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THE 4CP NEWSLETTER

HAPPY HOLIDAYS

In the spirit of the season this issue is full of good news and inspiration – things usually in short supply when talking about climate change. In addition to the forward momentum of the Paris accord, there are many positive developments and innovations to share...



Photo courtesy Theud-bald, Wikimedia Commons.

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GUEST
CONTRIBUTOR:
Carolyn Luttrell

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Published 5x/yr by
4CP's Newsletter
Committee:
Jennifer Anderson
Bruce Arnold
Gerard Bricks
Karen Melton (Ed.)

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PARIS

As this newsletter is being finalized, the most important international climate talks since 2009 are underway in Paris, under the shadow of horrific terrorist attacks. Day 1 of the climate talks featured an announcement made jointly by Bill Gates, President Obama and French President Holland that billions of additional dollars will be invested in clean energy research.

Twenty governments and many individuals signed onto the initiative, called "Mission Innovation," with pledges to double collective annual spending on clean energy research from \$10 billion to \$20 billion. ~SOURCE

IN THE DEVELOPING WORLD

Developing countries are investing significant resources in renewable energy, up 39% in 2014 from the previous year, totaling \$126 billion. China alone spent more than the U.S., the UK and France combined. 55 developing countries included in a report called Climatescope 2015 brought 50+ gigawatts of clean energy online in 2014, more than was added in developed countries. ~SOURCE 1, 2

FROM CANADA

In October Canadians gave a significant victory to the Liberal party with Justin Trudeau becoming Prime Minister. The losing PM, Conservative Stephen Harper, has been a staunch ally of the fossil fuel industry and waged an all-out campaign on behalf of the Keystone XL pipeline.

Trudeau addressed the Paris climate talks saying “Canada is back, my friends. Canada is back, and here to help.” Trudeau also spoke to a World Bank event in Paris calling carbon pricing “a crucial tool to begin the shift we need towards sustainable economic growth.”

~SOURCE

MORE BUSINESSES PLEDGE

In the last newsletter we reported on an initial list of 13 businesses that joined the American Business Act on Climate Pledge in July. It included some of the largest companies in the U.S. including Apple, Cargill, GM, Microsoft and UPS. In October new commitments were announced bringing the number of companies to 81. These 81 companies employ over 9 million people and have annual revenues of \$3+ trillion.

The pledge includes calling for a strong agreement in Paris and setting of company-specific goals such as:

- Reducing emissions by as much as 50%,
- Reducing water usage by as much as 80%,
- Achieving zero waste-to-landfill,
- Purchasing 100 percent renewable energy, and
- Pursuing zero net deforestation in supply chains.

~SOURCE

EXXON INVESTIGATED

Research by *Inside Climate News* reported in the last 4CP newsletter described how Exxon Mobile transitioned over several decades from conducting and publishing cutting edge science about the impact fossil fuels could be expected to have on earth’s climate, to funding groups with a mission to create doubt about that science.

Since that story broke, New York Attorney General Eric Schneiderman has initiated an investigation into whether Exxon Mobil deceived investors about the risks posed by climate change. Schneiderman has subpoenaed a wide range of company records.

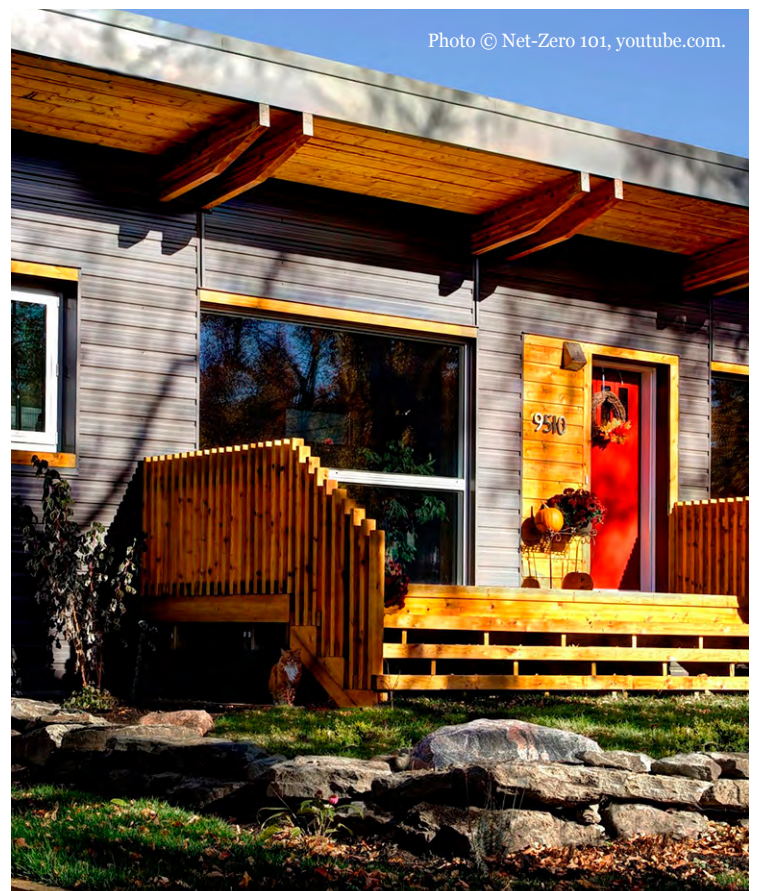
Exxon Mobile CEO Rex Tillerson says “Nothing could be further from the truth”. ~SOURCE

TOP DEVELOPMENTS ENABLING SHIFT TO RENEWABLES

According to a new report by **Clean Edge** it will be possible within this century to reach 100% of our energy from renewable sources. The report identified five developments behind this assessment:

- The cost effective position of distributed solar energy across various markets – residential, commercial and community – largely because of reduced solar panel prices.
- Utility-scale renewables are coming into their own including wind and solar and continued expansion of hydroelectric. Both capacity and generation output have improved in the past decade.
- There is a boom within the energy storage industry as a result of technological innovations and economies of scale.
- Net zero buildings and smart connected devices are at the leading edge of the green building movement. A net zero building is extremely efficient and powered by renewable energy sources. New public and private buildings are increasingly being required to meet net zero energy goals. Many of the energy mandates target all new buildings by 2020.
- A more resilient electric grid is being built. At the heart of this development are smart meters and microgrids. ~SOURCE

Photo © Net-Zero 101, youtube.com.



GAS PUMP WARNING STICKERS

The city of North Vancouver in British Columbia recently passed legislation requiring “climate change warning stickers” on gas pumps. The specific messages are still being worked out, but will help educate consumers about how automobiles contribute to climate change, as well as provide fuel efficient driving tips. A spokesperson for Our Horizon, a group that initiated the proposal, explained that the stickers are intended to make people think about their own connection to climate change. [~SOURCE](#)

SAVING ON LAUNDRY

Even the most water-efficient washing machines use a large amount of water to remove what is typically a very small amount of dirt. This barely dirty water then drains into the sewage system where it mixes with much dirtier water such as flushed human waste. Significant resources are then used to treat the water and make it available for reuse.

A system designed by MIT graduate students as part of an MIT water innovation challenge instead filters out the dirt and reuses almost all of the water and detergent for subsequent loads. Initially targeted for institutional users, it is being tested at a vacation resort under the tradename AquaFresco. It is estimated that a large hotel could save as much as \$500K per year in water costs as well as conserve water and reduce municipal wastewater treatment loads. [~SOURCE](#)

HOW ABOUT SHOWERS?

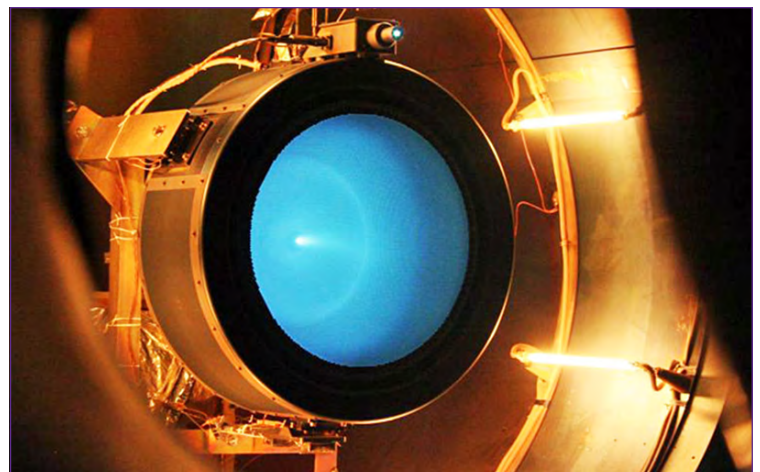
Did the previous article make you wonder if there is a shower built on the same principle? Why yes, there is, and it is already available for retail, at least in the Netherlands. It is advertised as reusing water 7 times, and consuming 90% less water and 80% less energy than a conventional shower.

Traditional showers use large amounts of clean water and similar to washing machines the slightly dirty used water is then flushed into sewer systems with much dirtier sources, requiring resource-intensive municipal treatment. In addition, the infrastructure to support the delivery of large quantities of hot water long enough for showering is pivotal in defining the energy requirements for a home or hotel. This is a barrier to designing energy neutral buildings. [~SOURCE](#)

WHAT HAPPENS AFTER PARIS?

Renewable Energy World, a multimedia platform for renewable energy information, asserts that the U.S. will continue to make good progress on CO2 emission reductions well after the Paris talks. Here are their reasons why:

- The Clean Power Plan, finalized by the EPA in August, will cut emissions by existing power plants 32% by 2030, and has the potential for further reductions if state implementation plans incorporate energy efficiency and increased use of renewables.
- A second round of fuel efficiency standards are coming for medium and heavy-duty trucks by the EPA and the National Highway and Traffic Safety Administration.
- Advance notice has been given of proposed rule-making to reduce carbon emissions from commercial airplane engines.
- DOE has finalized several new efficiency standards for appliances and other equipment and is on the verge of setting new standards for commercial rooftop air conditioners. New air conditioner rules are expected to provide the biggest energy savings of any DOE initiatives to date.
- The EPA has recently proposed rules targeting methane reduction in the oil and gas sectors. This could reduce emissions up to 10 million tons by 2025.
- New landfill emission standards for both existing and new landfills are expected to reduce GHG emissions by 12.2 million tons by 2025.
- EPA regulations are required by law to be science-based. Any new administration would need scientific justification to reverse the Clean Power Plan and other existing regulations.
- Finally, important bilateral climate commitments are evolving between the US and China, India, Mexico, Brazil and other countries. [~SOURCE](#)



An ionic wind thruster being developed by a team from MIT as an energy-efficient, low-emission alternative to conventional propulsion technologies like jet engines. Photo © NASA.

CLIMATE AS A RELIGIOUS MANDATE

Faith based calls for action on climate change have grown exponentially.

Pope Francis' landmark encyclical *Laudato Si* (On Care for our Common Home), published in June, demands urgent action to save the planet from environmental ruin. He concludes "The earth is essentially a shared inheritance, whose fruits are meant to benefit everyone".

Muslim leaders issued a **declaration** in August calling for leaders at madrasas and mosques to address the need to help curb global warming. The Dalai Lama called for action on climate change in October saying, "There is no other planet where we may move. This is our only home... This is not a political matter, not a religious matter, but ultimately [about] the survival of humanity."

Many other religious organizations, such as Baha'i, Interfaith, Jewish, Sikh, and Unitarian Universalist, have released statements on climate change and the need to care for creation.

"The exciting thing about it was that every mainstream religious tradition has a mandate that we are the stewards of creation," said Sally Bingham, an Episcopal priest on the Environmental Defense Fund's Board of Trustees.

"We no longer have to wait 100 years to see the catastrophic effects of climate change. Climate change is a moral issue, and the religious community needs to lead the way," said Presbyterian Pastor Rev. Roger Scott Powers. ~SOURCE 1, 2, 3



PRESERVATION AND SEQUESTRATION

In November, Peruvian President Humala approved protection of a new segment of the Amazon rainforest that will help form a 67 million acre park called the Andes-Amazon Conservation Corridor. The area is not only recognized as important to local indigenous people and a refuge for many forms of wildlife, it is estimated to store more than 500 million tons of CO₂. ~SOURCE

▶ GOOD FOR YOU, GOOD FOR THE PLANET

The holidays present many opportunities to support local businesses and sustainably produced foods and products that put less strain on natural resources. Here are some suggestions for making your holiday activities better for the planet:

- Buy holiday gifts from local businesses and craftspeople
- Make homemade gifts such as baked goods
- Give experiences rather than things, i.e. a gift certificate to a local restaurant or tickets to a play or concert
- Minimize wrapping and packaging, and reuse paper and gift bags
- For the people on your list who already have everything, make a charitable donation in their name
- Make sustainable holiday practices a topic of conversation at family gatherings
- Make New Year's resolutions about new conservation practices you would like to incorporate into your life in 2016.

▶ EVENTS OF NOTE

4CP SPEAKER SERIES: The monthly speaker series is held the second Wednesday of the month, at 7 p.m., in Room 240 at the West Chester Borough Building.

- **Jan 2016 Speaker Series** – Join us for a showing of the film *Merchants of Doubt*. The film is based on a 2010 book by the same name written by Naomi Oreskes, who teaches the history of science at Harvard, and Erik Conway, a historian at Cal Tech. The film examines the network of industry front groups and non-science spokespersons who routinely show up to cast doubt on the science behind climate change, using the same techniques and even some of the same people who created "debate" around the health impacts of smoking.
- **Dec 2015 Speaker Series (Recap):** Philip DeSenze, Climate Change and Landscape Scale Conservation Coordinator with the USDA Forest Service, spoke to us about Our Forests in an Era of Climate Change Adaptation & Mitigation Strategies.