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Fuel Cells Could Supercede Fossil Energy

Interview with Professor Walter Mérida
Sustainable Energy Engineer, University of British Columbia

Is there a viable alternative to fossil fuels?

Most people when they think about energy, they typically think about the sources. The big thing I think to remember is that what drives the energy system is not the sources. What really drives the energy system is what people want, and by that, I mean services, healthcare, transportation, communication. We didn't abandon the Stone Age due to a scarcity of stones, we abandoned it because there were better things to build things with. When we first discovered fire, the only way we could make energy do anything for us was to burn things. Well, we have been burning things for the last 400 years, and things need to change.

Can you describe your research?

We are at a threshold of a post-combustion era, so instead of burning things, we are going to start creating energy services in much more elegant and gentle ways. And one of the areas that's very important for us here at UBC is electrochemical energy conversion. Most of the renewable energy sources – wind, solar, tidal – they can only make electricity. And we cannot store electricity efficiently at the moment in large quantities. Therefore, we need to consider in parallel with all this push and development in renewal energy technologies progress in a chemical fuel and the simplest possible chemical that you can imagine is hydrogen. And this is one of the areas where Canada is still a world leader and in fact, one of the major developers of these technologies just opened up a plant here in Burnaby.

What drives you to do your research?

I come from a developing country, so I immigrated to Canada and I can see the huge impact that energy services can have on the lives of people. We can come up with solutions that don't recreate our mistakes and that allows us to have more equitable and geopolitically stable world. I think that's really what I'm working for.