

2004 UPEI ENERGY AWARENESS SURVEY

The University of Prince Edward Island recently embarked on a campus energy awareness campaign and conducted this survey to learn about the campus community's knowledge and use of energy. This survey was administered by the UPEI Energy Awareness Program Committee. The data collected will assist the University in choosing the best approaches to raise awareness and to move towards a more energy-efficient campus — the effect of which will benefit everybody at UPEI and maybe even at home.

Completing this survey was voluntary and there were a total of 340 respondents.

Percentages were calculated based on the total number of respondents to the survey, not on the number of respondents to each question. When our percentages do not add up to 100%, the balance was due to non-responses to the particular question; and, in certain questions, more than one response was asked for and given. In order to present the findings in a more compact form, the information presented on the following pages is a summary of the results.

Summary Facts

- Students responded in greater numbers than faculty and staff.
- More women than men responded to the survey.
- A majority of respondents who came to the University came by car, drove less than 5km one way every day and were alone in the vehicle.
- It was encouraging to see that almost 13% of the respondents were already carpooling and that almost 30% were interested in starting carpooling if arrangements were made.

At UPEI

- Most individuals were prepared to turn off lights, equipment, etc. when not in use or save water by not letting it run, using rain water or even re-using wash water.
- When asked what they already did at UPEI to be energy efficient, the majority of responses detailed conserving/reducing energy usage (i.e., lights, computers, photocopiers, water) followed by changing behaviours (i.e., walking, biking, lowering thermostat).
- For the University to save energy or water, respondents indicated that UPEI could reduce energy usage by installing or updating equipment or changing the behaviour/culture on campus.
- Over half of respondents had heard about UPEI's Energy Awareness Program, mainly through campus notices, the website or were informed by faculty and staff.
- Although over 77% were individually interested in saving energy at UPEI, respondents felt that other members of the community were less interested in saving energy (59.4%).
- As incentives for encouraging people to save energy many respondents indicated that they would do so if there was some kind of reward, followed closely by being made aware and educated on how to save energy. Not far behind was the idea that if energy was saved, then this could be reflected in decreased or maintaining tuition.
- Asked what would be the best way of communicating/motivating people to save energy at UPEI, the most common ways were through contests, posters, e-mail, UPEI notices and the website.

At Home

- Almost 60% of respondents indicated that they had invested in energy-saving measures in the last three years, with purchasing energy efficient materials for lighting, appliances, low flow showerheads topping the list. Individuals also did renovations in the home.
- Almost 85% of respondents were very or somewhat interested in saving energy at home.
- When asked what specific actions they took, most said that they turned lights or appliances off, controlled temperature and conserved water.

Survey population statistics:

1. Respondents to the online survey were:

Students	166 (48.3%)
Staff	96 (28.2%)
Faculty	53 (15.6%)
Other	5 (1.5%)

2. Respondents live:

in their own home	153 (45.0%)
at (family) home	49 (14.4%)
in residence	52 (15.3%)
in an apartment	60 (17.6%)
Other	8 (2.4%)

3. Age:

17 – 25	151 (44.4%)
26 – 39	55 (16.2%)
40 – 49	68 (20.0%)
50+	45 (13.2%)

4. Gender:

Female	213 (62.6%)
Male	105 (30.9%)

5. They drive to the University:

Every day	183 (53.8%)
A couple of times a week	40 (11.8%)
Occasionally	32 (9.4%)
Never	62 (18.2%)

6. In getting to campus, respondents were the:

driver	210 (61.8%)
passenger	70 (20.6%)

7. Respondents drive to the University a one-way distance of:

Less than 1 km	6 (17.6%)
1 to 5 km	89 (37.1%)
6 to 15 km	63 (18.5%)
16 to 29 km	40 (11.8%)
30 + km	28 (8.2%)

8. Interest in carpooling if arrangements were made:

Yes	97 (28.5%)
No	152 (44.7%)
Already Carpooling	43 (12.6%)

Section 1: Energy at the University

9. The survey asked for two things each person could do at UPEI to save energy or water, or both, which would have little or no cost. The top five suggestions are summarized below.

Categories	Responses
Turn off: taps, lights, equipment, etc. when not using	186
Water - bringing from home, not wasting, less shower time; keeping jug of cold water instead of running taps; rain water/pitcher water for plants; turning water off while brushing teeth; re-use wash water; cold water vs hot; don't flush; use bathroom at home	58
Thermostat turned down, or at least kept constant; wear more clothing	22
Adopt sustainability philosophy; minimize use - photocopying; half the lights on; re-use envelopes/paper, mugs; use Library reserves instead of copying	17
Doors/Windows closed and/or insulated	15
Other	36

10. Please suggest two things that UPEI could do to save energy or water, or both, which would have little or no cost.

There were two main directions that people took with their answers: reducing energy usage by installing or updating equipment or changing the behaviour/culture on campus. We have included the top five responses for each of these directions.

Conserve energy by installing new or update existing equipment

Install Motion Sensor Lights and Water Taps (Bathrooms & Rooms)	58
Install Energy Efficient Light Bulbs	44
Fix Leaky Faucets (Showerheads, toilets, fountains), weather stripping	37
Fix Cooling & Heating System (too hot or too cold)	16
Install Water Efficient Toilets	15
Other	97

Change behaviour/culture

Turn Off Lights When Leaving Building	41
Turn Off Computer & Other Equipment	35
Campus Awareness & Incentive Programs	14
Use Less/Turn Down Heat	12
Have Security (or cleaning staff) Turn Off Lights/Heat	11
Other	18

11. The respondents were asked if they knew of UPEI's Energy Awareness Program:

Yes	213 (62.6%)
No	100 (29.4%)

12. If Yes, how did they hear about it?

Category	Responses (% of Responses)
Campus Notices	117 (34.4%)
Website	35 (10.3%)
Staff	34 (10%)
Faculty	15 (4.4%)
Students	4 (1.2%)
Energy Awareness Launch	3 (.9%)
In Class	3 (.9%)
Newspaper	3 (.9%)
Other	10 (3%)

13. Level of interest in saving energy at the University:

Very Interested	145 (42.6%)
Somewhat Interested	120 (35.3%)
Neutral	45 (13.2%)
Not Interested at all	3 (0.9%)

14. How interested did they think other members of the campus community are in saving energy at the University?

Very Interested	6.5% (22)
Somewhat Interested	52.9% (180)
Neutral	25.6% (87)
Not Interested at all	7.1% (24)

15. At the University, what did they think would be a good incentive to encourage saving energy?

Rewards (Prizes, Contests, Recognition, Awards, Recognition)*	81
Awareness/Education	65
Tuition (savings to decrease or maintain)	50
Personal satisfaction	10
Timely response and follow-up of identified energy waste	1

***N.B.** Many respondents had ideas of how to reward those who saved energy with variations on the theme of saved money going back into programs or departments, into other environmental initiatives, etc. Some of these included lower parking fees; financial credit to the department to help purchase a new piece of technology; rewards for people's good ideas of how to save energy including fiscal rewards (employee bonus for example); donation to a favourite charity for the most efficient department; graphics or stickers on the door of those who have made energy-saving changes; trophy; offsetting another cost that directly effects the students; parking rebate for car-pooling; lower costs of living in residence.

16. When asked how much money would be saved per year by turning off one computer every night and on weekends, the respondents answered:

\$25	35 (10.3%)
\$75	49 (14.4%) \sqrt (correct answer)
\$150	87 (25.6%)
no idea	144 (42.4%)

UPEI has around 1000 computers on campus, over 300 of which are in student labs. If we all made

a significant attempt to ensure that computers, monitors and printers are turned off overnight and on weekends, we could save a significant amount of energy. These energy savings would translate in cost savings for the university and to the reduction of greenhouse gases for the power producer.

17. At the University, what specific actions do respondents already take to be energy-efficient?

There were two main directions that people took with their answers: reducing/conserving energy usage or changing the behaviour/culture on campus. We have included the top five responses for each of these directions.

Conserve Energy

Turn off lights or computer when not in use	120
Turn off computer and lights at end of day	61
Conserve water, etc	30
Turn off photocopiers, printers etc. when not in use	22
Reduce lighting when possible	12
Other	8

Change behaviour/culture

Lower thermostat	26
Use stairs	20
Walk or bike to University	19
Keep windows and doors closed	16
Recycle	14
Other	3

18. From the list below, how well would each means of communication motivate or remind you to save energy at UPEI? [(1)Excellent, (2)Good, (3)Fair, (4)Poor, (5)Not Applicable]

Means of Communication	Response
Contests	2.1
Posters	2.3
E-mail	2.4
UPEI Events Notices	2.4
Websites	2.6
Internal mail system	2.7
Department Chairs/Directors	2.8
Bookmarks	2.8
Department Notice Boards	2.9
Campus Bulletin Boards	3.0
Student Newspaper - The Cadre	3.0
Pay slips	3.1
Student Union Handbooks	3.3
Class Reps	3.4
Residence Bulletin Boards	3.5

19. Suggestions for other means of communication to motivate or remind people to save energy at UPEI:

Additional Education / Information	46
Labels and Signage	28
Special Projects	21
Choices in Question 18	6
Other	2
No Suggestions	33

20. How much money does UPEI spend on energy each year?

\$500,000	7 (2.1%)
\$1 million	21 (6.2%)
\$1.7 million	52 (15.3%)
\$2 million	42 (12.4%)
\$2.7 million	49 (14.4%) ✓ (correct answer)
No idea	139 (40.9%)

This represents our total power bill, including electricity, water, and heat. While much of our heat comes from steam supplied by the energy from waste plant on Riverside Drive, the rest of our energy comes from burning of fossil fuels by NB Power and Maritime Electric. Our energy demand thus requires more than 4 million litres of oil to be burned by the electric utilities on our behalf in one year.

Section 2: Energy at Home

The literature shows that if individuals are given the necessary information and make changes at work (or at home), they are more apt to make similar changes at home (or at work).

21. Can you remember how much you pay for your electricity at home, per month?

No Idea	47 (15.46%)
Not Applicable	42 (13.83%)
Over \$100	93 (30.59%)
\$60-\$99	89 (29.37%)
\$30-\$59	31 (10.19%)
Below \$30	2 (0.66%)

22. In the last three years, have you invested in any energy-saving measures at home (such as attic insulation, energy-saving or compact fluorescent light bulbs, low-flow showerheads, etc.)?

Yes	200 (58.8%)
No	69 (20.3%)
Not Applicable	40 (11.8%)

23. If you answered "Yes" to question #22, please specify:

Energy Efficient Materials (new purchases)

Installation of new fluorescent bulbs	104
Turn off lights when leaving room	17
Install timer on lights	4
Installation of low flow showerheads	27
Purchase of energy efficient appliances	15
Purchase of energy efficient cars	3

Renovations

Additional insulation, including weatherstripping	49
Installation of new windows	11
Renovated bathroom	1
Use solar panels to heat pool	1

Other 7

24. At home, do you turn off the electronic equipment when not in use (i.e., computer, printer, lights, photocopier, etc.)?

Yes	273 (80.3%)
No	30 (8.8%)
Not Applicable	7 (2.1%)

25. How interested are you in saving energy at home?

Very Interested	211 (62.1%)
Somewhat Interested	77 (22.6%)
Neutral	13 (3.8%)
Not Interested at all	0
Not Applicable	6 (1.8%)

26. At home, what specific actions do you take to be energy-efficient?

Turn lights off	150
Turn appliances off	110
Temperature control	77
Conserve water	64
Energy saving bulbs	21
Burn wood	7

Section 3: General Questions**27. It is cheaper to leave fluorescent lights turned on all the time, because switching them on and off takes up more power overall and reduces the life of the tubes.**

True	49 (14.4%)
False	193 (56.8%) ✓ (correct answer)
No Idea	67 (19.7%)

There are a lot of common misconceptions about fluorescent lamps. The switching energy equals the power consumed by the bulb in 5-10 seconds. When you factor in bulb life, at current energy prices, it makes sense to switch your fluorescent lamps off if you are out of the room for 10 minutes or more. Check out the details at:

http://lightingdesignlab.com/articles/switching/switching_fluorescent.htm

28. In winter conditions, emissions from an idling vehicle can more than double the level of emissions immediately after a "cold start."

True	188 (55.3%) ✓ (correct answer)
False	24 (7.1%)
No Idea	98 (28.8%)

Gasoline engines consume between two and a half and four litres of fuel per hour while idling, and diesel engines use from one to four litres per hour, depending on the size of the engine. Idling gives you zero miles per gallon, and there are better ways to "warm up" your car or truck in the winter.

Find out more at:

http://www.ama.ab.ca/advocacy/idling_facts.pdf

<http://oee.nrcan.gc.ca/idling/home.cfm>

29. In Canada, cars and trucks on our roads are responsible for about 10 per cent of the country's greenhouse gases.

True 152 (44.7%) ✓ (correct answer)

False 67 (19.7%)

No Idea 91 (26.8%)

Transportation is our largest single source of air pollution emissions in Canada, and the one where individuals can have the biggest impact. If you own a car, or are considering buying one, check out the link below to get an unbiased estimate of the air pollution and fuel costs for the particular vehicle. See <http://www.fueleconomy.gov/>

30. Keeping window curtains open during the day in winter can save up to 5 per cent on home heating.

True 215 (63.2%) ✓ (correct answer)

False 34 (10.0%)

No Idea 60 (17.6%)

This idea, and many other simple steps you can take to save heat at home can be found online at:

<http://www.greenhome.org/pdf/Winter-tips-english.pdf>

<http://www.climatechange.gc.ca/onetonne/english/tips.asp>

31. How much water does the average person in Canada use every day?

Less than 35 litres 8 (2.4%)

35 - 100 litres 116 (34.1%)

101 - 199 litres 38 (11.2%)

200 - 299 litres 36 (10.6%)

300 - 400 litres 33 (9.7%) ✓ (correct answer)

Water usage is doubly important. While much of the world's population is in dire need of clean water, Canadians have come to take our water supply for granted. We need to be sensible in our water usage to minimize the energy for pumping, treating and heating the water, certainly, but beyond that, excess water consumption can result in depletion of our store of high quality freshwater, as well as overload wastewater treatment facilities which prevent harmful materials from entering the streams, estuaries and harbours of PEI. Check out

<http://www.climatechange.gc.ca/onetonne/english/tips.asp>

<http://www.gov.pe.ca/infopei/index.php3> and select "Environment and Land"

32. Name one negative impact on the environment caused by high energy use.

Greenhouse Gases 71

Pollution 63

Global Warming/Weather Changes 43

Strain on (depletion of) Natural resources 33

Ozone Depletion 26

Costs/Economics 7

Destruction of Environment 7

Other 16

33. It is good practice to shut off the engine when your vehicle is going to be stopped for more than (choose one):

10 seconds	120 (35.3%)	√ (correct answer)
10 minutes	173 (50.9%)	
30 minutes	15 (4.4%)	

Modern gasoline-powered cars have developed to consume very little fuel during start-up, especially when the engine and exhaust is warm. State-of-the-art gas-electric hybrid cars take advantage of this by automatically shutting off the gasoline engine when there is low power demand, and speed can be maintained by batteries alone. For more thoughts, check out http://eartheasy.com/live_fuel_efficient_driving.htm

Section 4: Final Thoughts

34. Do you have any additional energy-saving/efficiency tips you would like to share with us? Please specify.

We received 51 responses to this question, the most popular topics included communication, retrofitting equipment, changing behaviours, timely maintenance, and support and encouragement for projects and initiatives.

35. Please add any further comments on energy or environmental issues.

We received 69 responses to this question. The most popular comments included general support for the UPEI Energy Awareness Campaign and UPEI leading by example, the need for more education and practical tips, changing behaviours. There were also comments about better building insulation and making energy efficiency a top priority in new building designs, investing in alternative energy sources, reducing the amount of styrofoam packaging in the cafeterias to having a city transit systems off campus.