



PROBUS Club of Central Edmonton Newsletter

April 2021

Editor: Ken Hoffman

Website: www.probus-central-edmonton.com

Email: probus.cent.ed@gmail.com

Members Story

Miao Tsai spoke to us about his life and experiences. He sprinkled in information on Taiwan and engineering challenges he faced. For example, his name Tsia come from a town in China. This town has undergone name changes in the past 3,000 years. His ancestors emigrated to Taiwan some 400 years ago. He was born September 15, 1942 in Taiwan. He spoke about a major Taiwanese electronics firm and its domination of the market and expansion to the USA.

During World War II USA bombs impacted Taiwan. Bombs landed so close to his house he became partially deaf from the impact. After WWII in 1945 Taiwan returned to China from Japanese control. Another significant event was the arrival of Chiang Kai-shek on the island. Miao spent 1 year in the army and served it on a small island holding it against China. It was a difficult time for him, but he survived. He then started working as an engineer. It was a challenging time in Taiwan, and he felt that he needed leave his home to do something, so he moved to Canada. He had several offers and in 1967 he started studies in the University in Saskatoon. He obtained a master's in civil engineering. In 1970 he started as a structural engineer in a major company where he learned more about structural engineering. During his tenure he faced complex engineering challenges. One of these involved uranium mining in north Saskatchewan. He referred to his questionable judgement in holding uranium cores with his bare hands. He moved around finally joining the Sask. Government and working in Regina. In 1981 he was with the Federal Government and moved to Edmonton and worked on RCMP detachments throughout the north. For example, he saw much the NWT and northern Alberta. Later he was involved with the federal government and China on construction projects. Over his career he had many experiences throughout Canada and the world. One of his opportunities was as a China manager of the Association of Consulting Engineers. His three children have done well. One is a neural surgeon and associate professor in Ottawa, another is a BNG Specialist specializing in thyroid surgery in Vancouver, and the third is an anesthesiologist in Toronto. He made a particular point that they all started in Edmonton.

PROBUS Events:

April 20

Hunter Cardinal presented "A Primer on Treaty and Treaty Relationships with First Nations." Not only would we be talk about Treaties from an Indigenous perspective, but he brought some context to what it means for Indigenous & Non-Indigenous peoples living here on Treaty 6 territory and how it is relevant to Land Acknowledgements.

Hunter is an actor and playwright. Also, he is partner with his sister in an organization named Naheyawin. Naheyawin offers sustainable, practical, indigenous-based solutions for

the improvement of diversity and inclusion through education and storytelling. We started with a smudge ceremony then each member presented themselves to other attendees in a circle ceremony.

We had three goals for the day:

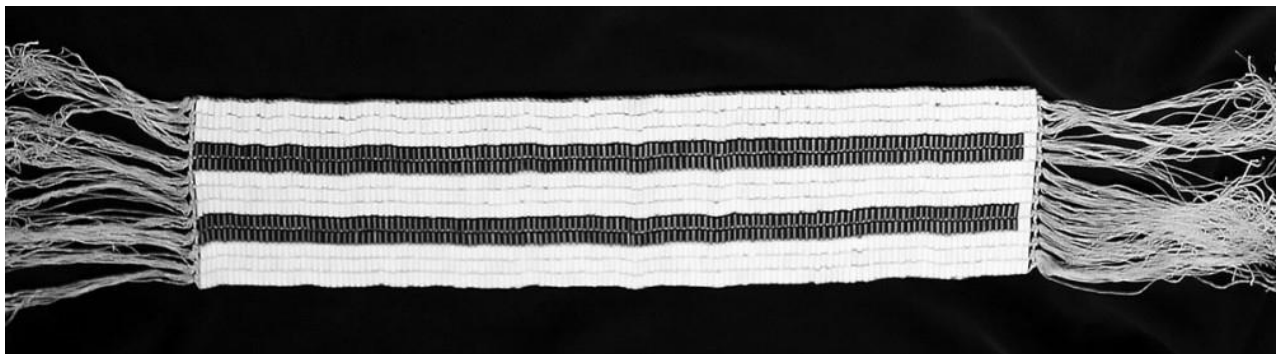
1. Explore the indigenous worldview.
2. Build an understanding of shared history.
3. Consider implication to Canadian and all Canada.

Hunter told a story of the Cree's origin story. This set the stage for the discussion of the indigenous world view. The world view was based on the land and the strong connection of the Cree to the land. He defined worldview as a set of beliefs about reality and influences all one's perceiving, thinking, knowing, and doing. It is important to understand the worldview because we have different views and as noted, it is foundational. The connection to the land is at the basis of many of the views of the Cree and many indigenous people in the world. In fact, indigenous means "sprung from the land". For example, the Cree language is "from" the land. We learned about the written form of the Cree language and the meaning of symbols and its link to the land. We explored the indigenous connection to the land and how it influenced the governance system and several other concepts.

We moved on to the indigenous concept of treaty. He characterized European concepts of treaty as a static legal document usually arising from conflict. Indigenous treaties are a ceremonial process that is ongoing. It is a relationship agreement. These treaties are typically prepared before conflict. He illustrated this by describing the "Dish with One Spoon Wampum", which is a treat between the Anishinaabe, and the Haudenosaunee set in 1142 CE. The treaty is captured in the following belt.



He then moved on the one of the first treaties between Europeans and an indigenous tribe. It was the "Two Row Wampum Treaty" which was between Kaswenentha and the Dutch dated 1613.



It symbolizes the values that are the essence of the relationship set by the treaty.

When considering the treaties that cover the relationship between indigenous peoples in Alberta and gov't of Canada. It was noted that all the land in Alberta is covered by a treaty. He illustrated these treaties by showing a medallion that was prepared to celebrate the signing of a treaty.

Hunter's presentation was challenging and interesting. The rooting of it the spiritual beliefs of the indigenous people, is revelation to me. If you wish to explore this subject further, he recommended reading a book titled "The Spirits of the Alberta Indian Treaties". Hunter shared reading list with Mel and it was forwarded to us by Yves.

April 27

David Layzell is Director of CESAR (Canadian Energy Systems Analysis Research) and the Chief Energy Systems Architect for the Transition Accelerator described the opportunities for Alberta from the emerging Hydrogen Economy.

He started by describing the existing energy system and the greenhouse gas (GHG) emission related to energy carrier's production and use. Two major sources were gasoline and natural gas, both emitters. A Net-Zero energy future requires changing to carriers such as hydrogen, biomass, and electricity. Hydrogen was highlighted as a source since it represents a significant and unused energy carrier. Hydrogen needs to be used because electrical energy will not be able to be the total source of energy. Hydrogen and electrical energy complement each other since electric energy can be used to produce hydrogen and hydrogen can be used to produce electricity.

There is currently a robust hydrogen business. It is made from fossil fuels and Co2 is typically released to atmosphere. It is call "grey Hydrogen".

The future as he envisions it includes use of more hydrogen. It can be green hydrogen, which is hydrogen produced through hydrolysis. Or "Blue Hydrogen" which is hydrogen produced from fossil fuels where the Co2 is injected into a carbon capture system.

Use of hydrogen creates a major opportunity. For example, it can be blended with NG and used to heat houses. At up to a 20% hydrogen blend no change in furnaces would be needed. It can be an effective energy for use in transportation particularly as a replacement for diesel. It is seen as more viable energy source than electricity for large vehicles (trucks, trains, ships, etc.). Hydrogen is a gas; thus, changes in transportation is needs for hydrogen. It can be liquified, compressed to shipped, or moved by truck. It can also be moved in a pipeline. One interesting way to move it, is to convert hydrogen into ammonia and then shipping the ammonia. Upon arrival the hydrogen is removed from the ammonia and then used.

Alberta is well placed for production of lower cost hydrogen, both green and blue. We have infrastructure in place right now, however, to get more use it will need to be expanded. The capital heartland is particularly well placed. For instance, a Japanese study showed that Canada is second lowest cost producer. Production of GHG with creating blue hydrogen is slightly higher than green hydrogen but competitive. However, creating blue hydrogen will cost about a half of that to produce green hydrogen. He did note that hydrogen can be competitive with current fuels. This is even more true with the inserting of carbon tax to the marketplace.

There are challenges of moving to the hydrogen economy. It starts with finding low-cost sources of hydrogen. Edmonton Hub is lowest cost. Edmonton Hub has been established already and in David's opinion is the best place in North America for a hub. We already have some pipelines in place and a carbon capture system. To move forward we need to build it up. He noted that we already have fueling stations and truck companies are using hydrogen.

The bottom line is that the market opportunity is significant. To take advantage of the opportunity it will take considerable effort. But Hydrogen is needed to meet the new GHG target announced by the federal government. David proved to be a truly knowledgeable presenter. The session was full of information. I encourage you to watch the video for the full story. I could only include some of the key points he made in this write up.

Interesting aside



Stay Health and Enjoy