

SCIENCE MATTERS

By: David Suzuki



We can learn so much from nature

If you fly over a forest and look down, you'll see every green tree and plant reaching to the heavens to absorb the ultimate energy source: sunlight. What a contrast when you look down on a city or town with its naked roofs, asphalt roads and concrete sidewalks, all ignoring the sun's beneficence! Research shows we might benefit by thinking more like a forest.

Solar roads could be a step in that direction. Roads, sidewalks and parking lots cover massive areas. Using them to generate power means less environmental disturbance, as no new land is needed to house solar power operations.

A French company, Colas, is working with the French National Institute for Solar Energy to test its Wattway technology under various conditions, with a goal of covering 1,000 kilometres of existing highway with thin, durable, skid-resistant crystalline silicon solar panel surfacing over the next four years. They estimate that could provide

electricity for five million people. Although critics have raised questions about cost and feasibility, it's not pie-in-the-sky. The technology is being tested and employed throughout the world.

Rooftops are another place to generate power using existing infrastructure. Elon Musk's company Tesla is making shingles that double as solar panels. Although they cost more than conventional asphalt shingles, they're comparable in price to higher-end roof tiles, and can save money when you factor in the power they generate.

These developing technologies show that, as the world continues to warm, we can and must move beyond our outdated ways. In Canada and elsewhere, the political approach to climate change has often been to avoid discussing it — in part by firing government scientists or vetting their public statements — and maintaining the status quo by lavishly supporting unproven and risky technologies like carbon capture and storage that



SNOW DAY: The snow fall on Tuesday saw school bus service in the area cancelled for the day, much to the delight of children. - Les Schmidt photo

keep us tied to fossil fuels for years to come. It's nonsensical to dig up and melt oilsands bitumen, transport and burn it, and attempt to capture the emissions and stick them back in the ground, where nature had already stored the carbon. Nature took millions of years to do it, but we aren't a patient animal.

U.S. science writer Janine Benyus coined the term "biomimicry" to describe technologies based on nature's ability to solve problems or exploit opportunities. It's an important concept because it requires humility and respect for natural processes rather than the imposition of our crude but powerful technological innovations.

Every species shares

the same challenges: how to get energy and food, avoid predators and disease (even bacteria get viral infections), what to do with waste and how to reproduce. Over long periods, numerous strategies to solve these challenges have evolved. We are a species magnificently adapted for survival, with a massive brain relative to our body size. Unlike any other species, we have the ability to ask questions and seek answers. We can find a treasure trove of solutions in the ways other species have dealt with challenges.

Biomimicry has inspired applications ranging from producing energy through artificial photosynthesis to building lightweight sup-

port structures based on the properties of bamboo.

By learning how nature works and how to work within it, we can overcome many problems we've created by trying to jam our technologies on top of natural systems. Fossil fuels were formed when plants absorbed and converted sunlight through photosynthesis hundreds of millions of years ago, then retained that energy when they died, decayed and became compacted and buried deep in the Earth, along with the animals that ate them. Rapidly burning limited supplies of them is absurd, especially when they can be useful for so many other known and possibly yet undiscovered purposes.

Surely, with our knowledge and wisdom we can do better than rely on the primitive idea of burning things to stay warm and comfortable without regard for the consequences — pollution of air, water and land with its related impacts on health, as well as climate change, which is putting humanity's survival at risk.

Our economic systems don't often encourage the most efficient and least harmful ways of providing necessities. They aim for the quickest, easiest, cheapest and most economically profitable paths. We can do better than that. Harnessing the sun's power and learning how nature solves challenges are good places to start.

FIRE REPORT

Thursday, January 5
5:58 p.m. Fire fighters responded to the report of

hydro wires and a transformer arcing on Fourth Line, south of 15 Side-

road. Fire staff provided assistance with blocking the road.

Friday, January 6

At 8:36 p.m. Fire fighters responded to the report of a two-vehicle motor vehicle collision at the

intersection of Tanners Drive and Queen in Acton. On scene fire staff disabled both vehicles and applied absorbant to leaking fluids.

Saturday, January 7

5:47 p.m. Fire fighters responded to an ambulance assist on Westcott Road in Acton. Ambulance was on scene upon arrival. Fire staff assisted ambulance with patient care and cleared the scene.

Weekly Safety Message:

The Halton Hills Fire Department reminds everyone to know what your carbon monoxide alarm is telling you. Read your instructions or check on the unit itself. Each sound has a different meaning. It might only be a low battery or a fault warning. Be informed and make the right decision for your family.



**McKenzie-Smith Bennett
Public School**

will be hosting

Kindergarten Registration

For parents of students who must be 4 years old by
December 31, 2017

**Tuesday, January 17, 2017
from 1:00 p.m. to 6:30 p.m.**

Please bring the following original documents when registering:

- Proof of address (any two of the following current documents): lease or deed, car registration, property tax bill, utility bill, residential telephone bill, moving bill, health card, bank statement, credit card statement, correspondence with a government agency
- Proof of age: birth certificate, passport or baptismal/faith document for your child.
- Proof of citizenship: birth certificate or passport or Record of Landing (IMM 1000) or Permanent Resident card.
- Proof of immunization, or philosophical or religious exemption forms (completed medical authorization where necessary).

If you are not the child's parent, or if you have sole custody, please bring proof of custody (court order).

If your child is currently attending Junior Kindergarten, you do not need to register for Senior Kindergarten.

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