

WINDS MEET ATOM

May 2017

Happy Spring WiNners! With the warm weather brings with it not only beautiful summer clothes but also yard cleanup, more time outside enjoying the fresh air and vacation time! I have had a particularly busy past year and don't see it getting much quieter this year! I hope all of you have been able to enjoy the weather and get re-united with nature if you have kept yourself inside over the colder months.

I have been fortunate to be engaged in several discussions around energy and climate change recently. We, as an industry, have an uphill battle. Gas doesn't talk about us, renewables and "green tech" emphasize our faults and Fukushima/Chernobyl/Three Mile Island—need I say more. Nuclear is a clean and green technology that provides reliable baseload power for many Canadians and many more outside Canada. Our industry needs us to speak up for it. To be aware of the facts of nuclear and the importance of it if we are going to defeat climate change. Nuclear needs a female voice, as women are less likely to support it than men. Nuclear needs you.

What does that mean for you? It means that you take the time to learn the facts, talk about nuclear when you have a chance, participate in energy discussions, engage on social media, take an interest in others and listen to their concerns. We need to speak out not within.

I challenge you to speak out and engage. Climate change, as you all know, is real. It is not going to solve itself if we plan on surviving. Nuclear must be apart of the discussion if we are going to meet climate change goals. Renewables- yes! Nuclear- Yes! Let's team up and support one another rather than try and better each other. We'll be better for it and so will our Mother Earth.

Yours in WiN,

Larkin Kee

Penny for your Thoughts

"Don't be intimidated by what you don't know. That can your greatest strength and ensure that you do things differently from everyone else"

-S. Blakely

"Dear optimist, pessimist, and realist- while you guys were busy arguing about the glass of wine- I drank it! Sincerely, the opportunist"

-L. Greiner

"We need to accept that we won't always make the right decisions, that we'll screw up royally sometimes- understanding that failure is not the opposite of success, it's part of success"

-A. Huffington



HISTORICAL WOMEN IN STEM

Women in STEM is important to me. I thought I would share with you some motivational and impressive women who paved the way for us.

All the hardships I encountered provided me with the determination, capacity for hard work, efficiency, and a positive outlook on life that have been so helpful to me in realizing my professional career

- Mildred Dresselhaus

Mildred Dresselhaus was known as the “queen of carbon science”. She was the first female Institute Professor of physics and electrical engineering at MIT and had a 57 year career there. She was awarded the National Medal of Science in 1990 in recognition of her work on electronic properties of materials as well as expanding the opportunities of women in science and engineering. Her research helped develop technology based on thin graphite which allow electronics to be everywhere, including clothing and smartphones. She had four children and several grandchildren.

Chien-Shiung Wu was a Chinese-American experimental physicist who made significant contributions in the field of nuclear physics. Wu worked on the Manhattan Project, where she helped develop the process for separating uranium metal into uranium-235 and uranium-238 isotopes by gaseous diffusion. She is best known for conducting the Wu experiment, which contradicted the hypothetical law of conservation of parity. Her nicknames include “the First Lady of Physics” and the “Queens of Nuclear Research”.

Maria Goeppert-Mayer was a theoretical physicist and Nobel laureate in Physics for proposing the nuclear shell model of the atomic nucleus. She was the second female Nobel laureate in physics, after Marie Curie. She wrote her doctorate on the theory of possible two-photon absorption by atoms. Today, the unit for the two-photon absorption cross section is named the Goeppert Mayer (GM) unit. She was closer to her father than her mother and explained “Well, my father was more interesting, he was after all a scientist”. After her death, the Maria Goeppert Mayer Award was created by the American Physical Society to honour young female physicists at the beginning of their careers.

Jocelyn Bell Burnell was encouraged from a young age to pursue her interests, which included astronomy. She earned a Physics degree and completed her PhD where she discovered the space-based phenomena known as pulsars. She also constructed and operated a 81.5 megahertz radio telescope. She worked part-time while raising her son and moving around the country with her husband. Although Burnell shared the Michelson Award with her

A lot of my working life has been driven by family circumstances... Although we are now much more conscious about equal opportunities I think that there are still a number of inbuilt structural disadvantages for women... The life experience of a woman is rather different from that of the male

- Jocelyn Bell Burnell

graduate advisor Hewish in 1973, the Nobel Committee the following year did not acknowledge her role in the discovery of pulsars. While many prominent astronomers criticised the decision to overlook her, she continued to break new ground for women, including serving as president of the Royal Astronomical Society and the Institute of Physics.

YOU RAISED US, NOW WORK WITH US!

Millennials are the generation also known as Gen Y and happened after Gen X and the Baby Boomers. The exact dates range but are usually between 1978 and 1995. By 2025, over 75% of the worldwide workforce will be comprised of Millennials.

Multiple studies observe Millennials' associating job satisfaction with free flow of information, strong connectivity to supervisors, and more immediate feedback. Studies show nearly one-third of students top priority is to "balance personal and professional life". The Brain Drain Study shows nearly 9 out of 10 Millennials place an importance on work-life balance, with additional surveys demonstrating the generation to favor familial over corporate values.

Newer research shows that Millennials change jobs for the same reasons as other generations—namely, more money and a more innovative work environment. They look for versatility and flexibility in the workplace, and strive for a strong work-life balance in their jobs and have similar career aspirations to other generations,

valuing financial security and a diverse workplace just as much as their older colleagues.

Millennials are more educated than the generations before, and yet are struggling to get jobs and create their own lives. Economic prospects for some Millennials have declined largely due to the Great Recession in the late 2000s. The Great Recession has had a major impact on this generation because it has caused historically high levels of unemployment among young people, and has led to speculation about possible long-term economic and social damage to this generation.

References to check out:

Burstein, David (2013). *Fast Future: How the Millennial Generation is Shaping Our World*. Boston, MA: Beacon Press

Stiller Rikleen, Lauren (2014). *You Raised Us, Now Work with Us*. Chicago, IL: American Bar Association

ENERGY VS. ELECTRICITY AND WHY WE CARE

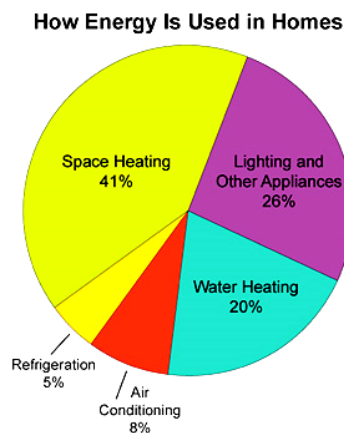
Aside from food, most people use three types of energy. First and foremost is electricity: it is highly versatile and therefore generally the most valuable. Second, petroleum—mostly in transportation. And third, natural gas for heating and cooling.

With the discussions of green technology, climate change and even carbon taxes; it is important to distinguish between energy and electricity. Many people talk about energy but really are talking about electricity generation. Electricity is a form of energy, but it is only one part of the total picture. Nuclear, hydro, wind and solar all generate electricity (okay Solar can also provide some heat). When

any of these are brought up, the conversation is about electricity not energy.

But electricity is only about 40% of total energy consumption. Consider petroleum, virtually none is used for generating electricity; however it is primarily used in industrial and transportation energy applications.

If we moved our electricity production to 100% carbon free sources, like nuclear, hydro, and renewables, we would reduce the use of carbon fuels by only 25%. Basically cutting most coal consumption and reducing natural gas by 30%. But we would still be left huge amounts of petroleum and natural gas being used for industrial and transportation purposes.



Source: U.S. Energy Information Administration

WIN-CANADA CONFERENCE 2017

Women in Nuclear- Eastern Ontario is hosting the 2017 WiN Canada Conference!!

I can not tell you how excited I am to be hosting the national conference in our Nation's Capital in October!

The focus this year is on PROFESSIONAL DEVELOPMENT and GROWTH.

Brookstreet Hotel, October 23rd. Talk to your manager to get it into your training budget now!



SAVE *the* DATE



Upcoming Events

Is there something you want to see on this list? Please reach out to the WiN-EO Leading Group and we'll try and make it happen!

Interested in getting involved with WiN-EO Leading Group?

WiN-EO is looking for members interested in joining the Leading Group.

Short on time?

No problem, the LG requires only about 1 hour a month and offers excellent networking opportunities.

Contact your LG Chair Larkin Kee at larkin.kee@cnl.ca for more information!

If you have any questions, comments or would like to contribute to Eastern WiNDS please contact Larkin Kee (larkin.kee@cnl.ca). Articles should be between 250-350 words and be non-CNL/company specific.