

Switch or Die

Suicidal Subsidies and The Climate Solution



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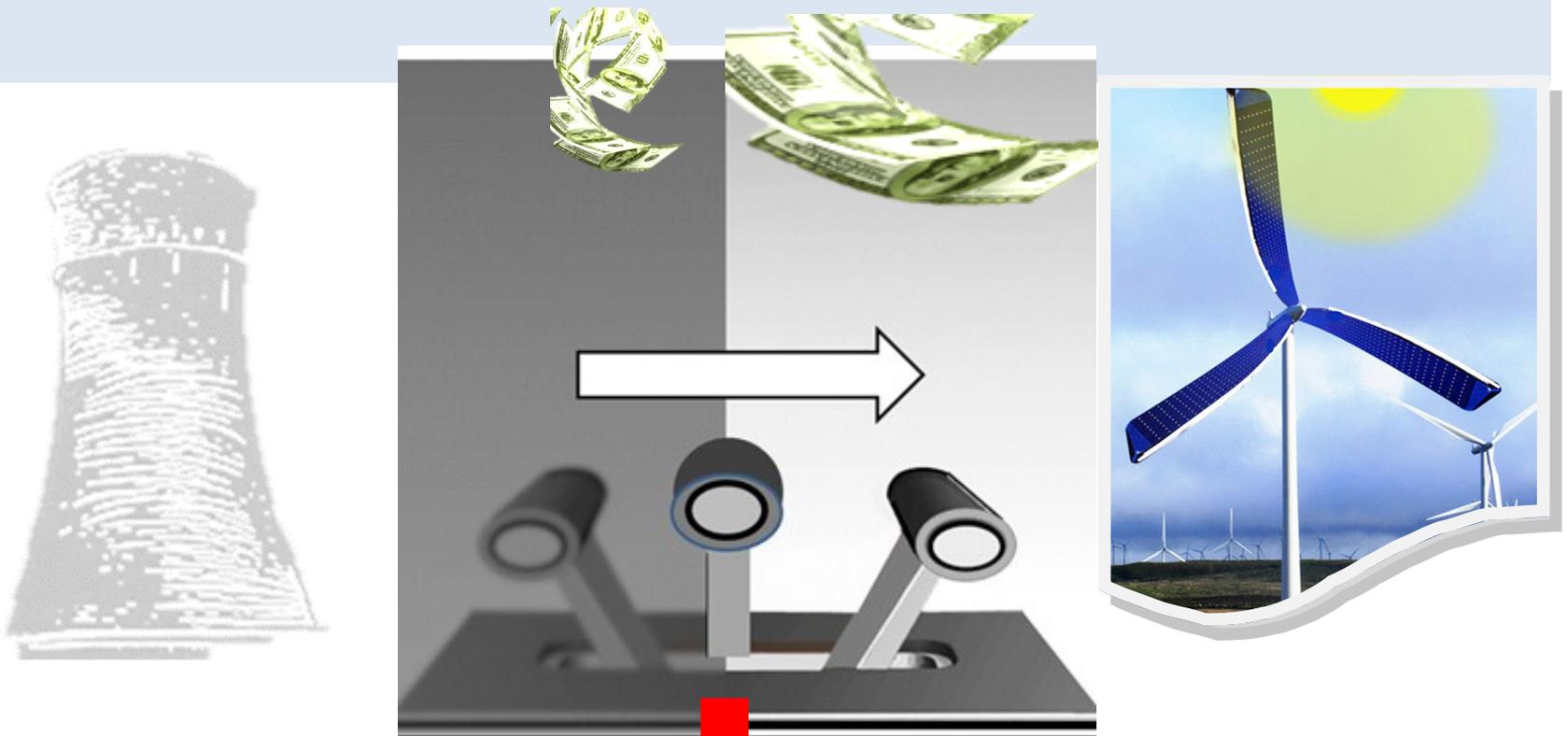
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SWITCH THE SUBSIDIES



SHIFT THE MARKET



SWITCH



ENERGIES

SAVE THE FUTURE

NOW

FOSSIL FUEL SUBSIDIES = \$ TRILLIONS / YEAR

World Energy Subsidies

FOSSIL FUELS



RENEWABLES



— Direct

\$350 Billion / Year

— Indirect

— Tax Breaks **\$425 Billion**

— Externalities **\$3 Trillion**

Total \$3.75 Trillion

Total \$45 Billion

Climate change mitigation - *switching from fossil fuels to other sources that emit ...
no noxious greenhouse gases.*

Introduction: the big missing climate solution

Today we are fixed on a world energy economic scenario that will lead to a global temperature increase of at least 2°C before 2050 and 6°C by 2100. We are truly looking at the end of the world.

The UN negotiations are deadlocked and by all accounts will remain so for years, but the issue of subsidies to GHG polluting industries is not even on the negotiation agenda.

Energy subsidies are expensive, damage the climate, and disproportionately benefit the well-off.

Climate Change World Bank Group. Win-Win Energy Policy Reforms

Incredibly, there are two great gaps in the climate change mitigation agenda: (1) subsidies that promote GHG pollution and (2) expert recommendations to correct them. This is insanity.

We do not have an assessment of all the total world's fossil fuel energy subsidies (direct and indirect). This book's attempt to tally the full amount finds they are enormous, have been increasing, are expected to continue increasing - and now amount to TRILLIONS of dollars a year. For many years, studies have documented that stopping fossil fuel subsidies is the most powerful climate change mitigation measure there is, and it is recognized in the 2007 assessment of the Intergovernmental Panel on Climate Change (IPCC). Yet today, there is no demand for them to be switched (shifted) to clean energies, and no even a demand to stop all fossil fuel subsidies.

Today's committed* global climate change commits (i.e., condemns) billions of people to terrible losses of water, food and health. The world's worst environmental and population health catastrophe ever is now unavoidable, but still not being mitigated nor prepared for. This is clearly the crime of all time.

By climate crop models and committed climate change, we are all losing our food security.

Committed global warming and continued GHG emissions now put us all in peril from the risk of uncontrollable, accelerating "runaway" climate change.

We are past peak oil with the very worst fossil fuels now replacing conventional oil, and the price of oil will only increase. We have to convert to clean energy - and rapidly - anyway.

Demands to governments and the UN by the world's leading professional institutions to stop all fossil fuel subsidies and switch subsidies to clean energy development is our best, and possibly now only, hope for survival. It is obviously the duty of us all to make this obvious demand.

(* Commitment is fully explained in ebook 2.)

Outrageous fossil fuel subsidies: International Energy Agency (IEA)

2008: Fossil fuels get \$557 Billion: 12 times the support of renewables

Fossil fuel subsidies between 2006 and 2010: \$1,439 Billion

Projected fossil fuel subsidies: \$600 Billion/year by 2015 (IEA data)

SWITCH



Fossil Fuel Subsidies

2006 \$220 Billion

2007 \$350 Billion

2008 \$557 Billion

2009 \$312 Billion

4-year total \$1,439 Billion

Clean Energy Subsidies

Governments in 2008 gave \$43-\$46 billion of support to renewable energy.... The fossil fuel subsidies were twelve times this support.

2008 subsidies \$45 Billion



(The IEA attributes the 2009 drop to the world economic recession.)

IEA data

What are fossil fuel subsidies?

A negative subsidy with respect to global climate change are any government policy that is a financial incentive to produce and use fossil fuels. A major unaccounted source of 'hidden' fossil fuel subsidies is indirect subsidizing by the economic externalization of their extremely large social and environmental costs (Stern Commissions Economics Climate Change 2006). A positive subsidy is a financial incentive to switch from fossil fuel to clean zero carbon energy.

The justification for subsidies is to assist in the early development of an industry that produces an important public good or beneficial externalities. An argument used for environmentally damaging subsidies is that they help the poor. In the case of energy subsidies studies have found this is not the case. In any case global climate change hits the poor in all regions earliest and hardest.

Planet in peril - switch the market to a Golden Age for humanity

The cause of GHG pollution is our economics that drives GHG pollution and allows the polluter to avoid paying any costs . Without switching the market there is no end to GHG pollution.

The 2006 Stern Commission described the climate change as *the greatest most far reaching market failure ever* and recommended switching subsidies.

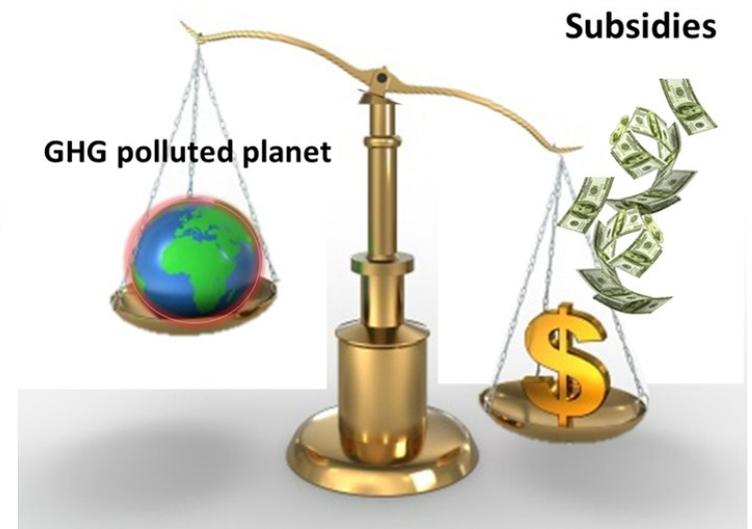
As we stand presently paralyzed on the brink of planetary catastrophe, at the same time we are on the brink of a golden age of energy. This is the big switch- that is a world energy conversion from depleting, polluting, global warming fossil fuel energy to everlasting, practically unlimited, clean, zero carbon energy.

Switch the world market

The market is very sensitive reacting rapidly and powerfully to world events . The fossil fuel and big money lobby is spending literally hundreds of millions of dollars a year in the US and succeeding to sabotage any possibility of effective GHG pollution legislation or international agreement.

Our silence on fossil fuel subsidies is allowing emissions to continue and to keep increasing.

Our professional institutions must lobby their governments to make the switch, because they have the most powerful voice. This is now a question of our survival.



You simply will not find anything with the same kind of growth potential as alternative energy. And long term, alternative energy will prove to be one of the greatest investment opportunities of the 21st century.
(6 June 2011 Energy and Capital)

The climate change solution is - switching from fossil fuels to other sources that emit ... no noxious greenhouse gases UNEP

Good news: the best solution is simple, certain, and great for the economy

This book actually has the best news there is about the global climate emergency. The biggest, fastest, surest way to deal with global climate change has not been tried. It is not even on the climate change solutions agenda. We must and can make it happen.

FOSSIL FUEL SUBSIDIES MUST BE SWITCHED TO CLEAN ENERGY DEVELOPMENT.

PROFESSIONAL INSTITUTIONS MUST RECOMMEND THIS SWITCH.

The way to make the switch happen is for the world's top professional institutions to recommend it urgently to the world's governments. There are many recent (and past) research reports showing that stopping fossil fuel subsidies will reduce GHG emissions substantially.

Government leaders (G20 2009) have promised to phase out some fossil fuel subsidies but nothing is happening and nothing will happen without powerful pressure to make governments do the right thing.

Recommendations from scientific organizations

Although the IPCC makes no recommendations, there is one independent (of government) science agency, representing all the national science academies, that already has. This is the InterAcademy. But the InterAcademy has not made any recommendations on energy subsidies.

If the InterAcademy adopts a position to stop and switch the fossil fuel energy subsidies, all the civil society professional organizations and nongovernmental organizations will follow their example.

Economic cost - the big lie

We are being told that mitigating climate change is an economic cost. Even by today's perverse economics, this is not true. Even under very incomplete cost/benefit analyses, the IPCC assesses mitigation at a negligible economic cost to a slight gain. The 2006 Stern Commission that included costs of externalities (indirect subsidies) projected future costs at up to 20% of world GDP. The really good news is that under full cost/benefit accounting, switching the world off fossil fuels on to clean, everlasting energy will be the greatest boost to the world economy and employment ever.

Achieving energy sustainability requires a radical change in present trends.

- *Switching from fossil fuels to other sources that emit little or no noxious greenhouse gases....*

— *UNEP, Reforming Energy Subsidies: Opportunities to Contribute to the Climate Change Agenda, 2008*

The simple climate change solution...or headed for a 4°C end of the world

There is one simple, obvious climate change solution. It will work for sure, and the Intergovernmental Panel on Climate Change (IPCC) says so. Governments have the power to do it. Polls say the public would approve of it. All that is missing is a strong voice to recommend it and a campaign to make it happen. The solution is to switch the energy subsidies.

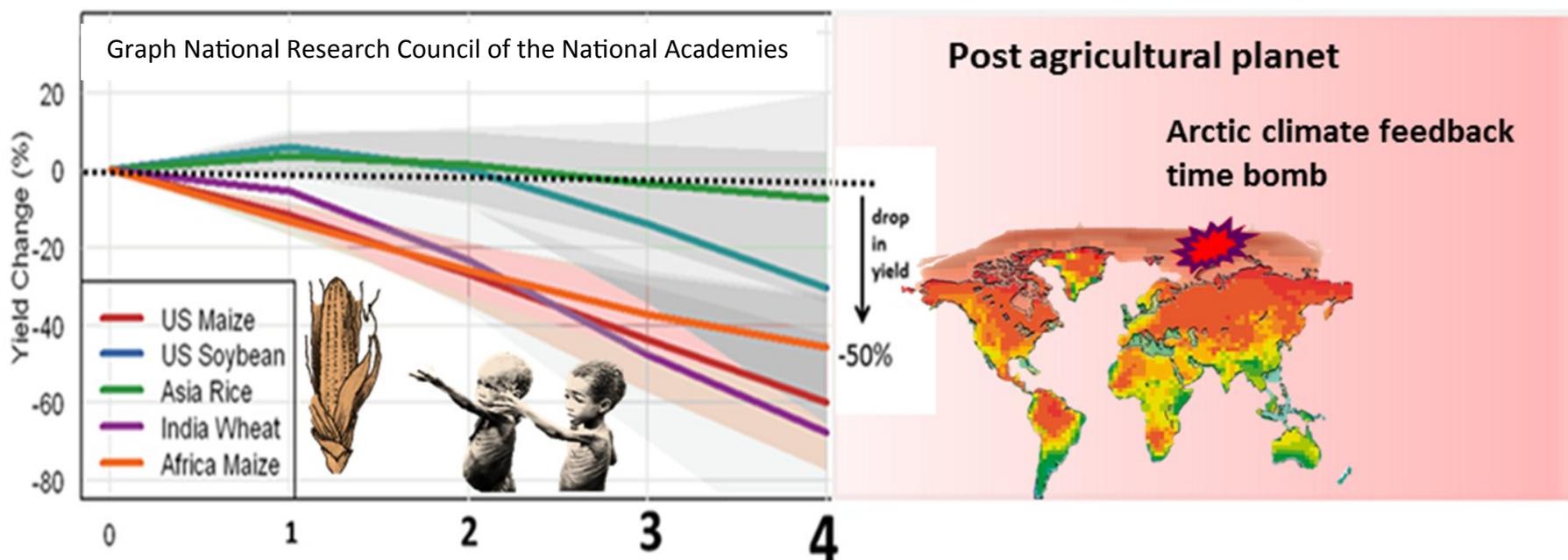
Unless something big happens soon to change the greenhouse gas (GHG) emissions situation, the climate scientists are saying we will be committed to a 4°C planet - this century.

What we are not being told is that climate-crop models show 4°C would be the end of agriculture everywhere, and that 4°C this century means eventual climatic annihilation.

If the subsidy situation is not corrected we will remain fixed on this suicidal GHG emissions scenario. The craziest thing - switching subsidies is not even on the mitigation solutions agenda. The only organizations recommending the switching approach are IEA and the Earth Policy Institute (Plan B4 Lester Brown). IEA does not include the largest subsidies (externalities).



Tax and subsidy shifting promises greater energy efficiency, cuts in carbon emissions, and reductions in environmental destruction, a win-win-win situation. Plan B. 4



Rapid response to global climate change emergency

Because we have not yet told our governments to act on subsidies, and because they have not yet been held accountable for the terrible results of their inaction on climate change, we can — and must — apply far more pressure on our governments to act.

The world's leading professional institutions need to issue position statements to the world's governments on responding to the climate emergency

This appeal is being sent to all world leaders, the world's leading scientific and other professional institutions, and leading international nongovernmental organizations (with this ebook).

From here on, the primary judgment of all human institutions, professions, and activities will be determined by the extent to which they inhibit, ignore or foster a mutually enhancing human-Earth relationship.

— Father Thomas Berry, 2006

Statement to governments on subsidies, to move the stalled UN process forward and prevent planetary catastrophe

- The enormous subsidies (direct and indirect) going to the fossil fuel industries must be stopped and switched to the rapid development of the clean, abundant, everlasting energy industries. The same applies to other GHG-polluting industries.
- Direct fossil fuel subsidies must be switched to the clean energy industries. Indirect fossil fuel subsidies (externalities) must be immediately stopped by charging their full cost to the polluting industries through a pollution (carbon) tax. This must happen without any more delay, because of today's global committed climate change, which is an emergency situation (1,2).

We are putting ourselves in a scenario where we will have to develop powerful technologies to capture emissions out of the atmosphere. We are getting into very risky territory.

— Christiana Figueres, Executive Secretary, UNFCCC, 20 June 2011

1. James Hansen, 2008 Press Club address, Washington, DC
2. John Holdren, Meeting the Climate Challenge Change, Woods Hole Institution, 2006

The climate change solution is - switching from fossil fuels to other sources that emit ... no noxious greenhouse gases UNEP

Quick look at the climate science — A few essential facts

Here is the thing to remember.

- **Today's global temperature increase is committed to increase by a factor of 2 to 3 - and to last 1000's of years.** (ebook 2 covers the research showing commitment is triple today's warming)
- **Only stopping carbon emissions (zero carbon) can stop the global temperature and ocean acidification increasing.** (zero carbon makes commitment triple)

Zero carbon means all fossil fuel energy must be replaced by clean zero carbon clean energy.

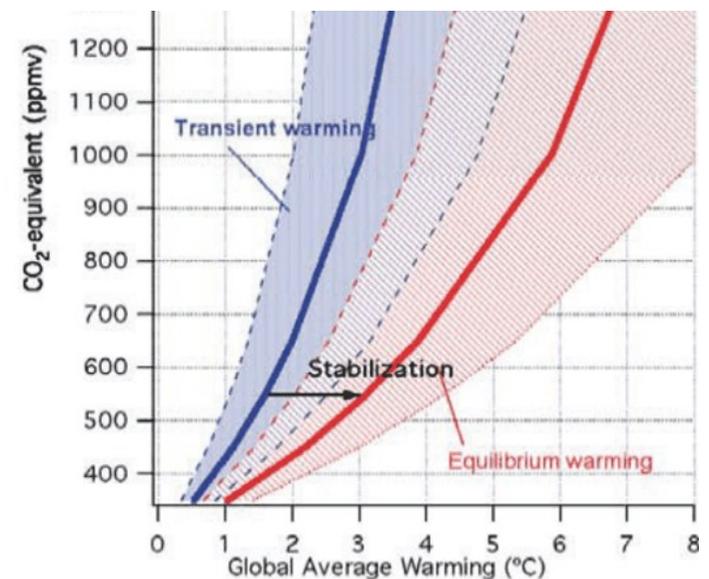
Quotes (and temperature plot) National Research Council, GHG Stabilisation Targets, 2010.

This IPCC 2001 illustration of climate model results

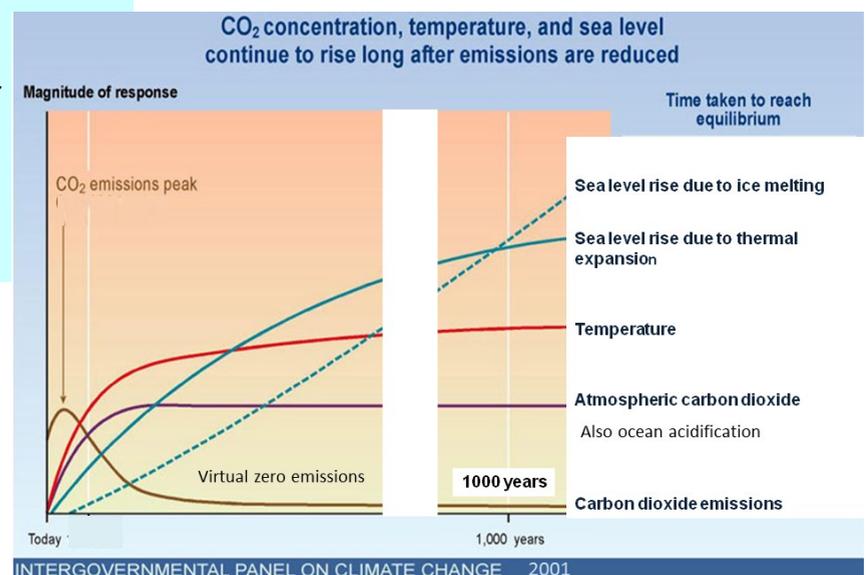
> *Because of time-lags inherent in the Earth's climate, warming that occurs in response to a given increase in the concentration of carbon dioxide ("transient climate change") reflects only about half the eventual total warming ("equilibrium climate change") that would occur for stabilization at the same concentration .*

> *Climate changes that occur because of carbon dioxide increases are expected to persist for thousands of years even if emissions were to be halted at any point in time.*

> *... models show the need for emissions reductions of at least 80% for carbon dioxide stabilization even for a few decades, while longer-term stabilization requires nearly 100% reduction.*



shows the above realities of the science.



Zero carbon= zero subsidies to fossil fuels + switching to zero carbon energy

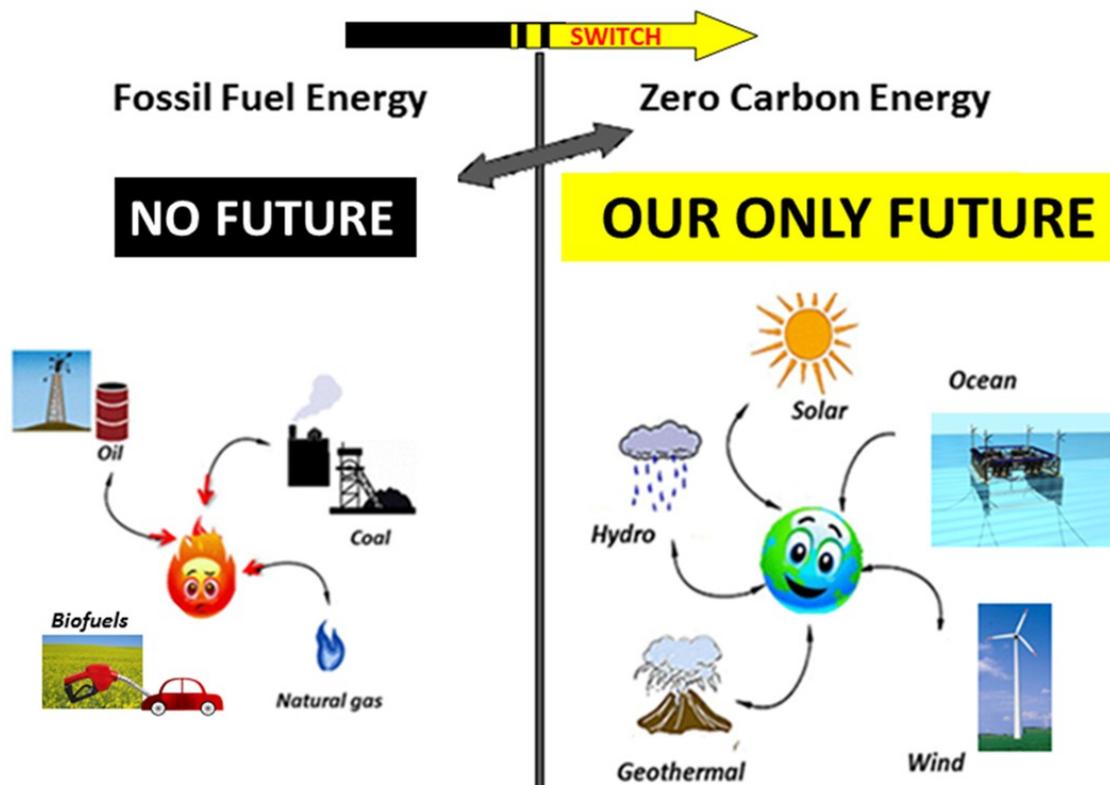
Only zero carbon emissions can allow the global temperature and ocean acidification to stop increasing or the atmospheric CO₂ to drop. A low carbon economy will not save us. The reason is the highly persistent and cumulative nature of carbon dioxide emissions in the atmosphere. Any CO₂ emissions will lead to a continued rise in atmospheric carbon dioxide concentration.

The one overriding policy must be to stop all use of fossil fuels, total replacing them by zero carbon energy. Obviously all fossil fuel subsidies have to stop, especially the huge hidden indirect subsidies.

Projections are, that removing the direct government fossil fuel substances subsidies will only slow the continued rate of increase of global fossil fuel consumption. The energy market must switch so the direct subsidies have to be switched to renewables.

Any delay in starting the momentous task of rebuilding the world for clean zero carbon everlasting energy makes it more unlikely that we will be able do so in time to prevent planetary catastrophe. Another reason that we must stop all fossil fuel emissions in short order is that zero carbon means that the large hidden heat of aerosol cooling will definitely be unmasked.

In fact only in the case of essentially complete elimination of emissions can the atmospheric concentration of CO₂ ultimately be stabilized at a constant level. IPCC 2007 WG1 Question 10.3.



A quick look at our climate change situation

Committed to 2°C and above

In 2009 governments agreed to stick with the suicidal policy target of 2°C. However we look at the situation, we are now committed to more than a 2°C temperature increase. Possibly because the essential facts of the science are not well known, there is little awareness of the dire planetary emergency we are in from today's committed global temperature increase, GHG concentrations in the atmosphere, and global emissions. This applies particularly to agriculture.

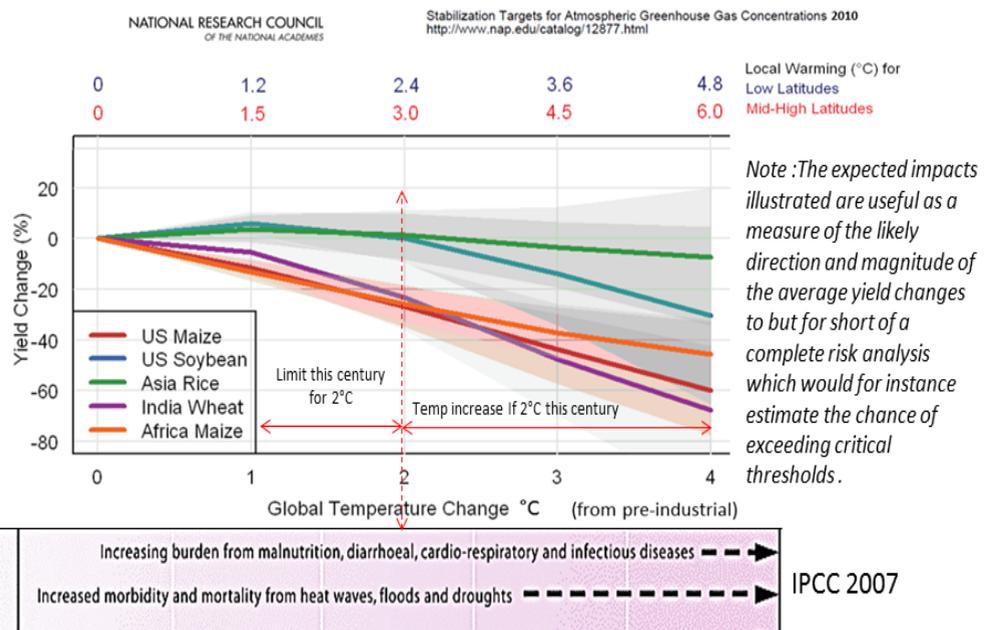
To stabilize at 2°C we have to limit the temperature increase this century to 1°C (NRC), but this is impossible because we are already committed to an increase of 1°C in ten years. Global emissions have us on track for 2°C before 2050. A rise of 2°C this century the future commits humanity to 4°C. Though the policy target is still 2°C the various policy proposals by governments commit us to an increase of above 3°C and up to 4°C, even if all the proposals were carried out..

We are in a catastrophically dangerous emergency situation, as leading scientists have warned.

Committed food losses

The impacts on crops of floods, heat waves, and droughts are already increasing due to global climate change, but these are not captured in the climate crop models. They have already affected regional crop production in both hemispheres.

Though the crop models under-represent the impacts, they models show a catastrophic food situation for the world and all regions at a 2°C temperature increase. Food production losses rapidly increase above 2°C. We are all in a dire climate emergency situation. Subsidies must be corrected forthwith.



Why switching subsidies must happen without delay

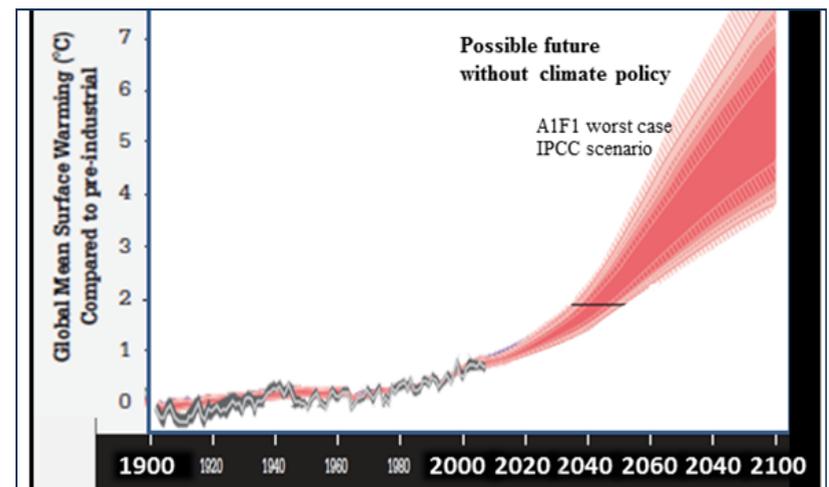
The basic science makes humanity absolutely committed to a 1.6C increase the latest science puts it at 2.4°C.(ebook 2 covers commitment) The global warming will last thousands of years.

The many causes and complexities of the commitment (see below) make it impossible to predict when we may have committed all future generations to a permanent collapse of civilization or to an uninhabitable planet. Global emissions are tracking the worst case IPCC.s scenario headed for a catastrophic 2° C increase before 2050, a 3° C increase around mid-century (collapse of world agriculture IPCC), and over 6° C by 2100 (uninhabitable planet). It is certainly possible that we may already be committed to the permanent collapse of civilization.

This means we have no time left and that the only mitigation plan is to apply all measures known to be effective (correcting subsidies being the best) and that the only time to do it is now on a global emergency basis.

The contributions of climate change commitment are as follows:

- thermal inertia ('hidden heat' in the oceans),
- 'hidden heat' by aerosol cooling;
- Multiple positive (bad) climate feedbacks;
- additive/synergistic combined impacts;
- cumulative damages over time;
- irreversibility;
- abrupt climate change;
- tipping points;
- ice sheet inertia (sea level increase) and
- socio economic inertia (policy delays, decarbonisation time to get emissions down to virtual zero)



Reducing emissions of CO₂ does not reduce or stabilise its concentrations in the atmosphere; it slows the rate of increase of CO₂ concentration. To stabilise the concentration of CO₂ requires emissions to be reduced to very near zero.

The Critical Decade government of Australia Climate

How big are fossil fuel subsidies in full?

Studies on fossil fuel subsidies and climate change

Over the past couple years several useful reports have been published on energy subsidies and the hidden costs of fossil fuels.

These are the International Energy Agency (IEA), OECD, UNEP, the IMF, the World Bank, the National Academies of Science, and the Academy of Sciences for the Developing World

There are also reports going back many years. They all agree that fossil fuel subsidies are damaging with respect to environment, climate, societies and economies. They agree that extremely large indirect subsidies have not been counted in yet..

There is no full tally of all the subsidies together.

Energy subsidies are expensive, damage the climate, and disproportionately benefit the well-off. Their reduction can encourage energy efficiency, increase the attractiveness of renewable energy, and allow more resources to flow to poor people and to investments in cleaner power

Climate Change World Bank Group. An Evaluation of World Bank Win-Win Energy Policy Reforms 2009

The full truth of the fossil fuel subsidies. How big are they really?

- The big investigation in writing the book turned out to be finding how much the fossil fuel industries are really being subsidized in total. This has not been done though it is clear and recognized that they must be many times larger than the official estimates. There is a long record that stopping fossil fuel subsidies is a major climate change mitigation measure. The fossil fuel subsidies add up to trillions of dollars a year.
- The greenhouse gas (GHG) and climate science (zero carbon) require nothing less than stopping all fossil fuel subsidies and switching all direct subsidies to clean energy.
- Switching subsidies must be made the immediate top priority of scientific and civil society organizations. Stopping and switching subsidies that are ending the world, must be urged on governments at all levels and the UN climate convention process.
- These subsidies have to be, and can be switched, now – not by ‘phasing in ‘subsidy reform’. This is because of today’s planetary emergency situation.

The big simple idea behind Switch

SWITCH

Perhaps the reason why switching fossil fuel subsidies is an idea that is not on the climate agenda is because it is so simple.

This Switch is a web, eBook and book climate emergency response project.

It is this simple and definite.

- We must get on the way back to 350 ppm CO₂
- We have zero time left - this is a global climate emergency
- The only way to 350 is zero carbon emissions
- The only way to zero carbon is zero GHG polluting subsidies and switching to rapid clean zero carbon energy development.

That's it. Any proposal and plan that does not include these essential elements will fail.

Breaking the Deadliest Deadlock

Promoting the single simple effective policy of switching subsidies in short order, allows us to tell our governments to stop wasting any more time negotiating targets, while avoiding doing any thing to meet any targets.

Switch the Market

- The idea is to switch the world economy by first switching the fossil fuel energy subsidies (direct and indirect) to the clean, zero carbon, everlasting energy industries. It is to allow the market to make the investment money leave the fossil fuel industries for the clean energy industries.
- Leading professional institutions must make these subsidies recommendations, at least
- It is the one measure that fits the climate science, the economics, and the ethics. Nothing less than switching is demanded by the climate system inertia, the science of zero carbon emissions, the climate feedbacks and the economic market failure.



No problem can be solved by the same consciousness that created it. We need to see the world anew.

Insanity is doing the same things over and over again and expecting the different results.

Albert Einstein.

The world's energy system is at a crossroads. Current global trends in energy supply and consumption are patently unsustainable — environmentally, economically, socially. What is needed is nothing short of an energy revolution.

International Energy Agency World, Energy Outlook November 12, 2008

Rising fossil fuel subsidies: IEA and IMF

The International Energy Agency has been recommending for many years that the fossil fuel subsidies be stopped. Instead they have increased reaching a record US\$ 557 Billion in 2008.

These subsidies are not justified by market economics and they distort market price signals. What this means is that the government subsidies give the message to the global market economy to continue investing heavily in polluting greenhouse gas emitting fossil fuel energy projects.

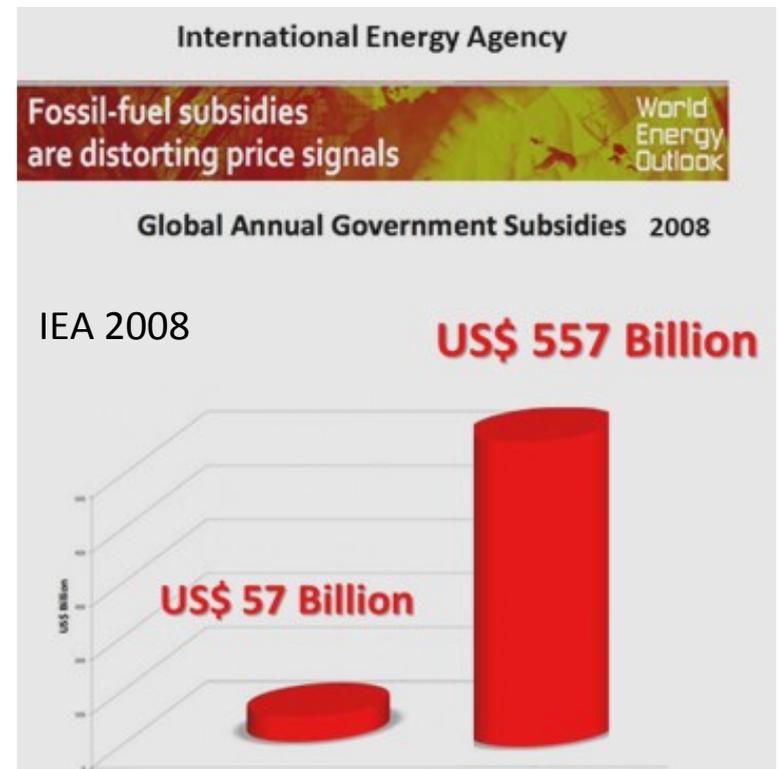
Now that we are past peak conventional oil, these projects are to rely on the very worst energy possible in terms of greenhouse gas emissions, like the Canadian tar sands.

Fossil fuel subsidies are many times larger than the IEA reports.

The OECD says the direct fossil subsidies should be phased out but this will only cut global emissions 10%. (H. Mountford OECD deputy director June 2011). The direct subsidies are a small proportion of all the economic benefits afforded to fossil fuel industries.

The fossil fuel industries are in fact subsidized far more than shown here for many reasons.

- Tax inclusive benefits to the fossil fuel industries make them several times larger.
- Including the 'externalized' costs of fossil fuel combustion on the health of the public and of the environment, and excluding future discounting, makes the subsidies several times larger again.
- Including the externalized costs of transportation increases the subsidies to the oil industry.
- Since the Iraq war and occupation, the case for including the costs of the modern military machine to secure and hold oil supplies are oil subsidies has never been stronger.



Adding in tax and externalities to fossil fuel subsidies

World Fossil Fuel Energy Subsidies are \$ Trillions a year

Tax inclusive oil subsidies amount to over half a \$ Trillion a year.

With externalized costs (indirect subsidies),
the amount of fossil fuel subsidies is \$ Trillions a year.

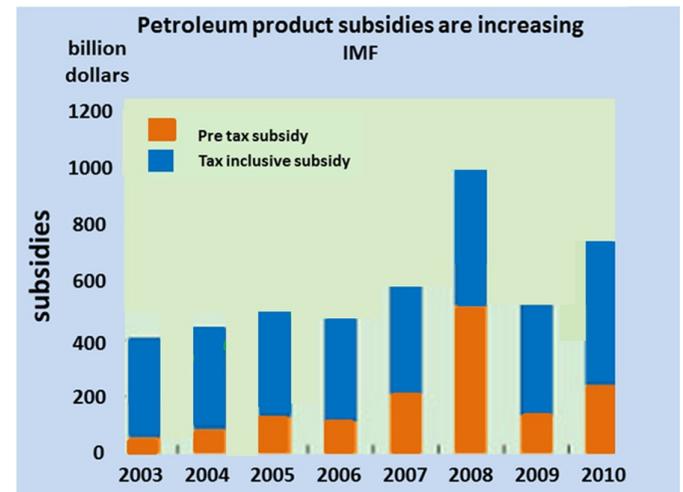
Tax inclusive subsidies IMF

A 2010 IMF report on energy subsidies, *Petroleum Product Subsidies: Costly Inequitable and Rising*, showed that the subsidies to the oil industry are much larger than even the International Energy Agency's estimates.

This report shows the amount of tax benefits.

petroleum product prices should include taxes (IMF).

Taking the IMF's figures the **2008 record fossil fuel subsidy** is \$1 Trillion. The Tax inclusive subsidies of past 4 years equal \$3 Trillion.



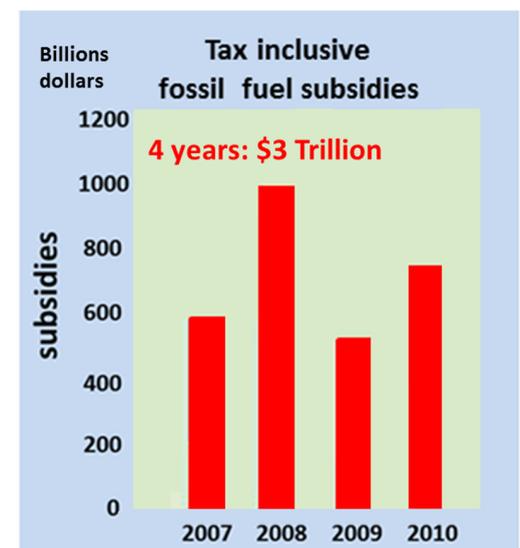
Externalities

This looks like the fossil fuel industries will soon be getting a trillion dollars a year in subsidies. Actually they already much more. US externalized costs for coal are \$1/2 Trillion per year. (Full Cost Accounting for the Life Cycle of Coal P. Epstein 2011) . Most of the externalities are from coal. By US and global GDP this translates to \$2 Trillion world wide a year.

That makes \$3 Trillion a year for all fossil fuels.

These calculations do not include the massive committed externalized costs to future generations, so Trillions of dollars is certainly realistic.

*The externalized coal costs from the rest of the world will be as much or more than the US.



Coal: large externalized costs, large Indirect subsidies. large emissions

Coal as the IEA puts it is projected to remain 'the back bone' of the world energy system , still providing over 20% of world energy from all sources by 2030.

There was a large increase in world coal energy production from 2000 and the US International Energy Assessment projects a 56% increase from 2007 to 2035.

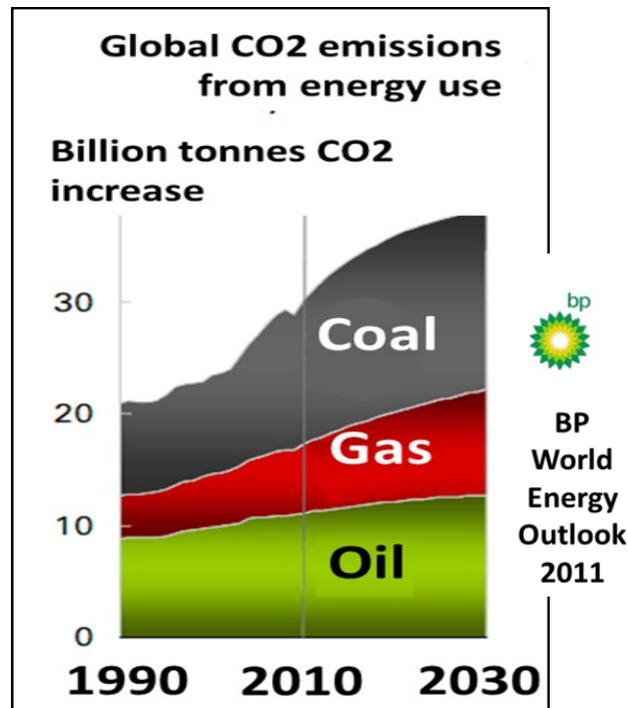
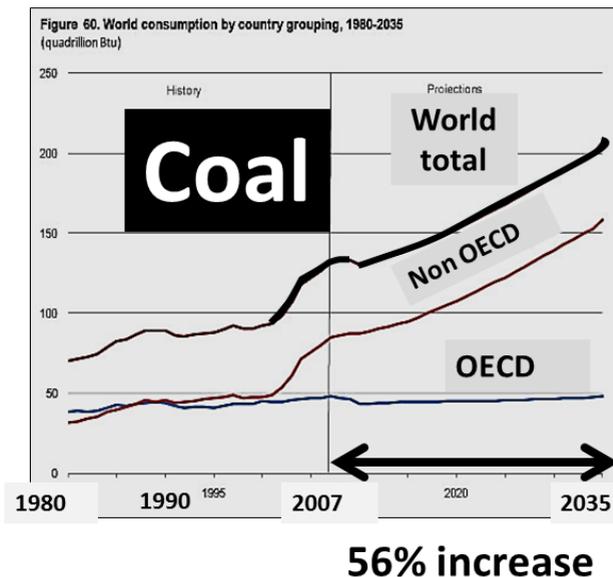
That makes coal increasingly the largest source of CO2 emissions from energy production.

Direct subsidies to coal are much less than other fossil fuels but it still is cheapest, and forecast to remain so.

The externalized hidden costs of coal are large indirect subsidies. The health and environmental damage that burning coal causes have ben well known for decades.

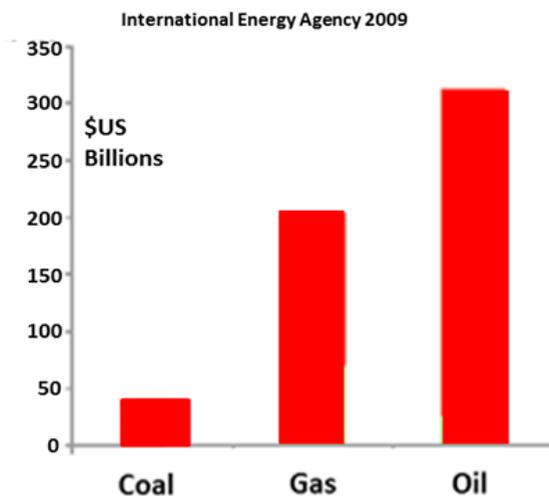
Including these costs more than doubles the cost of coal making it uneconomic against wind and geothermal.

To prevent global climate catastrophe therefore these indirect subsidies are the most important.

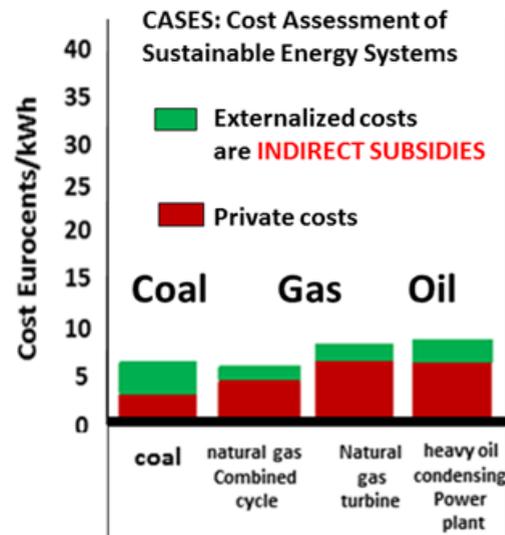


Fossil Fuel subsidies by fuel 2008 IEA

Global subsidized consumption of fossil fuels amounted to US\$ 557 billion in 2008 .This represents 2.1% of GDP.



EU Costs of energy production 2000-2005



Energy prices: only stopping and switching all subsidies stops catastrophe.

Zero carbon emissions

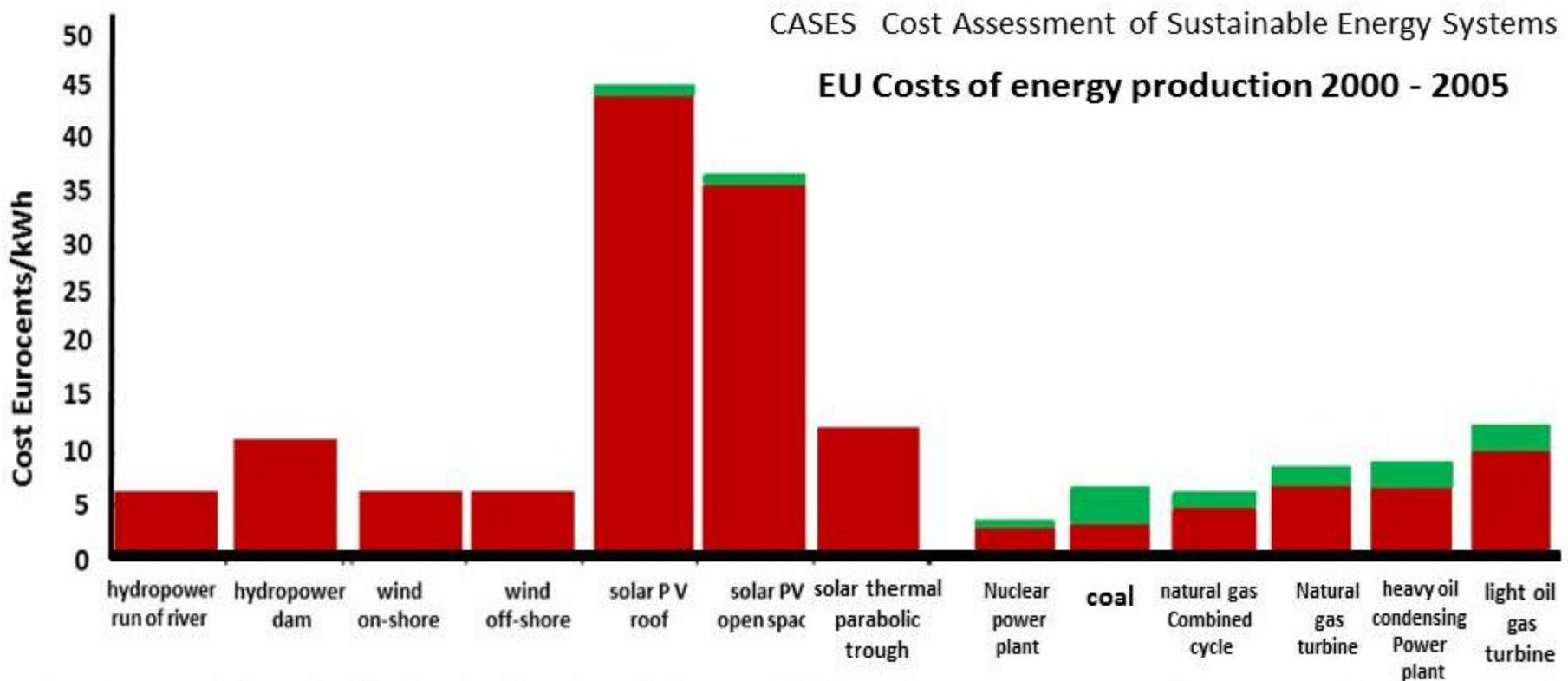
Planetary catastrophe is certain without zero carbon emissions.

That is why only switching works.

By stopping all fossil fuel subsidies (taxing to charge the cost of externalities) and switching direct subsidies to clean zero carbon energy production clean energy will replace fossil fuels by market preference.

The externalized costs making up the indirect fossil fuel subsidies must be stopped in order for coal to be rapidly replaced by clean energy.

For the cost of solar voltaic (which is falling) to become cost competitive the hundreds of billions of dollars in direct fossil fuel subsidies must be switched to clean energy. That will allow rapid development of new state of the art solar voltaic technologies bringing down today's relatively high market costs by a large amount.



Development of a set of full cost estimates of the use of different energy sources and its comparative assessment in EU countries.

Other greenhouse gas polluting subsidies

GHG sources and subsidies

The largest sources of greenhouse gas emissions are subsidized.

It is impossible to stop the increase in the global temperature without stopping the constant emissions of all long acting greenhouse gases. That is obvious.

The subsidies to all of these sectors have to be switched to non greenhouse gas polluting alternatives, all of which exist and are known to be healthier alternatives for the health of humans as well as the planet.

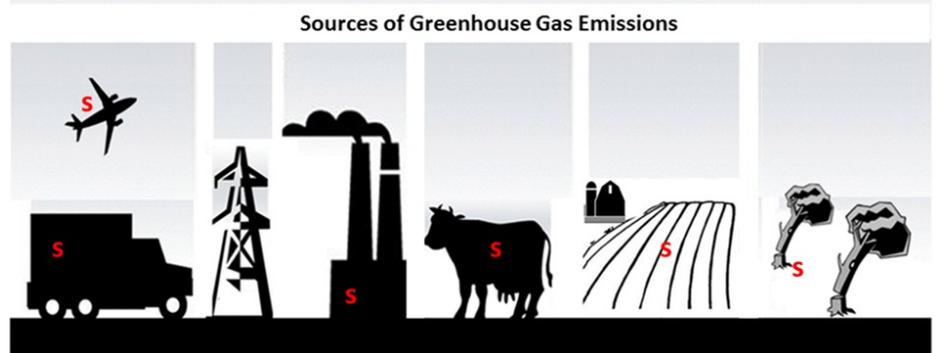
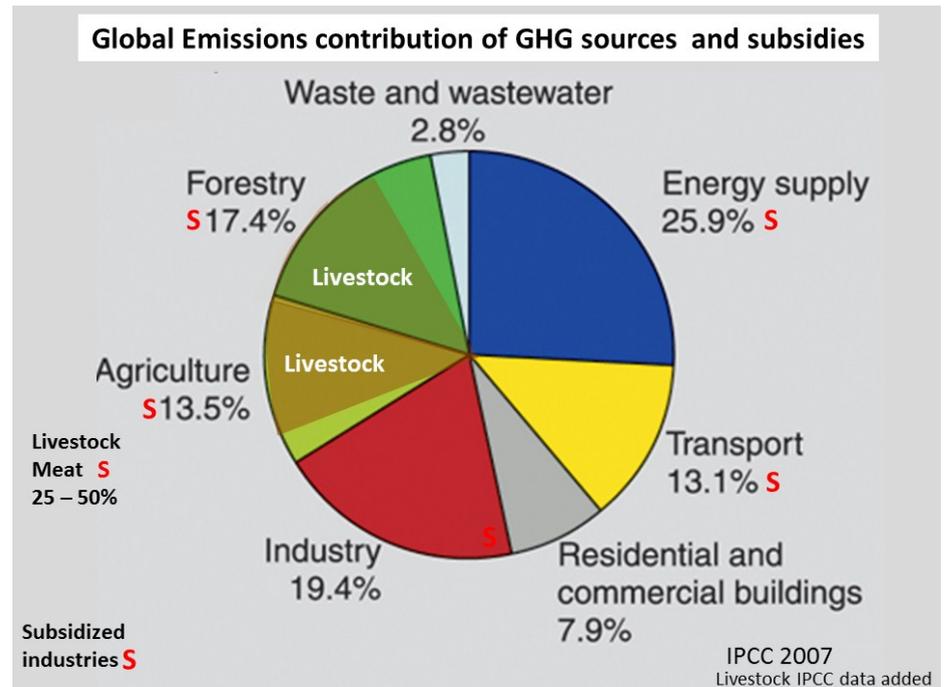
Livestock meat industry

The big example is the meat based western diet which is now being globalized and not considered in climate change mitigation.

The livestock meat industry emits substantial amounts of all three main greenhouse gases carbon dioxide methane and nitrous oxide. It is the big source of methane.

Economic Externalities.

All of these sectors benefit from direct and also indirect subsidies. The indirect subsidies are mainly the extremely large social and environmental costs that they cause by their pollution. These costs are treated as economic externalities 'externalized' which simply means they are not accounted for. Energy externalities of coal alone in the United States alone amount to over \$1/2 Trillion per year. (Full Cost Accounting for the Life Cycle of Coal P. Epstein 2011). The livestock meat industry also has large indirect subsidies in the form of externalized costs to our health.



Suicidal subsidies: 'End of the World' situation on GHGs

Any subsidizing of the fossil fuel industry now is suicidal because we are in a potential 'end of the world situation' with respect to future global warming and climate change.

Today's End of the World climate situation.

- **There is no new international climate agreement** now, nor by all accounts in the foreseeable future (UN FCCC Secretariat.) . The EU says there is no chance of a 'deal' till after the next IPCC assessment in 2015. The IPCC in 2007 said that in order to avoid a 2-2.4° C catastrophic global temperature increase greenhouse gas emissions must have peaked and be in decline by 2015 at the latest.

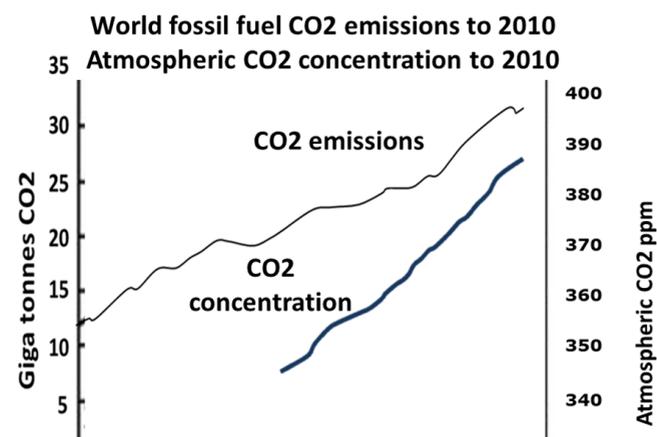
- **Global CO2 emissions are accelerating higher.** (US. EIA May 2011) . There was a temporary drop in global emissions 2008-9 due to the temporary economic recession. In 2010 global CO2 emissions jumped up to a record level and record rate of increase. This jump was due to the unprecedented multi trillion dollar economic stimulus packages by the industrial governments, over 80% of which went to the business as usual fossil fuel economy. This was a multi trillion hand out to the wealthiest corporations of the fossil fuelled economy that should and could have gone the boost the clean energy economy.

and could have gone the boost the clean energy economy.

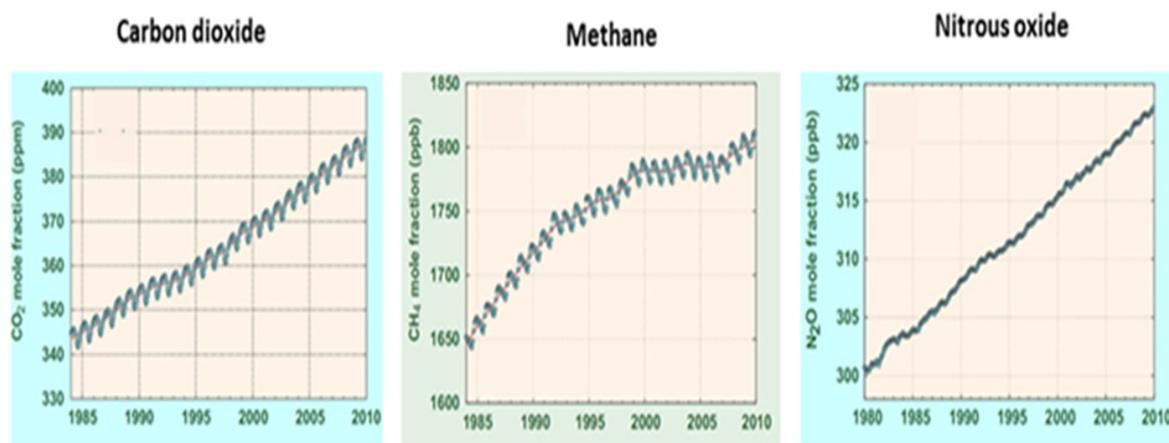
- **All the 2010 atmospheric GHG concentrations are at all time records, and accelerating.**

(World Meteorological Office) .

..the response "is going to require the sustained effort of those who will be here for the next 20, 30, 40 years," 9 July 2010 C. Figueres Executive Secretary UN climate convention.



U.S. Energy Information Administration ,Global human CO2 annual emissions from fossil fuels 2010
CO2 concentration ,World Meteorological Office ,Greenhouse gas budget, 2010.



WMO 2010

Atmospheric greenhouse gas concentrations

Suicidal subsidies: stuck with fossil fuels,

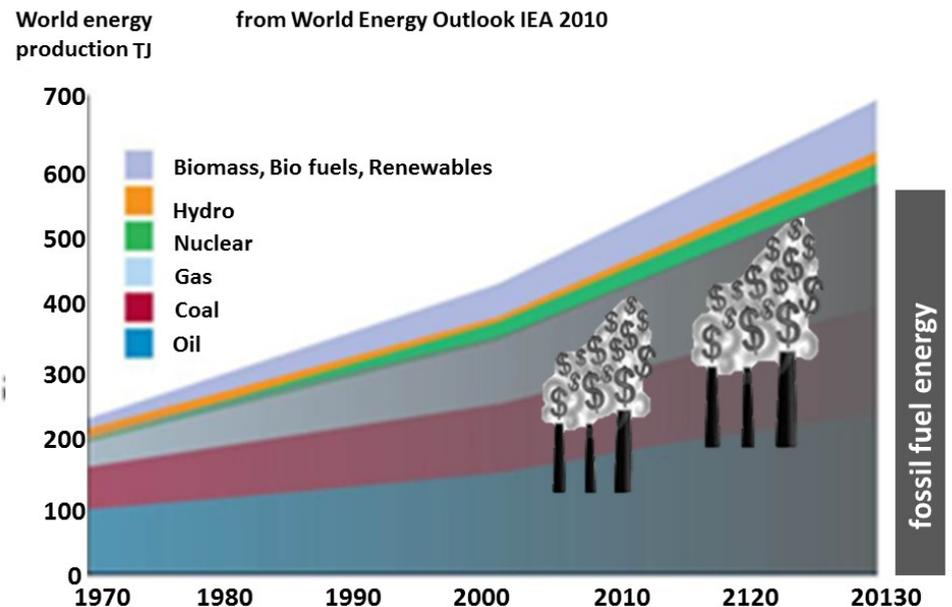
Other End of the World situations

All plans are for continued increasing fossil fuel combustion.

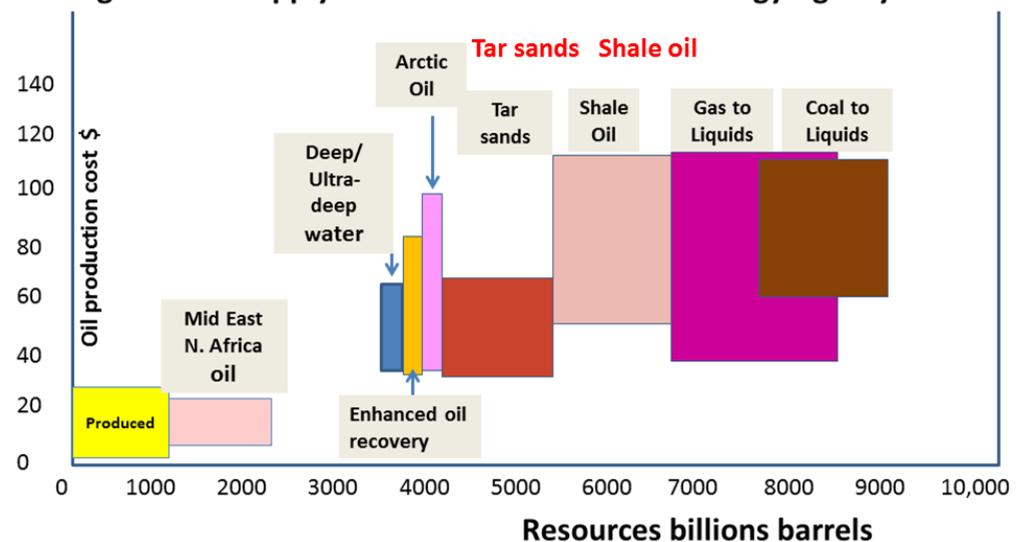
All economic and energy forecasts say that fossil fuel use will continue to increase for the next 20 years at least. As we are past peak oil the increase is planned to be provided by the very worst fossil fuels. On the current world economy the IEA projects increasing combustion of coal, tar sands, and natural gas (emits CO₂), and increasing combustion of bio fuels (large CO₂ emitter) and the addition of shale oil and coal to liquids .

Risking a dead Earth

In my opinion, if we burn all the coal, there is a good chance that we will initiate the runaway greenhouse effect. If we also burn the tar sands and tar shale (a.k.a. oil shale), I think it is a dead certainty. Climate Threat to the Planet, James Hansen, American Biophysical Union lecture Dec 17 2008.



Long term oil-supply cost curve International Energy Agency 2010



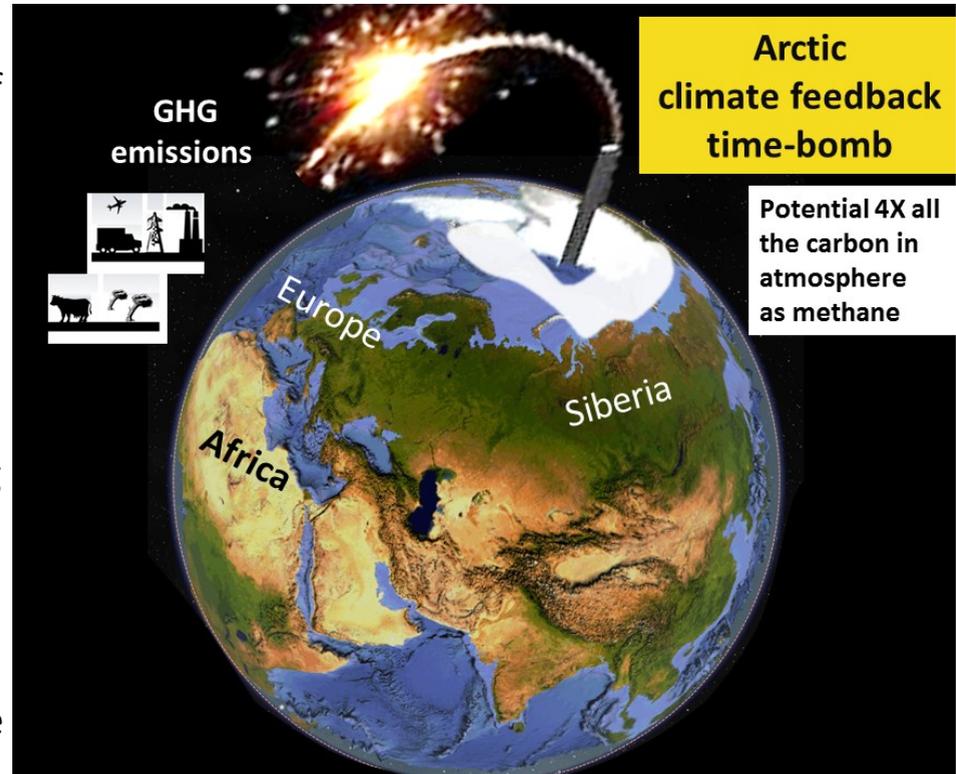
Increasing fossil fuels—climate feedbacks -climate cataclysm

Runaway climate change

The so-called 'runaway global climate change' is uncontrollable irreversible self-accelerating global temperature increase. resulting from multiple inter-reinforcing positive (bad) climate feedbacks.

The largest positive feedbacks result from Arctic warming, where it is warming 2 to 3 times as fast as the rest of the planet right now. This has been referred to as the 'Arctic climate time bomb' or 'Arctic methane time bomb', because the feedback emissions are mainly methane.

This situation of losing any capacity for control over the climate change situation has for many years been stressed by James Hansen, which he and others climate experts referred to as a 'cataclysm' in a 2007 climate science paper.



The Earth today stands in imminent peril ... and nothing short of a planetary rescue will save it from the environmental cataclysm.

"Climate Change and trace gases" J. Hansen, et al. (2007)

Latest news: why we must put on the agenda- now

ANALYSIS—Hopes fading for climate agreement

Reuters: Bonn, Germany 19 June 2011

Only a less ambitious deal on climate change expected. Process is dead in the water. It's not going anywhere.

— Yvo de Boer, former Executive Secretary, UN Framework Convention on Climate Change (FCCC)

Subsidies are not on the climate change agenda

The UN negotiations do not have energy subsidies on the agenda. Government leaders have promised action (Pittsburgh G20 economic summit), but there has been talk of ending fossil fuel subsidies for over fifteen years and nothing has changed yet. The US Obama 2011 budget contained cuts to fossil fuel tax credits of \$2.7 Billion. Congress rejected it (with 100% opposition from Republicans in March 2011. Even the Global Subsidies Initiative, which has been researching the issue since 2006, has not looked into switching subsidies.

The clean energy debate is in danger of being taken over by market share discussions as seen in the WTO disputes raised by Japan against Ontario, and the U.S. against China.

— International Institute for Sustainable Development, May 2011

WTO blocks renewable energy subsidies

At Rio+20 , countries should pledge to remove all energy subsidies ...and also pledge to help other countries reform theirs.

— International Institute for Sustainable Development May, 2011

Opportunity at Rio +20 UN Earth Summit 2012

The Rio+20 focus is the Green Economy, but subsidies are not on the Rio agenda. While the evi-

The human justice issue of all time is now

Our responsible action on subsidies (or not) is the human justice issue of all time.

The future for billions is already defined by the global warming and climate disruption that they cannot avoid, and to which they are committed (condemned) and the most vulnerable to.

Their climate justice predicament has been a matter of record for over 15 years.

Climate commitment - climate condemned.

Today's global temperature is only a half to a third of the full eventual increase. Today's committed global temperature increase condemns billions to terrible losses of water, food, and health. Already a billion are deprived of adequate water, food and an equal number are afflicted by tropical disease.

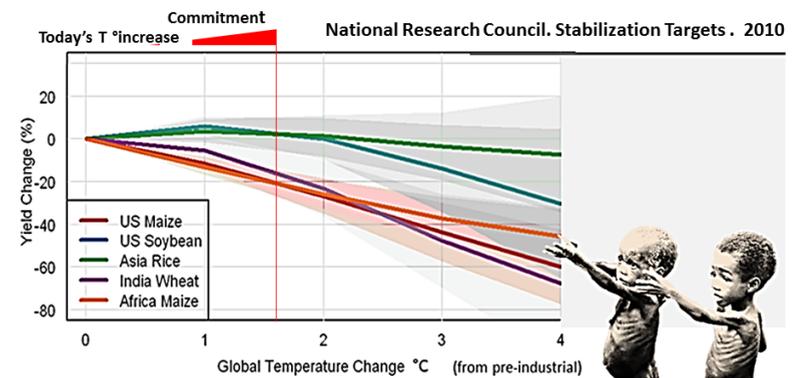
We are doing nothing to prepare for this unprecedented human catastrophe. We are doing nothing to mitigate this worst ever human catastrophe making it the worst ever crime against humanity, but no one is saying so.

It's in fact even worse than it looks here. The climate crop models (on which these food loss projections rely) fail to capture many of the most damaging impacts on agriculture.

Furthermore it means that the food security for us all is threatened right now as we accept the continuing constant emissions of GHGs, as if nothing can be done to stop it.

Stopping and switching the fossil fuel subsidies can stop it, getting worse.

The active engagement of the world's leading professional institutions in today's planetary emergency situation can mitigate this human catastrophe and possibly save us from planetary catastrophe. Right now they have it in their power to literally save the world.



Note: the expected impacts illustrated are useful as a measure of the likely direction and magnitude of average yield changes before short of a complete risk analysis which would for instance estimate the chance of exceeding critical thresholds .

At lower latitudes crop productivity is projected to decrease for even small local temperature increases (1-2° C) IPCC 2007

Where dryland agriculture relies solely on rain, as in Africa, yields would decrease dramatically even with minimal increases in temperature.

A question of degree Secretariat UNFCCC

IPCC says subsidy switching would work

These are the measures that could (almost) save the world—all recorded by the IPCC.

It adds up to switching the fossil fuel subsidies to clean zero emissions energy (Stop-

ping fossil fuel energy has to be more effective than reducing and it must be zero carbon not low carbon).

Carbon taxes should be 'pollution charges' (as the IPCC says here) to stop the indirect subsidizing to the GHG polluting fossil fuel industries. The charges should be the full amount of the externalized 'hidden' costs of the pollution.

Carbon cap and trade has not and cannot work. It does not address indirect subsidies. It leaves mitigation to the environmentally perverse market that is the cause of GHG pollution and climate change. Only a carbon tax levied and imposed by government can possibly work. Even Exxon favours a carbon tax.

ExxonMobil believes that a ..carbon tax has many advantages over a cap-and-trade system in terms of achieving our society's shared goal of reducing emissions over the long term:

- *A carbon tax can create a clear and uniform cost for emissions in all economic decisions. This price stability encourages companies to invest in advanced technologies, and provides a clear incentive for all consumers to increase efficiency and reduce emissions.*
- *A carbon tax avoids the costs and complexity of having to build a new market for emissions allowances or the need for new layers of regulators and administrators to manage this market. It also does not open up significant opportunities for market manipulation, or require complex and costly compliance and enforcement systems.*
- *Because global participation is so important to controlling emissions, a carbon tax may be a more viable frame work for engaging participation by other nations.*

The Outlook for Energy A View to 2030 Exxon Mobil 2011

IPCC SAYS STOPPING AND SWITCHING SUBSIDIES EFFECTIVE

Policies, measures and instruments shown to be environmentally effective

- ***Reduction of fossil fuel subsidies.***
- ***Producer subsidies .to create markets for low emissions technologies***
- ***Taxes or carbon charges on fossil fuels.***

Resistance by vested interests may make them difficult to implement

(PCC 2007 WG 3 Table SPM.7)

Defining subsidies

We can define subsidies with respect to climate change as any government policy resulting in a financial incentive that results in the increased emissions of greenhouse gases. This includes any policies that discriminate against the rapid development zero carbon renewable energies.

Direct subsidies are governments to the fossil fuel industry.

Indirect subsidies result from government policies (or lack of) that benefit the industry financially. A major source of indirect fossil fuel subsidies is the externalization social and environmental costs.

The US Energy Information

Administration has defined an energy subsidy as any government action designed to influence energy market outcomes, whether through financial incentives, regulation, research and development or public enterprises.

The IEA defines energy subsidies as any government action that concerns the energy sector that lowers the cost of energy production, raises the price received by energy producers or lowers the price paid by energy consumers.

Failure by government to address market failure involving an external cost could be considered a subsidy. In practice, assessing the magnitude of externalities is extremely difficult so empirical studies of subsidies often use a conventional definition that simply assumes market prices and costs.

Reforming Energy Subsidies
Opportunities to Contribute to the Climate Change Agenda UNEP 2008

Government intervention	Example	How the subsidy usually works		
		Lowers cost of production	Raises price to producer	Lowers price to consumer
Direct financial transfer	Grants to producers	•		
	Grants to consumers			•
	Low-interest or preferential loans	•		
Preferential tax treatment	Rebates or exemptions on royalties, sales taxes, producer levies and tariffs	•		
	Tax credit	•		•
	Accelerated depreciation allowances on energy-supply equipment	•		
Trade restrictions	Quotas, technical restrictions and trade embargoes		•	
Energy-related services provided directly by government at less than full cost	Direct investment in energy infrastructure	•		
	Public research and development	•		
	Liability insurance and facility decommissioning costs	•		
Regulation of the energy sector	Demand guarantees and mandated deployment rates	•	•	
	Price controls		•	•
	Market-access restrictions		•	

Long record that fossil fuel subsidies must stop for climate mitigation

How long the world has been aware of fossil fuel subsidies and their effect on global greenhouse gas emissions? 1992

The World Bank published a study on the issue World Fossil Fuel Subsidies and Global Carbon Emissions in 1992. The subsidies were estimated at over \$230 billion a year. It was estimated that eliminating direct subsidies would reduce global greenhouse gas emissions by 20% in the subsidizing nations reducing global emissions by 9%.

A 1997 report SUBSIDIZING UNSUSTAINABLE DEVELOPMENT: Undermining the Earth with public funds by the Institute for Research on Public Expenditure found fossil fuel energy subsidies up to US\$ 330 billion and transportation subsidies by externalizing social costs of up to US\$ 174.

The effect of eliminating all energy price distortions would be an 18% reduction of world' greenhouse gas emissions over 50 years.

The 1999 International Energy Agency's World Energy Outlook was titled Looking at Energy Subsidies Getting the Prices Right.

It is unbelievable that after 20 years of knowing from studies that removing fossil fuel subsidies would substantially reduce GHG emissions and improve air quality with no economic detriment has allowed the subsidies to continue and shows remarkably little interest from any sector in switching or stopping the fossil fuel subsidies.

1992 World Fossil Fuel Subsidies and Global Carbon Emissions. World Bank report

Correct fossil fuel prices are a prima facie first order priority in any economic policy to curtail greenhouse gas emissions..

... economic policies to protect local and global environments should, first and foremost, remove fossil fuel subsidies (see Summers, 1991, Churchill and Saunders, 1991, Larsen and Shah, 1992

There's something unbelievable about the world spending hundreds of billions of dollars annually to subsidize its own destruction

1997 Subsidizing Unsustainable Development

Removing these subsidies of eight highly subsidized nations would lower CO2 emissions by 16%.

Removing subsidies would support the three principal aims of sustainable development: social welfare, environmental protection and economic growth. 1999 IEA

Who benefits from the fossil fuel subsidies ?

From IMF 2010 Petroleum Product Subsidies: Costly Inequitable and Rising.

PETROLEUM product subsidies have increased in recent years. In 2003, global consumer subsidies for petroleum products totalled nearly \$60 billion. By mid-2008, they had increased more than eightfold—to \$520 billion. As international fuel prices surged governments chose not to fully pass through these increases, resulting in rising subsidies.

Who Benefits ? Although subsidies are commonly believed to help the poorest, most of the benefit actually accrues to the highest-income households, which use more petroleum products. For example, in Africa, 65 percent of all fuel subsidies go to the richest 40 percent of households. But the distribution of subsidies also differs substantially across fuel products. The benefits of gasoline subsidies are the most regressive, with more than 80 percent of total benefits going to the richest 40 percent of households.

Global subsidies are projected to increase substantially.. based on commodity futures markets, and international crude prices increase..

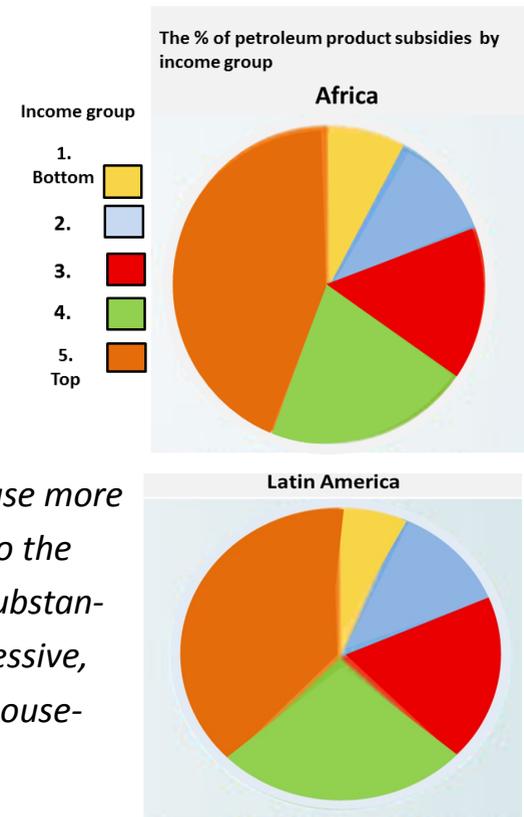
Containing subsidies could have substantial environmental benefits in the form of reducing petroleum consumption and associated greenhouse gas emissions. Reducing tax-inclusive subsidies by one-half would result in emissions reductions of 14–17 percent by 2050. The potential gains are obviously higher if one includes subsidies on other fossil fuels such as coal and natural gas. (IMF)

Clearly stopping Tax-inclusive subsidies completely would result in a huge decrease in greenhouse gas emissions and also health damaging air pollution.

Fossil fuel subsidies keep the affluent industrially developed world dependent on fossil fuels for energy and makes industrially developing nations dependent on fossil fuels for their industrialization. In both cases the development of clean energy is discriminated against and the global production of fossil fuels continues to increase. .

Most of the recorded fossil fuel subsidies (i.e. not including externalities) are going to the emerging economies and the developing economies. Under economic globalization there is one world of financing and investment. This subsidizing pattern promotes the situation where the manufacturing for the world economy is dependent on fossil fuel energy with the energy production in the manufacturing production being carried out in the regions with the lowest environmental health standards and cheapest labor force.

In the advanced economies where environmental health standards are better and the population is affluent, subsidizing fossil fuel energy consumption keeps these regions dependent on fossil fuel energy.

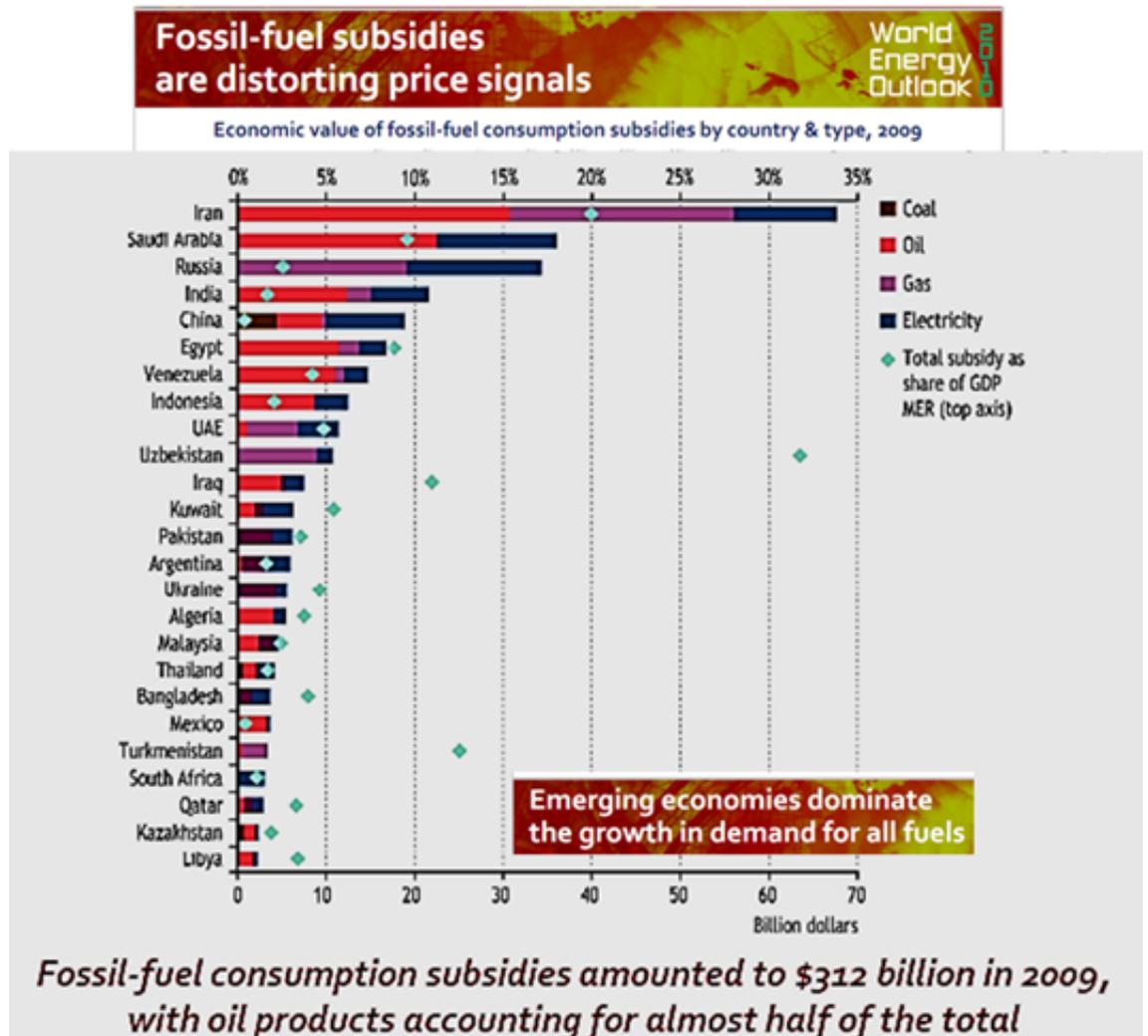


Where are the subsidies going ?

The IEA calculation is based on the market price compared to the price paid, that does not account for externalities. If it did the developed nations would rank in the list and coal would rank the highest. That would place the US very high.

This ebook gives an idea of the amount of all subsidies to the world involved, though all assessments done are so large that the case for switching the fossil fuel energy subsidies for the rapid development of zero carbon renewable energy is definite.

Large indirect subsidies of externalizing costs not included hence coal subsidies here look low



Subsidies and the US government.

A while back, Washington Monthly ran a provocative piece by Jeffrey Leonard arguing that all energy subsidies should be eliminated.

As a political matter, comprehensive energy subsidy reform is extremely unlikely because nobody actually cares about the deficit. In practice, all pols like subsidies that go to their constituents and contributors and are unlikely to sacrifice them in the name of the deficit. Obama has pushed for the removal of (some) oil subsidies. It even caught a little traction and got a little press attention. But Congress decisively rejected it (March 2011), because Congress very much likes oil money.

Stepping back, though, the bigger problem that lurks behind this entire debate is that there are subsidies and there are subsidies. Renewable energy subsidies tend to be extremely visible, since the industry is new and subsidies tend to come in the form of explicit cash grants or tax exemptions. Oil gets some of that too, but the real oil subsidies are woven deep in the fabric of U.S. law, code, and infrastructure. Start, of course, with unpriced externalities, principally CO₂ and oil wars. Then of course there's the U.S. highway system, perhaps the biggest oil subsidy in the country's history. That's to say nothing of the ongoing power of the politically entrenched road-building/real-estate complex, which continues to bias land use, transportation, and funding decisions toward gasoline. Hell, the entire modern economy co-evolved with oil. The same situation -- implicit subsidies woven into a century of law and infrastructure -- obtains for coal. Nukes and natural gas only have about a 50-year head start.

These buried and implicit subsidies are in no danger. The greatest danger is to the top-line subsidies, the visible ones. Taking those and only those away would be no boon to renewables or any other fledgling industry challenging the energy status quo; it would simply cement current structural imbalances into place. I smell a set-up.

Grist 30 June 2011 David Roberts is staff writer for Grist.

In the all important US then it will take US pressure to get the government to cancel all fossil fuel subsidies and switch to renewables.

More benefits from switching

Climate justice and a golden future

- It means progressing to switch all subsidies of all greenhouse gas polluting industries to non polluting proven alternatives .
- It means switching the huge resources wasted on militarization, towards creating world peace, defending the planet, and redeveloping the fossil fuelled world.
- It means using the power of the market in a good way.
- It corrects the ‘greatest and most far reaching market failure that the world has ever seen’ (Stern Commission 2006) which is the cause and therefore the only way to avoid global climate change planetary catastrophe.
- It means thinking about global climate change solutions from the perspective of the survival of all future generations and of all life. For example it means investing now in research to remove CO2 directly from the air (it can be done).
- It is the only sure way to mitigate the terrible climate change impacts to huge populations, and prevent (hopefully) planetary catastrophe.
- It is to communicate the truth to the large most climate change vulnerable populations, that the wealthy nations are letting them die from catastrophic climate change losses of water food and health, which is the worst crime against humanity ever by far. It is socio-economic genocide
- It would mean a great boost in public motivation to deal with the climate change emergency and in the political will of governments to act.
- It is a vision that leads to a golden age for humanity powered by endless and practically unlimited safe, clean, affordable energy.
- It's the ultimate ‘no-brainer’.

Without a change in policy the world is on a path for a rise in global temperature of up to 6° C with catastrophic consequences.

International Energy Agency New Energy Realities 12th of November 2008



Plan for Seoul South Korea

A personal view

They have made it desolate, and being desolate it mourns to me; the whole land is made desolate, because no man lays it to heart. (King James Bible).

The leading minds of the most informed, best educated, most advanced and advantaged civilization ever, are recording in ever more detail and ever more certainty the destruction of the only life supporting planet that they have found to exist in the universe.

The destruction is being recorded with highly advanced monitors and computers on the land, under the ocean, in the air, and from space-as it happens.

The cause of the destruction is the very civilization that is recording it. They are heating up the planet and disrupting the climate, at a rate their best brains have found is unprecedented, for ever.

The leaders of this most advanced civilization have known for many years that all the destruction can be stopped because all the fossil fuel energy can be replaced (many times over) by safe, non polluting, everlasting energy sources. They also know that this has to happen before long because the non renewable fossil fuel resources are rapidly running out as they are ever more rapidly consumed by burning them for globally polluting energy .

For any intelligent and civilized society any risk of the annihilation of life on earth, any risk of destroying most life on earth, of civilization for ever, of tipping world agriculture into decline, or any prime agricultural region into decline, or of causing the suffering and untimely death of millions , or more likely billions, of people - would be unthinkable.

The leaders of this civilization fail to admit that the climate situation is even dangerous , fail to declare the climate emergency and fail to recommend the obvious simple best solution.

As all sectors of this busy industrial civilization go about their lives and businesses as usual, there is no sign of any sense of responsibility, regret or remorse. There is little indication that people want to stop the destruction.

Today this affluent society stands condemned of the greatest evil and worst crime ever possible by its own record and documentation. Will it repent and mitigate this most terrible crime ? Will it at least try to prevent total planetary catastrophe and the possible end of life in the known universe ?

Their best brains think not.

Peter Carter BC Canada June 2011.