



#16yearsleft ourhorizon.org



Our Horizon is a federally-incorporated not-for-profit organization that empowers people and communities across Canada to change the world. We think globally and act municipally.

Our name is a rejection of the system that made BP's offshore drilling rig the **Deepwater Horizon** a reality. This rig drilled over 10 km deep in the Gulf of Mexico only to burst and spill 4.9 million barrels of crude oil into our oceans in the summer of 2010. We then intentionally dumped 4.5 million litres of toxic dispersants into the waters to "clean" the oil. Since then, fishermen have been finding shrimp without eyes or eye sockets, crabs without claws, and fish with oozing sores.

This is not our horizon.

Unlike many not-for-profits, we do not blame BP. Our position is that we each share in the responsibility for this tragedy. It is the decisions that we each make on a daily basis that shape our collective reality and make such a tragedy possible. We do not condemn Shell, Exxon, or even Enbridge. **We are responsible.**

It is only when we acknowledge our role in this unsustainable system that we can begin to take meaningful steps to address it. While it may be a little scary, it can also be empowering. It is in realizing that we are the masters of our own fate that we become empowered to create a much more desirable future.

This is how we create Our Horizon.

Our first campaign encourages municipalities to require gasoline retailers to place warning labels on gas nozzles like those on tobacco packages. It's the simple sticker that has the power to change the world.

Join us.

The panels in this document form part of our #16yearsleft exhibit that is currently being shown in Toronto, Canada. The exhibit explores our globally-unprecedented solution to stop climate change and is designed to shake us out of our sense of complacency on this pressing issue. To learn more about how you can help change the world, please visit: ourhorizon.org

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ONLY 16 YEARS LEFT?

It's a no-brainer.

We've been drilling and digging for fossil fuels that have been locked under the earth for millions of years and burning them up. All those greenhouse gas emissions have to go somewhere.

Carbon Concentration in our Atmosphere



INTERNATIONAL LIMITATION ON INCREASE IN EARTH'S TEMPERATURE

CARBON EMISSIONS THAT WILL RAISE EARTH'S TEMPERATURE BY 2°C



GIGATONS

2011 EMISSIONS (3% INCREASE FROM 2010)



BASED ON CURRENT EMISSIONS AND GROWTH RATE. THE TIME REMAINING UNTIL THE EARTH'S TEMPERATURE RISES BY 2°C

GIGATONS

WHAT FOSSIL FUEL COMPANIES INTEND TO BURN

This is unprecedented.

Ice core samples tell us that over the last 800,000 years, the level of carbon dioxide ("CO2") in our atmosphere has ranged between 180 and 300 parts per million ("ppm"). Today we have 392 ppm of CO₂ in our atmosphere. A recent study of ancient single-celled marine algae concludes that we haven't had CO2 levels this high in over 15 million years.

We have 16 years left.

In 2009 at Copenhagen, Canada and the world agreed to limit the earth's temperature increase to 2 degrees Celsius. Scientists estimate it will take about 565 Gigatons worth of emissions to reach this threshold. In 2011, we emitted 31.6 Gigatons - a 3% increase over the year before. This gives us about 16 years until we hit this upper limit.

Scorched Earth

Financial analysts have looked at the books of the world's fossil fuel companies to estimate the total proven coal, oil, and gas reserves. These are the amounts that companies intend to bring to market and have already incorporated into their financials. If we burned all these resources, we would emit 2,795 Gigatons of CO2 this is five times higher than the amount that will bring us to the 2°C limit!

The new data provide further evidence that the door to a two-degree trajectory is about to close. The trend is perfectly in line with a

FATIH BIROL, CHIEF ECONOMIST for the INTERNATIONAL ENERGY AGENCY

BURNING **FOSSIL FUELS**

Over the course of a few generations and in the face of repeated warnings, we have changed the basic chemistry of our planet and endangered the survival and well-being of innumerable species. It is the greatest moral failure of our time.

"The health status of millions of people is projected to be affected through, for example, increases in malnutrition: increased deaths. diseases and injury due to extreme weather events."

 UN INTERGOVERNMENTAL PANEL on CLIMATE CHANGE

"The world is on the brink of a food catastrophe caused by the worst US drought in 50 vears.

- REUTERS

"There is high confidence that climate change will result in extinction of many species and reduction in the diversity of ecosystems."

- UN INTERGOVERNMENTAL PANEL on CLIMATE CHANGE

"The Arctic will be ice-free by 2015 or 2016... the final collapse towards that state is now happening."

- DR. PETER WADHAMS, UNIVERSITY of CAMBRIDGE

"There have been five mass extinctions in the distant geological past, all of them caused by overly high concentrations of carbon dioxide in the earth's atmosphere."

- CHRIS TURNER, THE LEAP

"There are 13.25 hillion litres of gasoline extracted from our earth every day. It's a finite resource: do we think this will last forever? The cheap, easy-to-get-at stuff is gone. This is why the oil sands are commercially viable. This is why BP's Deepwater Horizon drilled over 10 km deep in the Gulf of Mexico and devastated its ecosystems. And this is why we now want to drill in the Gulf of St. Lawrence."

- OUR HORIZON

"Mortality-related costs associated with traffic pollution in Toronto are about \$2.2 billion. A 30% reduction in vehicle emissions in Toronto is projected to save 189 lives and result in 900 million dollars in health benefits."

"This is the moral challenge of our generation."

- UN SECRETARY GENERAL BAN KI-MOON on CLIMATE CHANGE, 2007

- TORONTO PUBLIC HEALTH

A 5-CENT STICKER

OUR PROPOSAL:

Warning labels on gas pump nozzles like those on tobacco packages.

Does the dead bird covered in oil upset you?

That's the idea. Now imagine you see a picture like this every time you gas up your vehicle. How soon would it be before people demanded more of governments and industry? Facing our challenge is a necessary first step to meaningful action.





Demand for this fuel product may harm wildlife and damage ecosystems.

Required by Municipality of Courage by-law 2013-058.



Use of this fuel product contributes to climate change which may put up to 30% of species at a likely risk of extinction.

Required by Municipality of Courage by-law 2013-058.

The law.

Municipalities in Ontario have the legal authority to require gasoline retailers to place warning labels on gas pump nozzles. We already have a legal opinion for Ontario and with your help we can fund one like it for every province and territory in Canada. Instead of lobbying an unresponsive federal government for change, we're going to empower 4,000 municipalities.

It's pro-market

We're not prescribing anything; we just want to supply the market with relevant information and let the market do its thing.

The database.

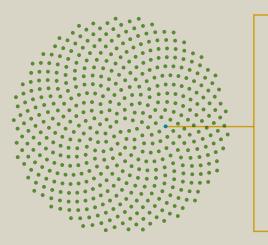
We have a database that has every single municipal councillor's email in all of Canada. Our website allows citizens to email a letter to their representatives with the click of a button. Facebook and Twitter will help spread the word.

It will go global

Passing this by-law will create a global precedent. When it happens, it will make international headlines. Historians will one day point to a Canadian community and a few brave councillors that forever changed the course of human history.

A POWERFUL IDEA

Diffusion of Responsibility



As individuals, we each contribute just a little bit to climate change. Collectively, our actions dangerously alter the chemistry of our planet. There is a diffusion of responsibility so we fail to take action.

The warning label addresses this by locating responsibility right in the palm of your hand.

What might this article say after we implement gas labels?

"Toronto's leaders have not persuaded the public of the need for more spending on transit to break through the region's growing gridlock. Surveys... show people in Toronto and Hamilton are opposed to paying new taxes and fees to raise the billions needed to expand regional transportation infrastructure."

- THE GLOBE and MAIL, 2012

It works.

"Guilt is the emotional response to a self-perceived shortfall with respect to one's own standards of conduct, and people who feel guilty feel a moral responsibility to behave differently (Moser, 2007) or are motivated to make amends... Moreover, it is possible that people may not like messages that make them feel guilty, but the messages may nonetheless be effective (Czopp, Monteith, & Mark, 2006)."

- PSYCHOLOGY & GLOBAL CLIMATE CHANGE, AMERICAN PSYCHOLOGICAL ASSOCIATION

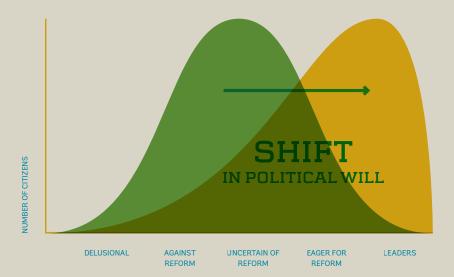
No feedback

Many of the harms of climate change are experienced far in the future. We get little feedback today so there is no signal to change our behaviour.

The image on the label addresses this by bringing far away consequences - like extreme weather - into the here and now.

The Shift

The label will change some behaviours but, more importantly, they will create a shift in the social environment to facilitate political action on climate change.



READINESS FOR CHANGE

HOW MANY KIDS PER LITRE?





\$0.0001? PER LITRE



Externalities

Politicians, economists, and environmentalists talk about pricing externalities all the time. But what does this actually mean?

Pricing externalities means that if burning of fossil fuels is going to result in the loss of a species, we need to first establish the dollar value of that loss, then take this figure and spread it over all the fossil fuels we consume. This way, the cost is incorporated into the price of the product.

For example, as the climate in our north changes, freezing rains are locking lichen under sheets of ice. The caribou that survive off this food source normally brush snow aside to access it but, because of our actions, it slowly starves; desperately trying to stomp through ice to access food that is visible but no longer as accessible. Wiping out a subspecies of caribou may cost you \$0.0001 at the pump. This is our best solution so far. We're not making this up.

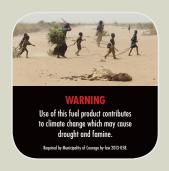
What is the value of a human life?

But if we're going to internalize costs, we need to ask: what is the dollar value of a human life? And how many people have to die of climate change-induced famine to raise the price of gasoline by one cent? Or how many fractions of a penny at the pump internalizes the reduction in quality of life for a child who has lost hope for her future?

The idea of internalizing costs by way of a carbon tax or cap-and-trade system is premised on a particular world view that says humans are rational, self-interested, all-knowing wealth maximizers that respond to price signals like automatons. But is that what we are? Or are we complex, moral

The warning label internalizes cost in a qualitative way

The warning label captures and communicates cost in a qualitative way. It provides information to the marketplace and engages our humanity in a way that a 10-cent price increase never could. A simple sticker challenges much of our unspoken economic assumptions and asks the question: what it is to be human?



What if a simple sticker can internalize harms, better allocate capital, and incentivize innovation?

ADAM SMITH **REVISITED***



ADAM SMITH

MORAL PHILOSOPHER AND ECONOMIST 1723 - 1790

* TAKE A SEAT FOR THIS ONE.

We are all connected

Adam Smith, revered by many as the founder of our economic system, argued in his Theory of Moral Sentiments that people are guided in their decisionmaking by an "impartial observer", a sort of "man within the breast"; something we might refer to more commonly today as a conscience. He wrote that our well-being is connected to the well-being of others:

"How selfish soever man may be supposed, there are evidently some principles in his nature, which their happiness necessary to him, though he derives nothing from it, except the pleasure of

He concludes that this sense of empathy and interconnectedness is universal:

"Of this kind is pity or compassion, the emotion we feel for the misery of others, when we either see it, or are made to conceive it in a very lively manner. That we often derive sorrow from the sorrows of others, is a matter of fact too obvious to require any instances to prove it; for this sentiment, like all the other original passions of human nature, is by no means confined to the virtuous or the humane, though they perhaps may feel it with the most exquisite sensibility. The greatest ruffian, the most hardened violator of the laws of society, is not altogether without it."

The Invisible Hand

While Smith first introduces the concept of the "invisible hand" in Theory of Moral Sentiments, it is most known from its appearance in his subsequent work, The Wealth of Nations. But what is this "invisible hand" on which rests so much of our economic doctrine? In viewing Smith's works as a whole, it becomes clear that the "invisible hand" is our moral sense of right and wrong – "the man within the breast" - that regulates the pursuit of one's own self-interest. As Adam Gopnik of The New Yorker puts it: "one can't grasp the idea of the invisible hand without the balancing idea of the imaginary inner witness - those moral judges are what let the invisible hand act."

Adam Smith wrote:

by acting according to the dictates of our moral faculties, we necessarily pursue the most effectual

So, in order for the economy to function as its founder intended it, we must need feedback to engage our moral faculties. Unfortunately, much of our economy operates to disconnect us from the consequences of our decisions. How then can we act "according to the dictates of our moral faculties" to promote "the happiness of mankind" when we are deprived of moral information?

Reinvigorating the Invisible Hand

Our proposal provides moral feedback in a way that a 10-cent price increase never could. In doing so, it reinvigorates the invisible hand in a way that is authentic to what we are as human beings. As Smith might put it, the label makes us "feel for the misery of others, when we either see it, or are made to conceive it in a very lively manner." In practical terms, our idea has the potential to move us from whining about increases to the price of gas to demanding we stop endangering the health of our planet.

"The reason that the invisible hand often seems invisible is that it is often not there."

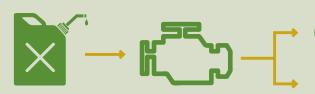
- JOSEPH STIGLITZ, NOBEL PRIZE-WINNING ECONOMIST

CARS: A FAILU OF IMAGINATI

"Road transportation in Ontario was responsible for the greatest increase in emissions of all Ontario sectors between 1990 and 2008."

- MINISTRY of the ENVIRONMENT of ONTARIO

Cars are incredibly inefficient.



The internal combustion engine typically converts only about 20% of the chemical energy stored in gasoline into mechanical energy to power the wheels forward; much of the rest is lost to heat and exhaust. Also, if the typical vehicle weighs about 4,000 lbs and the person driving it weighs 160 lbs, the thing that we actually want to move represents only 4% of the total weight being moved. Multiply these two percentages out and it means that less than 1% of the gas that goes into your car is actually used to move you from A to B!

AMOUNT OF GAS USED TO MOVE YOU FROM POINT A TO POINT B

POUNDS

4000

POUNDS

HEAT+ **EXHAUST**

20%

MECHANICAL **ENERGY**

FOR EVERY

OF GAS WE BUY

IS WASTED.

And every time we drive our cars, 99% of the pollution we emit is pointless! We are destroying our planet to move heaps of metal back and forth for our entire lives.

Mobility is about moving people and goods, not cars.

Cars have become synonymous with mobility. We suffer a failure of imagination. But this is changing.

The auto sector needs to ask itself, "Are we in the business of slapping inefficient engines onto wheels and covering them with steel or are we in the business of providing mobility solutions?" Ultimately, the existing business model has no future. The choice this sector faces is between adaptation and irrelevance, between market leadership and lining up for another government handout.

And there are billions of dollars to be made in this shift. Our idea can be a catalyst behind a market transformation that paves the way for a prosperous domestic industry.

"Car ownership rates are down among young people for the first time since the 1950's."

- TORONTO STAR. 2012

CARS: A CENTURY OF STAGNATION

"A developed country is not a place where the poor have cars. It's where the rich use public transportation."

- MAYOR of BOGOTÁ, COLOMBIA

Evolution of the auto industry

WHAT MADE IT TO MARKET



What would you do with two extra hours a day?







WORKING LIFE SPENT

If you work 9 to 5, the first two hours you spend sitting at your desk are used to pay for your trip to the office. Imagine if you didn't have this expense? What would you do with the gift of two extra hours a day for the rest of your life?

Mobility: where should we allocate resources?

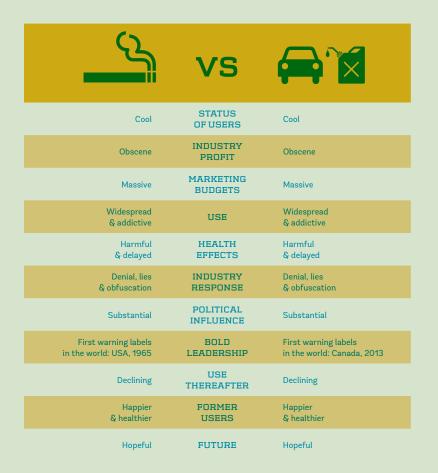


An engine for every 1.2 people?



We move just 1.2 people per car on Greater Toronto and Hamilton Area roads during rush hour. Why have 50 engines burning gasoline when we only need one bus? Why not get to work faster, cheaper, and save the planet all at the same time?

JUST LIKE CIGARETTES





Warning labels work

Studies consistently show that "fear inducing warnings (using strong 'shocking' images related to health risks) and strong emotion inducing warnings (especially involving children and unborn babies) are the most effective way to educate consumers on the health risks of tobacco use and to achieve changes in attitudes and behaviour."

- TOBACCO LABELLING META-STUDY

Canadian leadership

Canada became the first country to require pictorial tobacco warnings in 2001. Since then, our innovation has spread all over the world to save countless lives. How did we do this? We didn't go to endless international conferences to point fingers at other countries while doing nothing ourselves; we decided to lead. Canada took a good hard look at a pressing issue and acted boldly. And we're about to do it again.

CAN A FEW **COUNCILLORS MAKE** A DIFFERENCE?

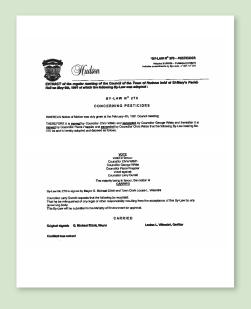
On May 6, 1991, in St. Mary's Parish Hall in the town of Hudson, Quebec, three brave councillors voted in the face of significant industry interests to pass By-Law 270. In doing so, this town of roughly 5,000 people and a budget of \$1.7 million became the first community in all of Canada to pass a by-law restricting the use of cosmetic pesticides. Today, approximately 80% of Canadians now live under a law that can be traced back to these three people.

Are you a councillor?

Passing this warning label by-law will change the course of human history. When historians look back at this watershed moment, how will you be remembered? How will your children and grandchildren remember you?

"We do not inherit the Earth from our Ancestors. We borrow it from our Children."

- FIRST NATIONS PROVERB



Stand on guard for Earth.

This is a planetary emergency. We have only 16 years left. We need something to shake us out of our sense of complacency - and this is it. It's no exaggeration to say that the people in government today will determine the fate of our earth. The entrenched interests at senior levels of government make it virtually impossible to meaningfully address climate change - so we're counting on independent representatives from communities across Canada to stand on guard for Earth.



Make your own warning label.

Are you worried about climate change? Express yourself! Create your own label and tweet it to you councillor.

Use the hashtag **#16yearsleft** and be sure to direct your councillor to **ourhorizon.org** for more information. We'd love to see your creations. Tweet them to:



"Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has."

-MARGARET MEAD

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