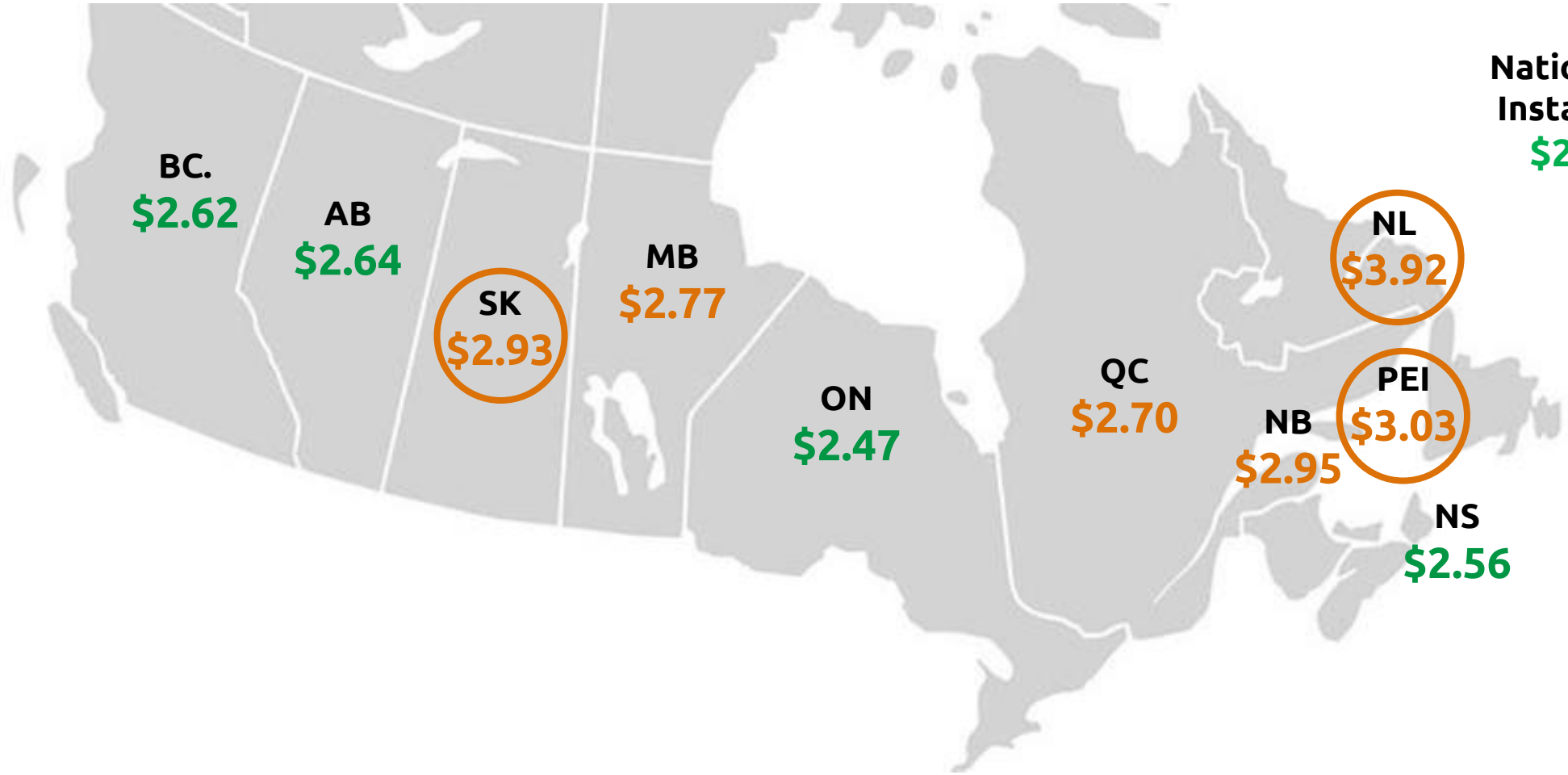


Cost of Energy Data from energyhub.org
Map source: Canada's Adoption of Renewable Power Sources, Canada.ca

The Maritimes and SK have higher solar installation costs

This correlates with high Solar Negatives in the respective provinces

Average Solar Installation Cost per Watt by Province (2021)



National Average Installation Cost
$2.66/Watt

Source: Energyhub.org

Two of the biggest barriers are PV array installation and maintenance costs, and low alternative hydroelectricity cost

Cost & Changing Technology

- High installation costs are a significant barrier in Saskatchewan, PEI and Newfoundland
- Solar negatives tend to be older, less tech-savvy than Solar Interested
- Constantly improving technology makes some hesitant buyers wait for the newer tech. However, 'market-tested' and higher cost/kW may not pay out
- Distrust/unfamiliarity to solar technology is a common issue

Industry Tip

Cost will always be a barrier to solarizing, but continued efficiencies, government incentives and rising costs of electricity may push previous Solar Negatives to reconsider.

Hydroelectricity

- Ontario and Quebec are Canada's largest hydroelectricity producers, but QC has the combination of very low $/kWh electricity and higher solar cost
- A large portion of electricity is still generated from other carbon-heavy sources in Canada
- Efforts should be made to inform this segment about the carbon offset available, and that savings are still possible with solar.
- In addition, by optimizing household energy usage before solarizing, makes for a stronger business case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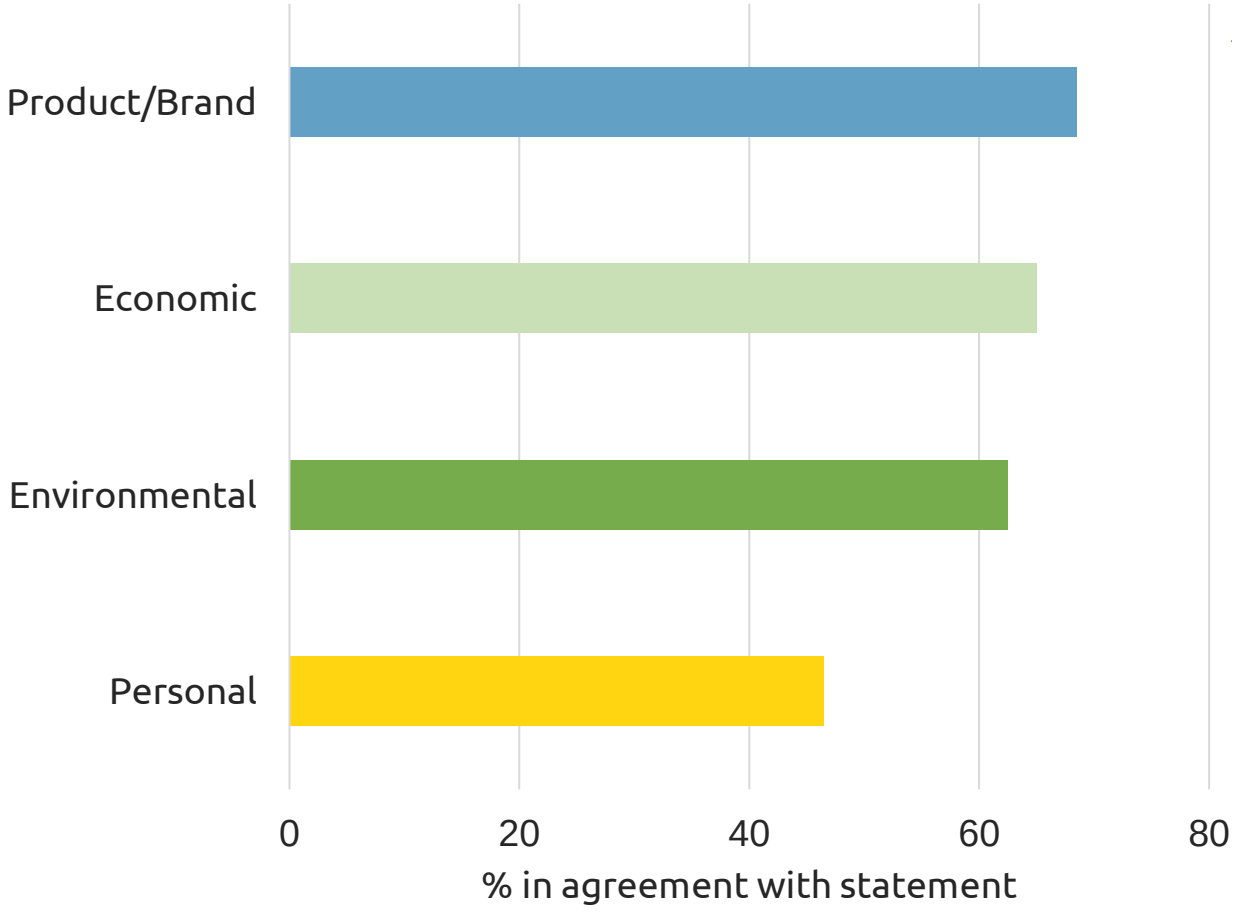
Future Demand for Solar Innovations in Canada

The quality of panels is the top consideration for solar customers

Trust in the brand and installer, savings, environmental impact are also critical to messaging



Product / Brand (68%)
Key factors: quality of the system, trust towards the installer and company, lifetime maintenance & warranty

Economic (65%)
Key factors: Annual, long term & monthly savings

Environmental (62%)
Key factors: Reducing carbon footprint & greenhouse gases, wanting clean air

Personal (46%)
Key factors: Being socially responsible, keeping the power on, helping the community

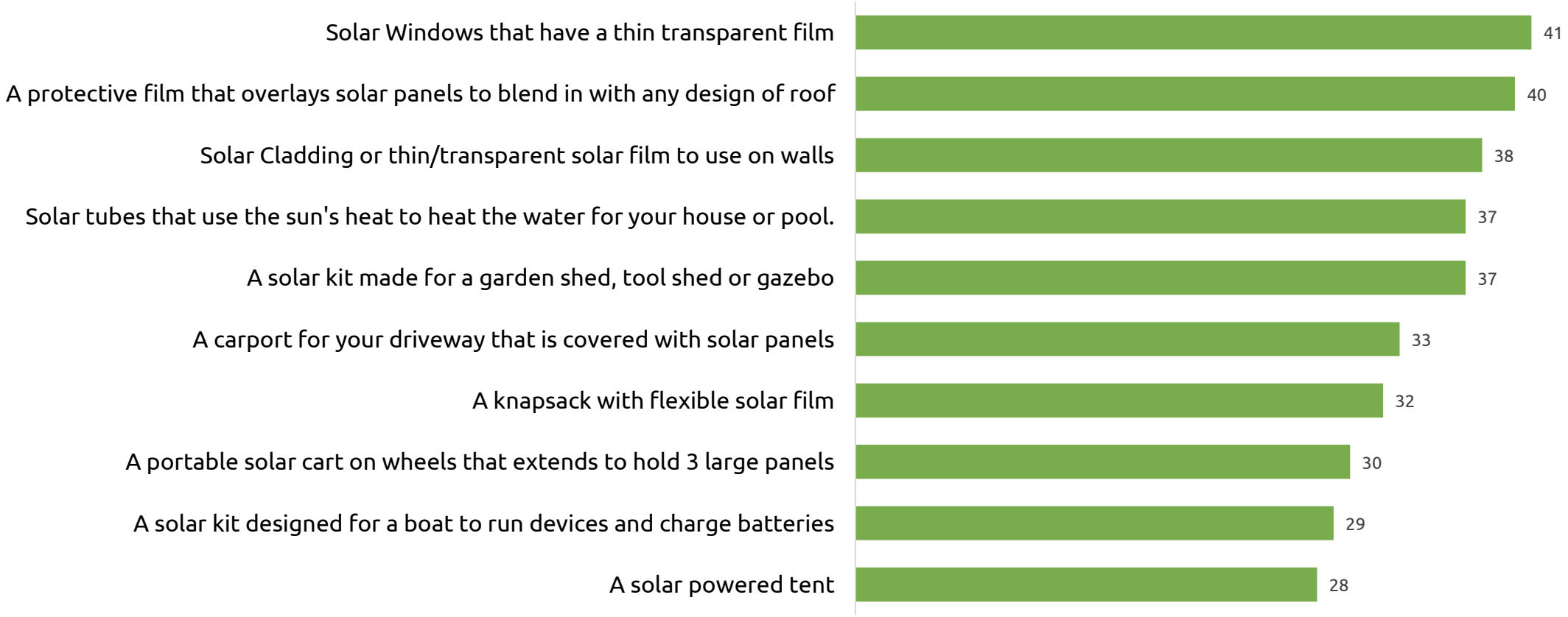
Base : n = 1,199
Solar Committed n = 589, Solar Considerers n = 405
Fence sitters n = 53, Solar Rejectors n = 152

Solar Positives target show high interest for future solar products across more uses.

Solar windows, invisible panels and cladding are mostly likely to have high future demand

Definitely/ Very **Likely to Purchase**

Among Committed/Considerers



Base : n = 994
Solar Committed n = 589, Solar Considerers n = 405

What's up next from the Canadian Solar Landscape Study?

- Introduce Solar buying personas-who is your shopper?
- In-person presentations/ work-sessions, upon request
- Launch Wave 2 of study in Spring '23
- Schedule a Webinar series
- Further analysis for insights available
- Expand beyond solar into more renewable energy topics

Interested in a work session for your team? Contact us today!

705-220-7662

advisor@solrsolvr.com

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Appendix

Canadian Solar Landscape Study: Detailed Sample Frame

Regions	Western Canada				Ontario	Quebec	Atlantic			
Solar Positive **n = 1000**	300				300	200	200			
Solar Positive, by Province	BC 100	AL 100	SK 50	MT 50	300	200	NFL 40	NB 60	NS 60	PEI 40
Solar Negative (capped at **n = 200**)	50				50	50	50			
Solar Negative, By Province	BC 15	AL 15	SK 10	MT 10	50	50	NFL 10	NB 15	NS 15	PEI 10

Study Sample Frame:

- **Target:** Canadian House owners with HH income of $50k+, aged 25-74. National sample of n=1200; Provincial and regional quotas
  - n=1000 General Population Homeowners across the 4 regions who "consider Solar Energy as a possible solution for home energy"
  - MAX n=200 "Solar-rejecters", defined as "Do not consider Solar Energy as a possible home energy solution"
- Note: Kept count of natural fall out of non-solar interested terminates, in order to provide actual Canadian statistics, on slides 10-12.

Based on the following question:
Q13.How likely are you to consider Solar Energy as a possible home energy solution in the future? If Yes…
Q14. How likely are you to consider installing solar panels – with or without a battery to store your home electricity - in the next three years?

1.1. Scale
1.1.1. *Definitely*
1.1.2. *Very likely*
1.1.3. *Somewhat likely*
1.1.4. *Somewhat unlikely*
1.1.5. *Very unlikely*
1.1.6. *Definitely will not*

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