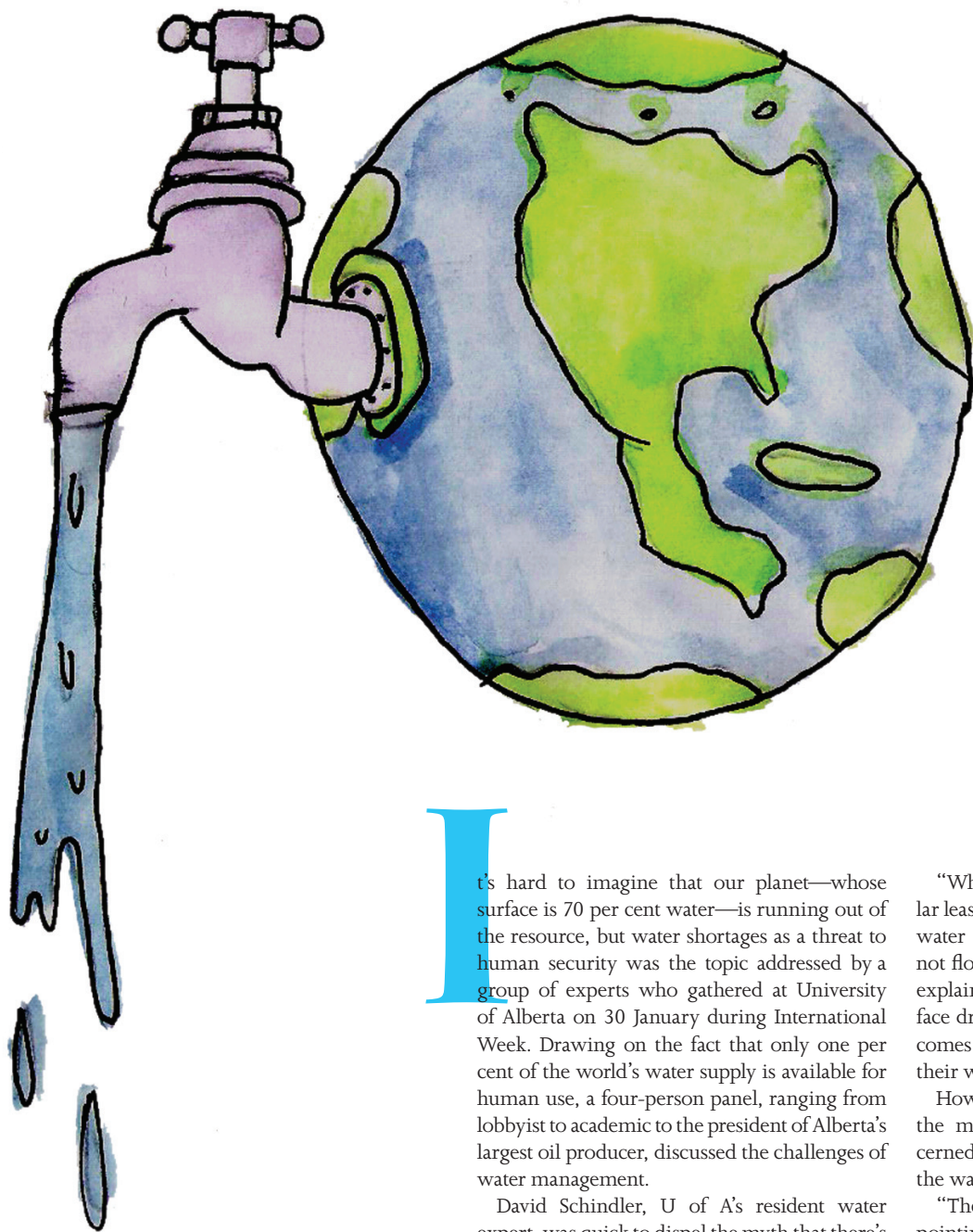


Water, water, everywhere



With a simple twist, water comes rushing out of a tap, flowing warm or cold at your whim—and already treated for human use. But the resource we take most for granted is on the verge of a major crisis, as populations across the globe continue to rise, polluting lakes and rivers beyond use while humans and their industries simultaneously consume more water.

by Chloé Fedio
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It's hard to imagine that our planet—whose surface is 70 per cent water—is running out of the resource, but water shortages as a threat to human security was the topic addressed by a group of experts who gathered at University of Alberta on 30 January during International Week. Drawing on the fact that only one per cent of the world's water supply is available for human use, a four-person panel, ranging from lobbyist to academic to the president of Alberta's largest oil producer, discussed the challenges of water management.

David Schindler, U of A's resident water expert, was quick to dispel the myth that there's lots of water to go around in our country.

"The media and our politicians are always assuring us how much water Canada has, and I submit that they've got their scales wrong," the professor of ecology said. "Canada is the size of Australia or Europe—what we should be comparing is individual provinces in Canada to most other countries."

In particular, Schindler explained that Alberta isn't a water-rich area. He said that the true measure of water in a region is reflected not in what's standing on the landscape, but in the runoff, which is particularly low in Alberta, as precipitation either evaporates or is used up by the population. He said the province's greatest vice is development, and with the current growth, especially in the northern oil industry, water is being used up at a rapid pace.

Jim Carter, president and CEO of Syncrude, the world's largest producer of crude oil from the oil sands, emphasized social and economic contributions it makes to the nation as a whole, pointing to the \$6 billion paid in royalties, payroll and municipal taxes to government. He said that Syncrude has made strides to improve water use in recent years, now only using two barrels of water for every barrel of oil produced, where in the past the ratio was five-to-one. But as the oil giant produces roughly 250 000 barrels of oil per day, the company is still researching more efficient methods.

Most recently, Syncrude has implemented a water recycling system, whereby 80 per cent of the water they use is recycled 18 times over.

"When we mine the oil sands in our particular lease, we're compelled to make sure that any water that's contaminated with oil sands does not flow into the Athabasca river," Carter said, explaining that they use a complex mine-surface drainage system to ensure that water that comes in contact with oil sands stays within their water circulation systems.

However, Schindler was unconvinced that the methods were foolproof, and was concerned that the dirty water would get back into the water stream at some point.

"These are pretty precarious sites," he said, pointing to the basins used to derive crude oil from sand, bitumen, mineral-rich clays and water, which contain "all sorts of carcinogenic goodies."

"Maybe they don't leak right now, but give us one of the act-of-God precipitation events we've been seeing [in other parts of the world] or an earthquake or something, and I think we're gonna see some real fun," Schindler said.

Last year, Syncrude completed a major expansion to their facilities, increasing production capacity by almost 50 per cent to 129 million barrels of oil annually, and Carter hinted that if demand continues, further growth could push that number to 170 million barrels per year. It currently produces 15 per cent of Canada's crude oil.

Carter said that Syncrude is investing in research and development, and pointed to their track record, which shows that 22 per cent of industry-affected land has been restored.

"Findings to date, and this is after about eight years of monitoring, suggest that oil sands development is having negligible impacts, if any, on the quality of local rivers and lakes," Carter said.

But Schindler questioned this data, and emphasized the industry's long-term effects on the environment. He explained that most of the areas destroyed by the oil industry were 1000-year-old forests of wooded fens, which acted as "a giant sponge" to regulate water flow back into the river system. These forests are gone forever.

The NAFTA agreement also came under

fire, as it names Canada's fresh water as commodity that can be sold to the US. Maude Barlow, national chairwoman of the Council of Canadians, witnessed the rise of water justice groups on a recent trip to Africa, and raised concerns that if their demands weren't taken seriously, access to water could become a significant challenge—not only in developing countries, but at home in Canada too.

"The more technology we bring in, the further away water comes from this notion of a public service," she said, pointing to corporate involvement in water treatment processes and growth in the bottled water industry. "In fact, there is a movement now to make water a cartel, just as we have a cartel around oil and gas so that one day every single drop of fresh water in the world will be owned privately by a corporation."

Barlow said that water shortages—which are a looming crisis in developed nations but already a serious problem in many developing nations—are coupled with an ecological crisis, as increased polluted surface water means that ground water is being mined faster than it can be replenished. She went on to say that this is causing "massive desertification" and contributing to climate change.

"We keep hearing about climate change as being only greenhouse gas emissions. And, of course, I don't in any way negate or diminish the importance of getting that under control. But the way we are mistreating and abusing and moving and diverting water is also a major cause of climate change and I'm really hoping that we can start to put these issues together, cause actually, they're the same issue," Barlow said.

Also on the panel was Kori Chilibeck, a U of A political science graduate who founded Earth Water International, a bottled water company that donates 100 per cent of its net profits to the United Nations Refugee Agency.

Water Factoids

The United Nation's Millennium Development Goals call for halving "by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation." Here are some more facts about water.

- Roughly 1.1 billion people, which is about 18 per cent of the world's population, lack access to safe drinking water.
- About 2.6 billion people, or 42 per cent of the total, lack access to basic sanitation.
- More than 2.2 million people die each year from diseases associated with poor water and sanitary conditions—most victims in developing countries.
- During the 20th century, water use increased six-fold, which is more than twice the rate of population growth.
- Water consumption in industrialized countries like Canada runs as high as 380 litres per person each day, while people in developing countries use between 20–30 litres per day.

Source: <http://www.un.org/waterforlifedecade/factsheet.html>