

What is this?

July 15, 2015

The visualization below is part of an information mural I am making on the History of Climate Change. It covers a relatively short period from 2009 to now (2015). It addresses the recent emergence of a new concept of the limits to how much of the fossil fuels in the ground can be burned – if the world is to stabilize global average temperature of 2 degrees C above pre-industrial levels. The Keep It In The Ground movement regards most fossil fuels as resources that must not be burned.

Our History of Climate Change Info-Mural project will be in full first draft form by the Paris meetings of the Conference of the Parties (COP 21). We welcome information we may have missed and corrections to this draft.

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A (Partial) History

Carbon Bubble? Stranded Assets? Divest Fossil Fuel Stocks? Beginning of a Moral Movement?

2009

The Daily Times
To Stay Below 2 Degrees C in 2050, Carbon Emission Limits Calculated to be One Trillion Tons of CO2 To Achieve Goal, Less Than Half Oil, Gas & Coal Reserves Can Be Burned – Ever !

LETTERS
Greenhouse-gas emission targets for limiting global warming to 2°C
Mette Meinshausen, Nicolai Meinshausen, William Hare, Sarah C. B. Raper, Katja Frieler, Reto Knutti, David J. Frame, & Myles R. Allen, (2009) Greenhouse-gas emission targets for limiting global warming to 2°C. Nature, Vol 458:30 April 2009



Why is this important?
The calculation of a specific number - one trillion tons of CO2 gives a different boundary beyond which it is much more likely that global warming will cause serious to catastrophic consequences.
Before, policy makers used either 450 parts per million (ppm) of CO2 and/or two degrees Centigrade rise in average global temperature above pre-industrial levels (i.e. around 1850) to suggest a limit to carbon emissions from the global economy.
By using one trillion tons of carbon one can calculate an estimate of how many more tons of carbon can be emitted into the atmosphere by the global economy.

Divestment movement launched...

2012

Carbon Tracker

2012

The Daily Times
To Prevent Global Warming Beyond Safe Limit Of 2 Degrees C Will Make Most Of World's Proven Fossil Fuel Reserves Unburnable
Says Carbon Tracker Report

Why is this important?
Potentially some (maybe many) companies are going to lose a lot of value if investors continue to stop owning their stock.

Rolling Stone

2012

The Daily Times
Three Numbers Global Warming's Terrifying New Math
2-degree Threshold Permit Fossil Fuel Can Continue At Current Rates Only Until 2030
Writes Bill McKibben in Rolling Stone

What are the three numbers and why are they important?
The First Number: 2° Celsius
The Copenhagen agreement among 190 nations says "the scientific view that the increase in global temperature should be below two degrees Celsius." The total amount of carbon burnable to stay under 2 degrees C from pre-historic times until now is est. 1,000 gigatons. We have already burned 435 gigatons.
The Second Number: 565 Gigatons
This is the amount of carbon contained in the proven coal and oil and gas reserves of the fossil-fuel companies, and carbon producing countries (e.g. Saudi Arabia; Canada; Iran, Iraq)
Importance. The International Energy Agency records that CO2 emissions rose by 31.6 gigatons. Divide 31.6 into 565 = 17.88 years. 2012 + 18 years = 2030. That's the approx. safe limit to all carbon burning
The Third Number: 2,795 Gigatons
This is the amount of carbon contained in the proven coal and oil and gas reserves of the fossil-fuel companies, and carbon producing countries (e.g. Saudi Arabia; Canada; Iran, Iraq)
Importance. The amount of carbon reserved – 2,795 gigatons – is about five times higher than 565 gigatons, the maximum that can be burned safely by human civilization.

Should the value of fossil fuel companies & countries be regarded as a six trillion dollar 'bubble'?

2013

Carbon Tracker

2013

The Daily Times
Prevent \$6 Trillion Carbon Bubble In The Next Decade
Urges Carbon Tracker and the Grantham Research Institute On Climate Change Report And The Environment At London School for Economics
Regulators, Governments And Investors Must Re-evaluate Energy Business Models Against Carbon Budgets

2013

The Daily Times
Six Colleges, 16 Cities And 11 Religious Institutions Agree To Divest Stocks Of Fossil Fuel Companies

2013

The Daily Times
Boxtel, Netherlands Announced Their Town Will Divest From Fossil Fuel Companies
First Municipality In Europe To Make A Commitment To Divest From Fossil Fuels

The logic of the "bubble"
BECAUSE... the fossil fuel reserves of companies are carried on their corporate balance sheets as assets at current market value.
AND IF... fossil fuel reserves owned by companies and countries can never be burned
BECAUSE... burning risks pushing global warming into the catastrophic range
THEN... the value of the fossil reserves are vastly overvalued, and...
THUS... there is a what is regarded as a "bubble"
AND... at some point in time the market will sharply reduce the stock price of those companies
Why stigmatizing?
Similar campaigns targeted apartheid, tobacco and arms manufacturers. Associating fossil fuels with those industries is what stigmatizing campaign is about.
Those who profess to care for the health of people perhaps have the greatest responsibility to act. Firstly, we should push our own organisations – universities, hospitals, primary care providers, drug and device companies – to divest from fossil fuel industries completely and as quickly as possible and reinvest in renewable energy sources.
Sabarathnam Arulkumaran, president of the British Medical Association - 2013

Divestment movement grows rapidly

2014

2014

The Daily Times
World Bank President, Jim Yong Kim, announces support for divestment at World Economic Forum summit in Davos, Switzerland

2014

The Daily Times
BlackRock - World's Largest Asset Manager - Launches Fossil-free Index Fund

2014

The Daily Times
Only 90 Corporations & Nations Emitted 23 Of All The Carbon Emissions Since 1751
New Report Says Chevron Responsible For 3.52%, ExxonMobil For 3.22%, BP For 2.24%, China 8.56%

2014

The Daily Times
Development of Deep-water Oil Not Compatible With 2 Degree C World - Even With CCS
80% Canadian Bitumen Reserves & 92% Extra-heavy Oil Reserves In Venezuela Must Remain In The Ground

2014

The Daily Times
17 foundations with nearly \$2 billion in assets form Coalition "Divest-Invest Philanthropy"
Aim to divest fossil fuel stocks

Bill McKibben 350.org

Archbishop Desmond Tutu - Nobel Peace Prize Winner

Christiana Figueres Executive Secretary of the United Nations Framework Convention on Climate Change (UNFCCC)

More difficulty in obtaining loans & potentially higher interest rates

Pressure for lower stock price due to higher risk

More difficulty in potential mergers/acquisitions

Be weakened in negotiations with suppliers.

"bad image that scares away suppliers, subcontractors, potential employees, & customers"

Shareholders "demand changes in management or the composition of the board of directors"

Could result in boycotts

"Stigma attached to merely one small area of a large company may threaten sales across the board"

Potential Consequences (Over Time) of Stigmatizing

Source: Oxford Smith School Report, Oct 2013

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