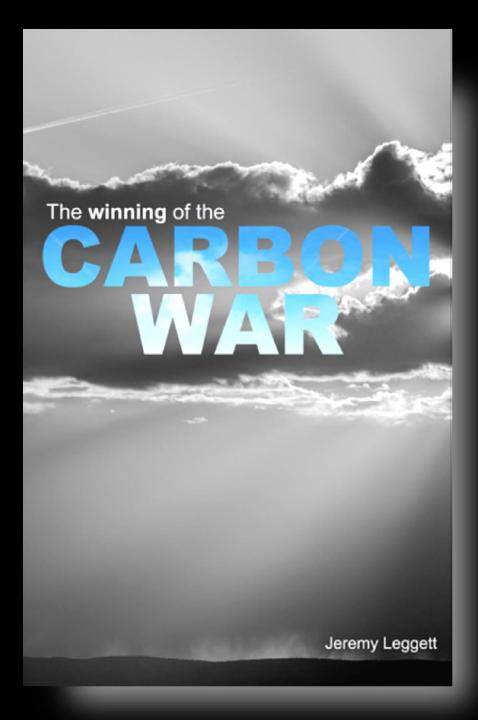


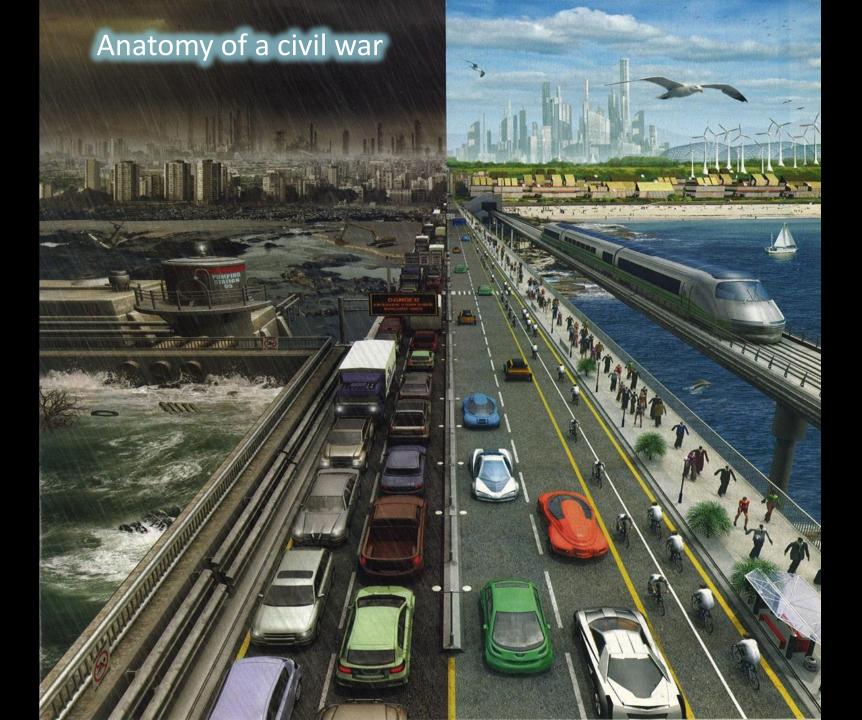
Free download serial. Available on www.jeremyleggett.net



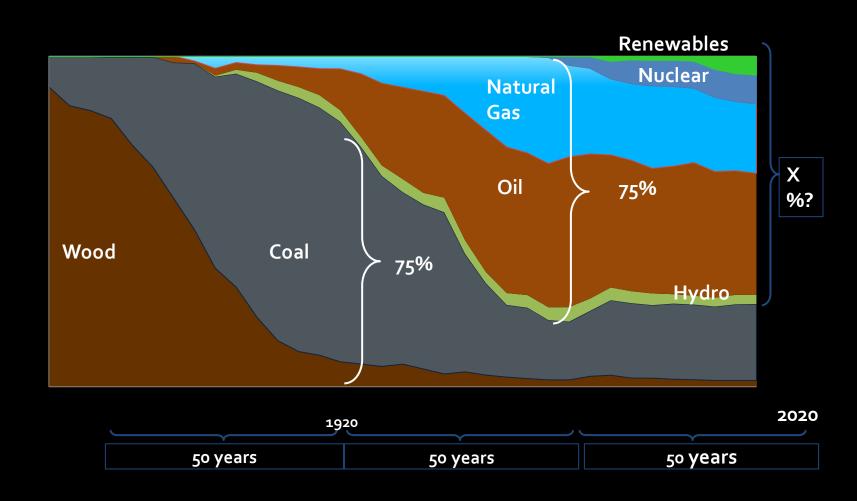
Today

- Anatomy of a civil war
- 3 emerging megatrends
- 3 stories in the book





System change in energy: nothing new



Source: S Dolezalek

1900 1913





Spot the car

Spot the horse











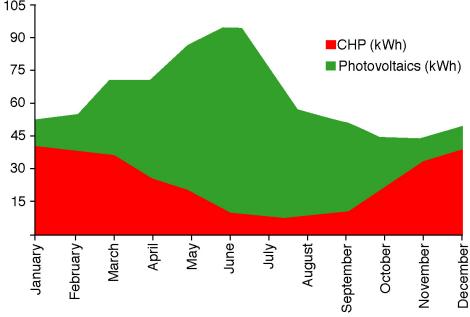














Gerard Mestrallet CEO, GDF Suez

Business model: *Gas can do everything we need*

Renewables policy: *End all subsidies*

"They are using black arts to try and kill you"





Mail Online

Cash cut for solar farms that blight countryside: Energy minister set to announce review of subsidies

The New York Times

Hard-Nosed Advice From Veteran Lobbyist: 'Win Ugly or Lose Pretty'

Richard Berman Energy Industry Talk Secretly Taped

By ERIC LIPTON OCT. 30, 2014



Richard Berman, a political consultant, said oil and gas industry officials need to exploit emotions like fear and turn them against environmental groups. "Think of this as an endless war," he told executives in a speech that was secretly recorded.

Daniel Rosenbaum for The New York Times

"Think of this as an endless war"





In 2010 the UK government will set up a Feed-in Tariff to help promote solar power and reduce carbon dioxide emissions.

The Feed-in Tariff will help reduce global warming, boost UK clean-tech jobs and reward people for installing solar power... It is important the Feed-in Tariff is set at the correct rate.

If it's too low the potential for a massive increase in the UKs solar energy could be lost, and we could be left behind the rest of Europe.

We Support Solar is working to highlight the value of solar PV in the UK and to ensure the Government sets an appropriate rate for the solar Feed-in Tariff to ensure a clean, renewable future for generations to come.

What is a Feed-in Tariff?

Politicians who've

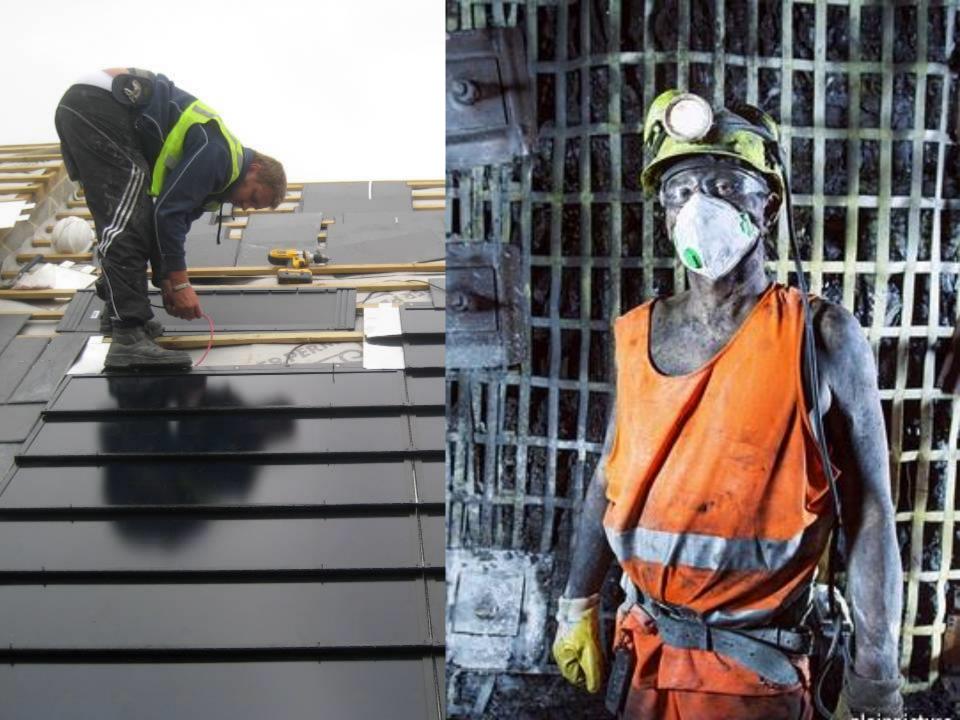
Solar Facts.

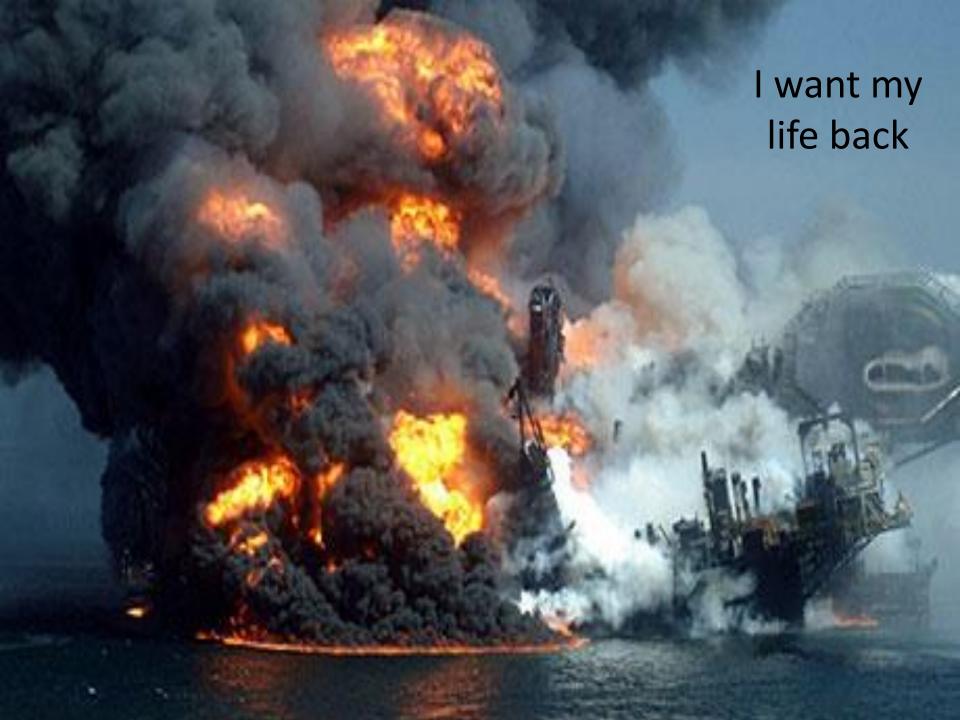
Win a solar











We are in danger of winning because of three emerging megatrends

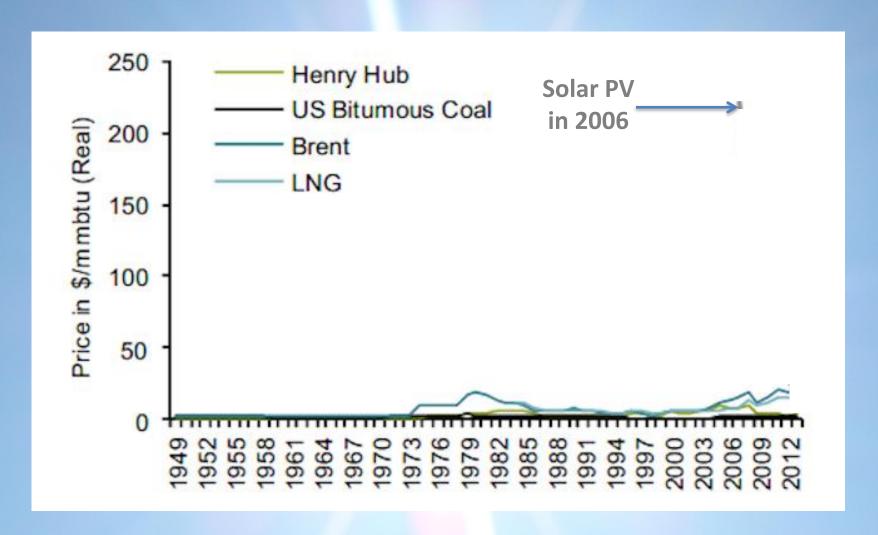
Insurgency cost down

Incumbency cost up

Environmental action

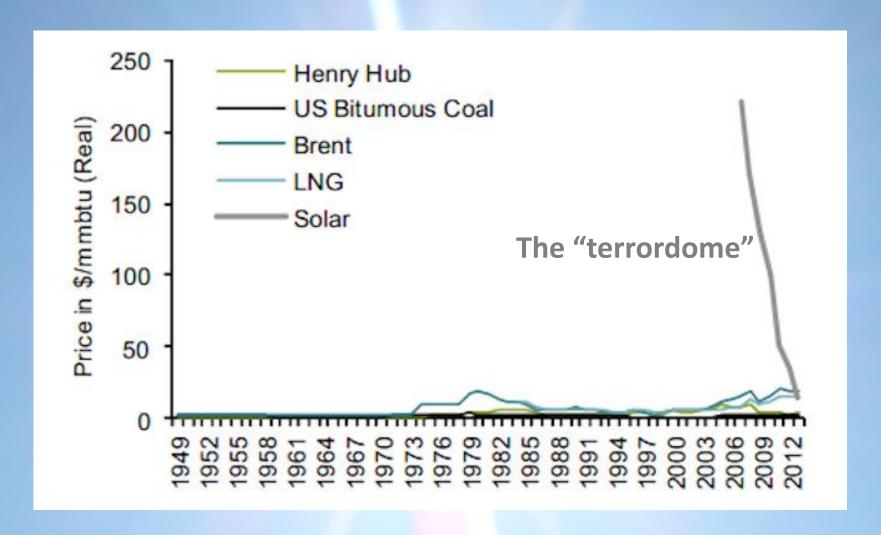


Fossil fuel vs solar prices over forty years



Source: Alliance Bernstein, April

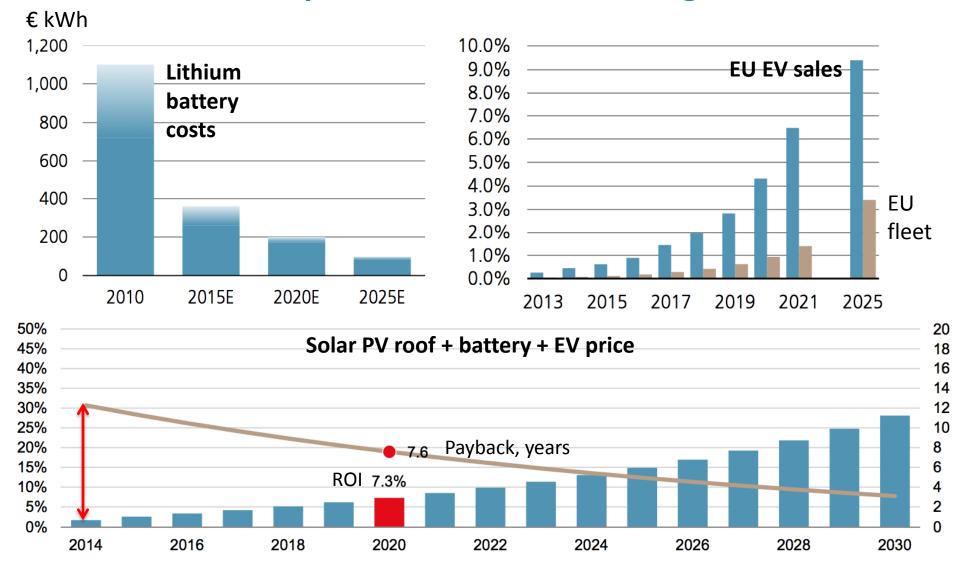
Fossil fuel vs solar prices over forty years



Source: Alliance Bernstein, April



The power of solar and storage





There are some ideas we want every company to copy.

There's one area where we encourage others to appropriate our ideas. Because when everyone makes the environment a priority, we all benefit. We'd be more than happy to see every data center fueled by 100% renewable energy sources. And we eagerly await the day when every product is made without the harmful toxins we have removed from ours.

To be sure, we know we can continue to do better. We've set some pretty ambitious goals for reducing our impact on climate change, making our products with greener materials, and conserving our planet's limited resources. So the next time we come across a great idea that can help leave the world better than we found it, we look forward to sharing it.



The Telegraph

Home News World Sport Finance Comment Culture Travel Life Women Fashion I

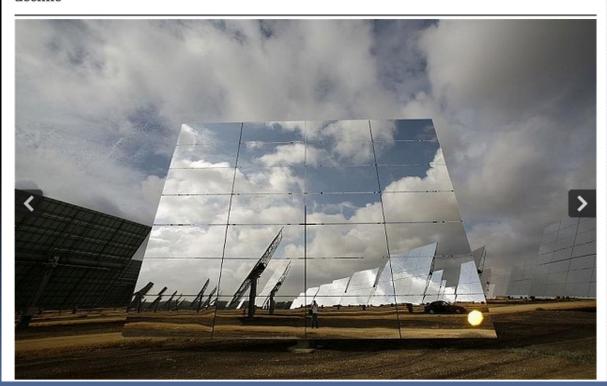
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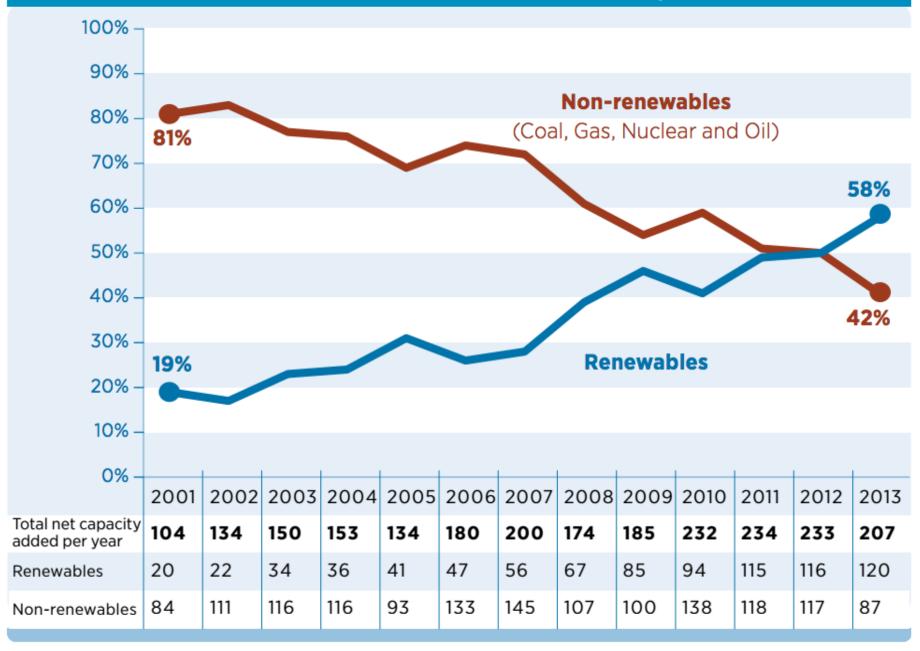
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Global solar dominance in sight as science trumps fossil fuels

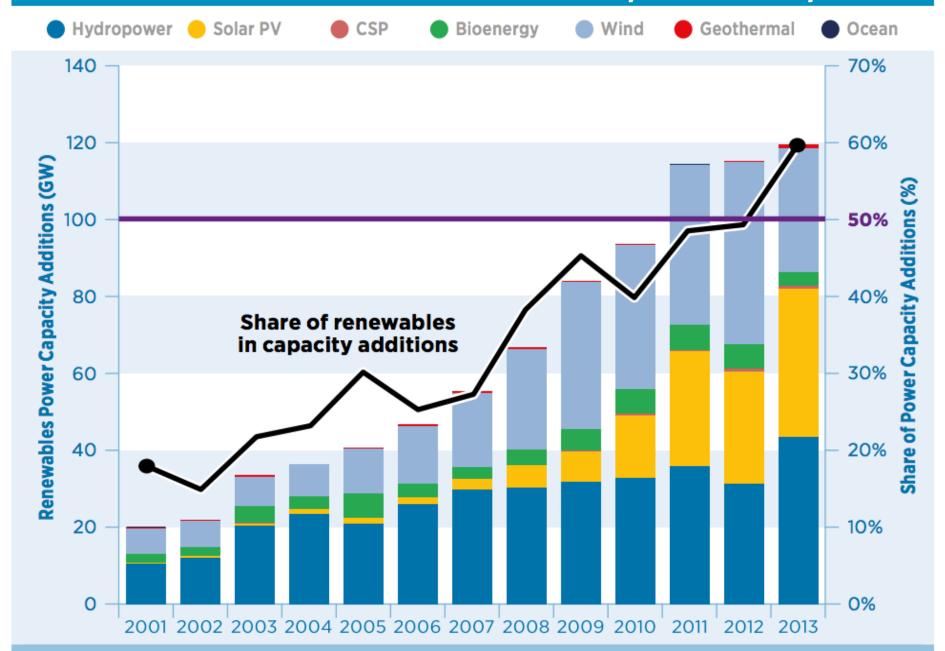
Solar power will slowly squeeze the revenues of petro-rentier regimes in Russia, Venezuela and Saudi Arabia. They will have to find a new business model, or fade into decline



Renewables share of new annual electricity additions



Renewables share of new annual electricity additions: by sector



German utility E.ON to split to focus on renewables, grids REUTERS

BY CHRISTOPH STEITZ

FRANKFURT | Mon Dec 1, 2014 11:00am EST





Peak capex versus vs peak production



Selected listed international oil companies' upstream capex and crude-oil production

BG, BP, COP, CVX, ENI, OXY, PBR, RDS, STO, TOT, XOM

Source: Douglas Westwood, from Bloomberg

Peak capex versus vs peak production

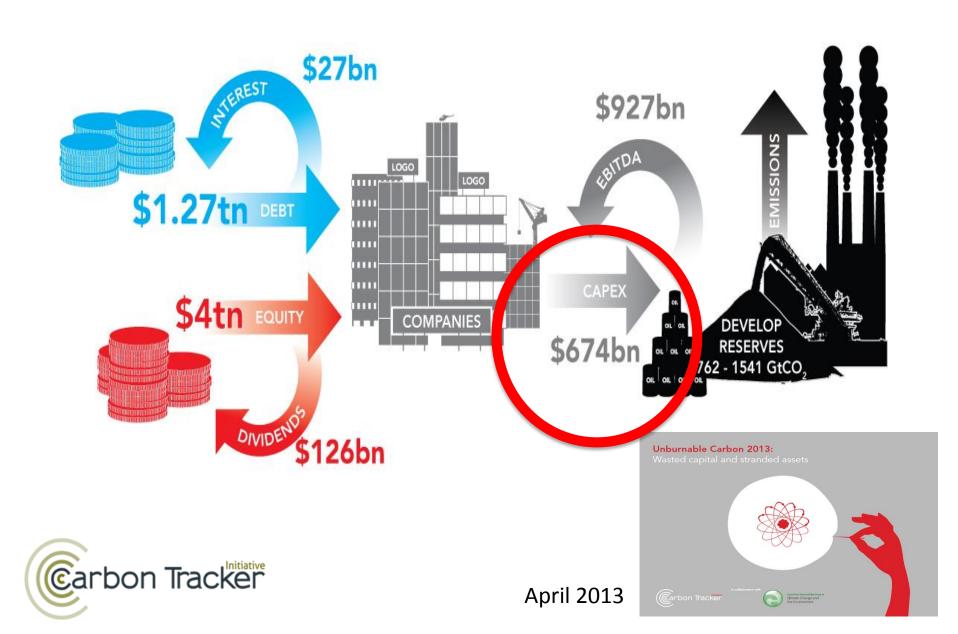


Selected listed international oil companies' upstream capex and crude-oil production

BG, BP, COP, CVX, ENI, OXY, PBR, RDS, STO, TOT, XOM

Source: Douglas Westwood, from Bloomberg

Carbon-fuel financial flows





The Telegraph

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Fossil industry is the subprime danger of this cycle

The cumulative blitz on energy exploration and production over the past six years has been \$5.4 trillion, yet little has come of it

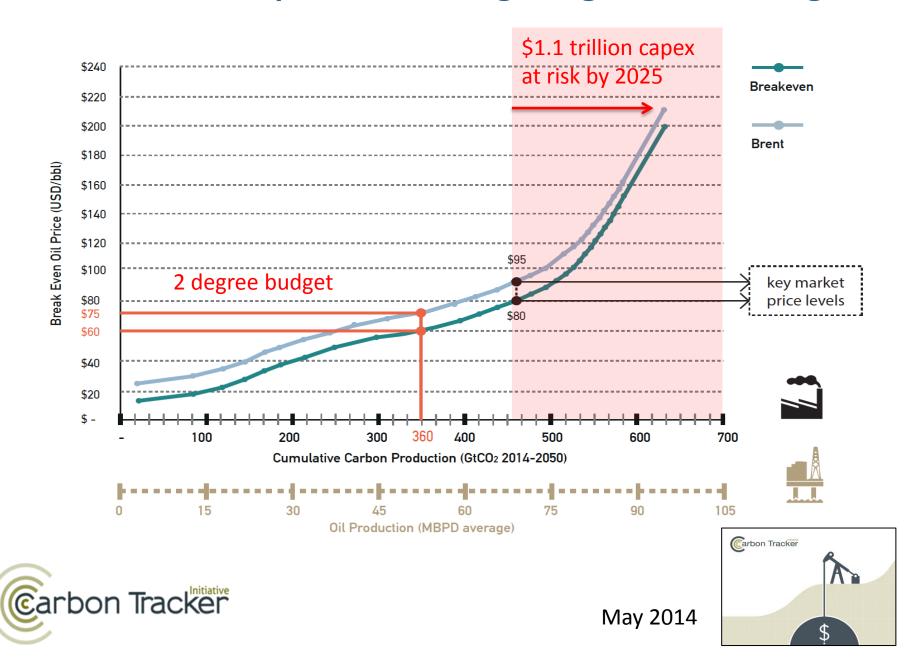


Image 1 of 4
Oil and gas investment in the US has soared to \$200bn a year Photo: Reuters





Break-even oil price: assessing danger of stranding





FINANCIAL TIMES

Bank of England to examine financial risks linked to fossil fuels

Pilita Clark, Environment Correspondent

1 December 2014



The Bank of England has revealed it is to examine formally for the first time the risks fossil fuel companies pose to financial stability.

In a shift from the bank's past statements, Mark Carney, its governor, has written to MPs informing them that his officials have

discussed the idea that most of the world's proven coal, oil and gas reserves may be "unburnable" if global warming is to be kept within safe limits.



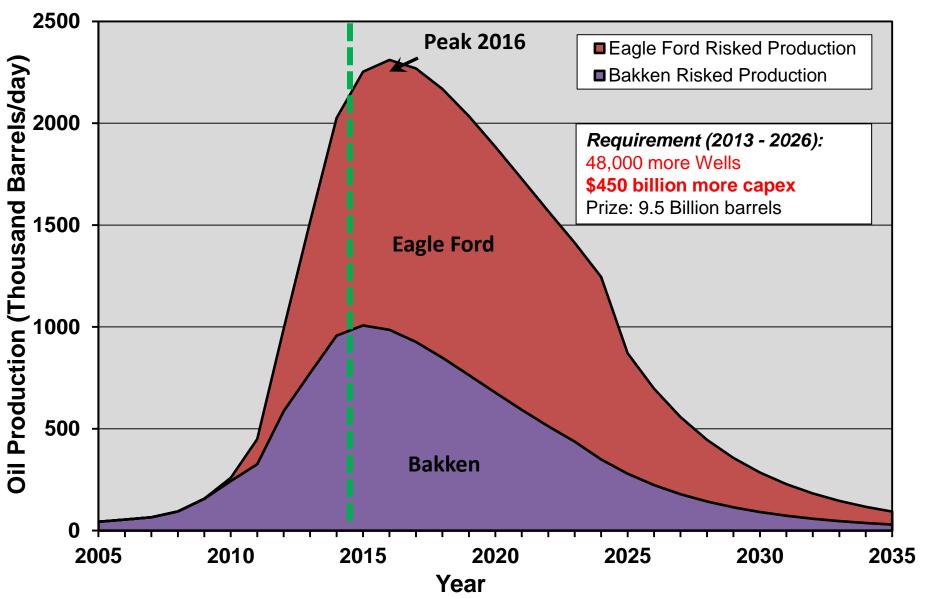
Monterey Shale, California: 15 billion barrels, 66% US shale oil supply



Monterey Shale, California: 15 billion barrels, 66% US shale oil supply



And the future for the two main US shale oil plays?



The Telegraph

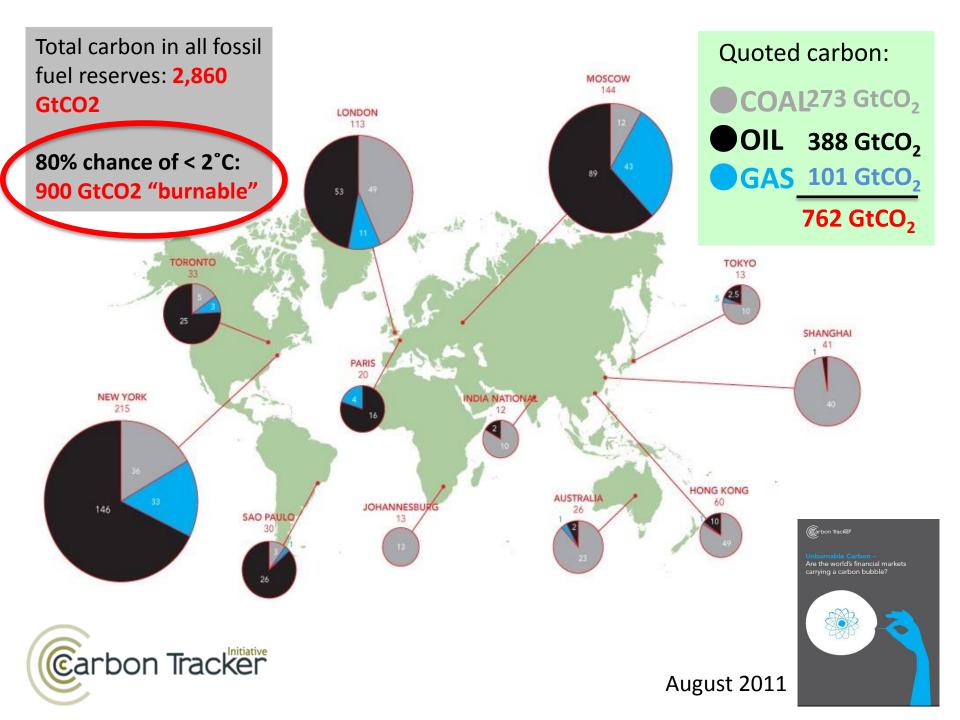
20 August 2014

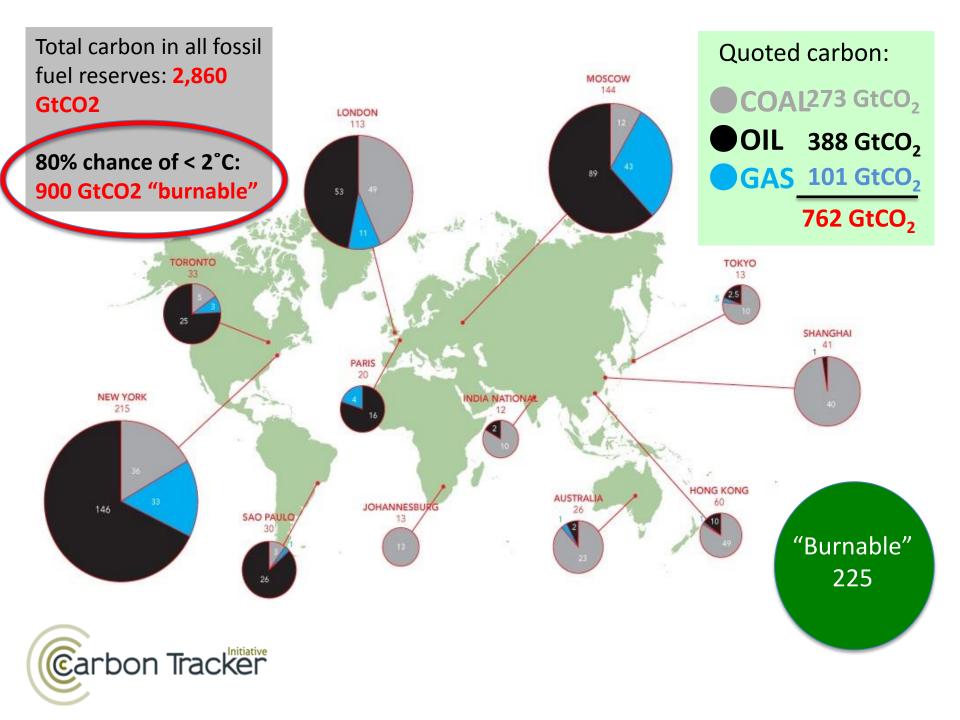
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Ambrose Evans-Pritchard Jeremy Warner Alistair Osborne Roger Bootle James Quinn A											
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Oil industry on borrowed time as switch to gas and solar accelerates

There may be little point battling icebergs to drill in the Arctic, or in trying to extract oil from the ultra-deepwater fields in the mid-Atlantic, beneath layers of salt, three kilometres into the Earth







The origins of the divestment movement

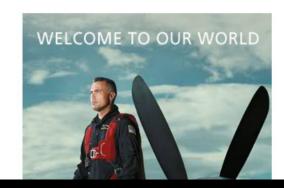




Rockefellers, Heirs to an Oil Fortune, Will Divest Charity of Fossil Fuels

By JOHN SCHWARTZ SEPT. 21, 2014





FINANCIAL TIMES

October 7, 2014 5:59 am

Australian pension fund LGS drops coal assets

By Jamie Smyth in Sydney Auth

Author alerts v



One of Australia's biggest public sector pension funds is to sell its holdings in coal companies, saying that climate change is an "unarguable scientific reality" and a "very real investment risk".

Engagement: steering share value away from rocks





















Lima climate summit, December 2014

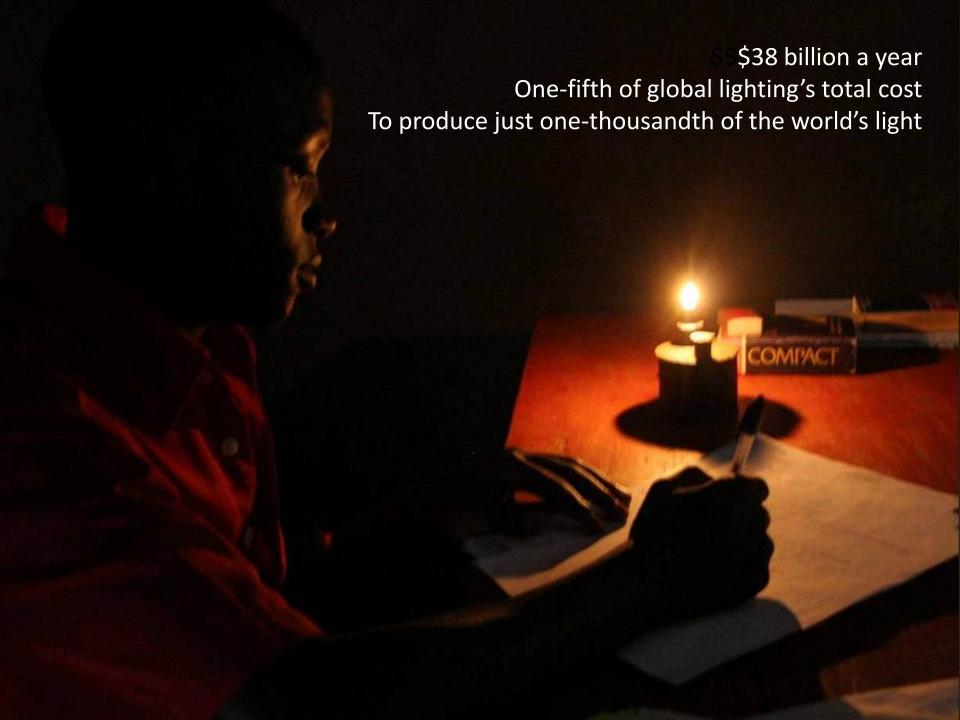


c. 100 nations for 100% by 2050

66% of emissions, 90 companies



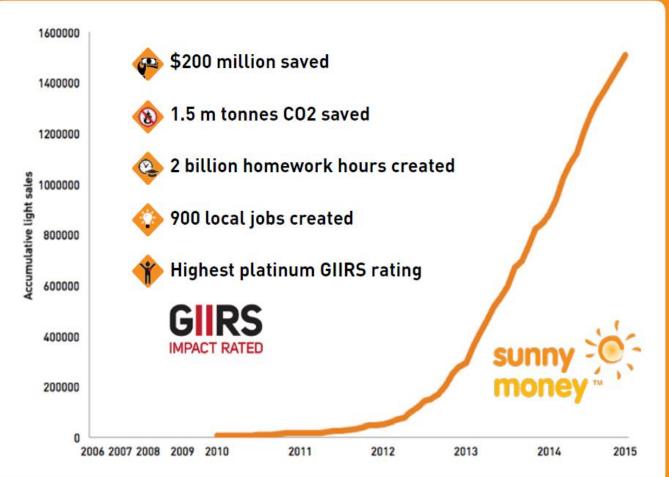


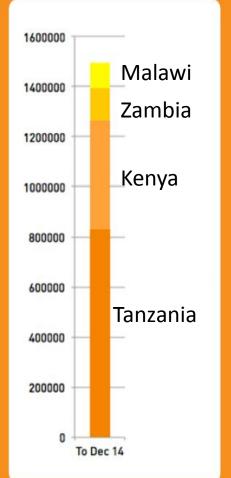






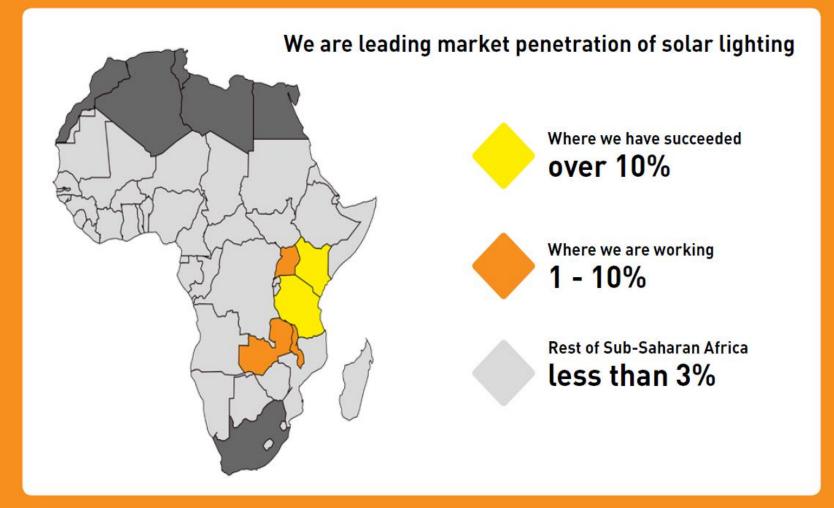
Our retail brand has sold -> 1.5 million solar lights







We are leading the market penetration of solar lighting





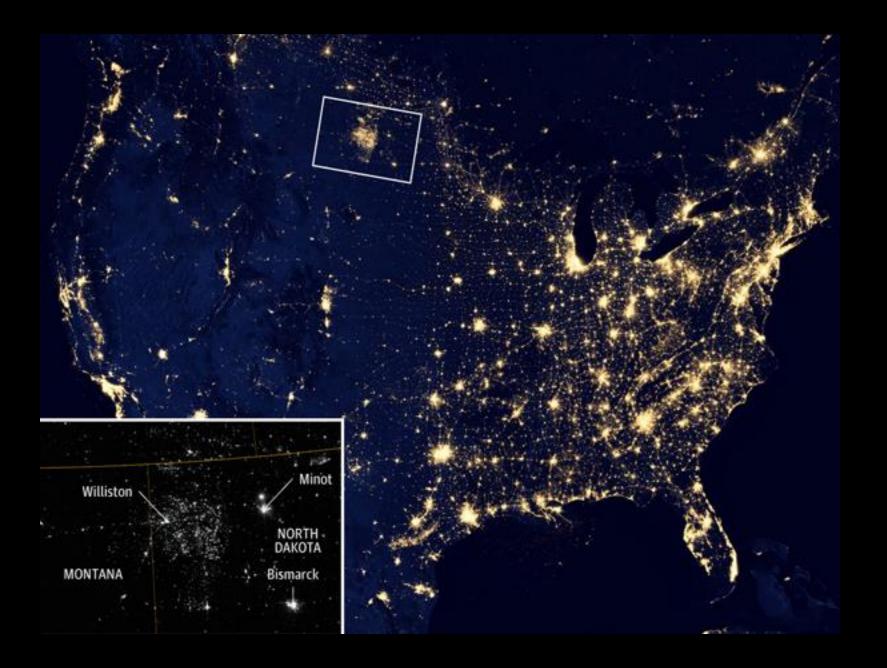


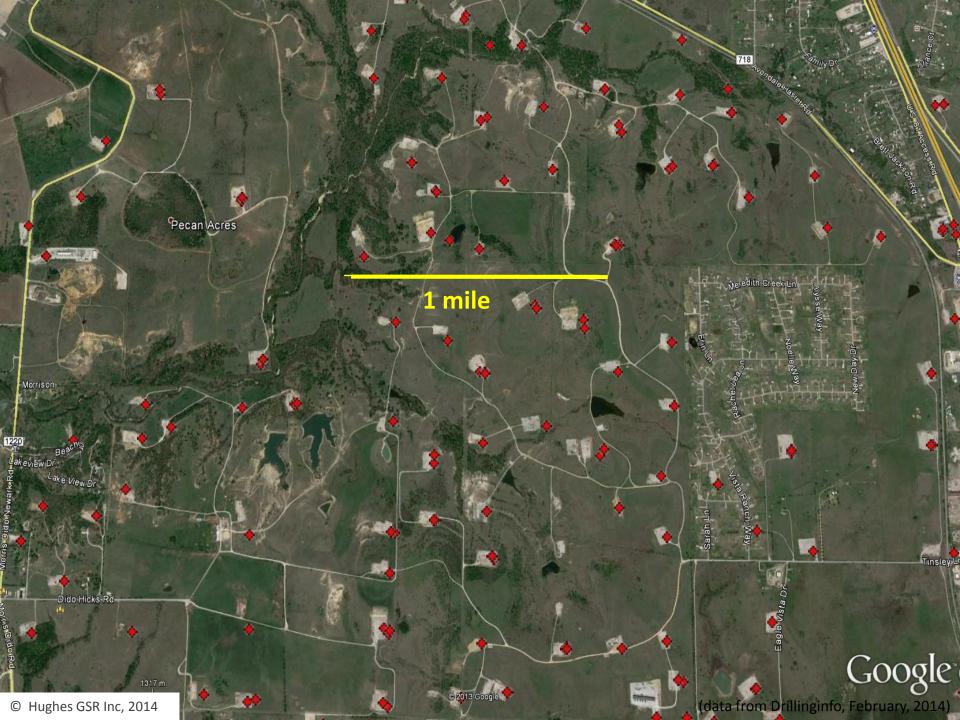










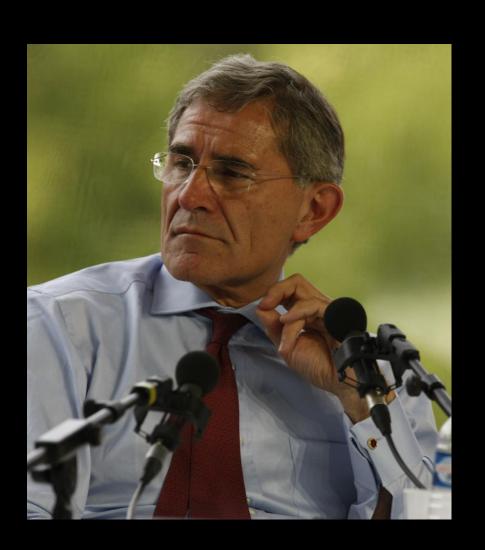










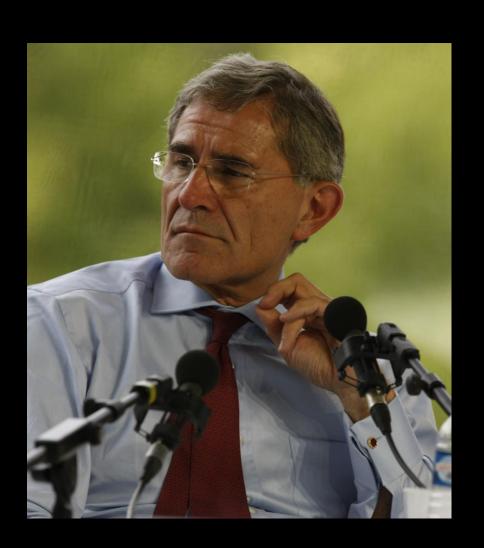


Gerard Mestrallet CEO, GDF Suez

Business model: *Gas can do everything we need*

Renewables policy: *End all subsidies*

Top fracking prospect: ?



Gerard Mestrallet CEO, GDF Suez

Business model: *Gas can do everything we need*

Renewables policy: *End all subsidies*

Top fracking prospect: *UK*

THE WALL STREET JOURNAL.

Jpdated December 2, 2012, 7:43 p.m. ET

Global Gas Push Stalls

Firms Hit Hurdles Trying to Replicate U.S. Success Abroad



By RUSSELL GOLD in Austin, Texas, and MARYNIA KRUK in Lubocino, Poland

Exporting the U.S. shale energy revolution overseas turns out to be far tougher

FINANCIAL TIMES

Chancellor backs gas to fire up Britain

by George Parker, Guy Chazan and Chris Giles

Chancellor George Osporne is to approve up to 30 gas-nred power stations as part of an Autumn Statement intended to boost private sector infrastructure investment and underpin long-term growth.

Mr Osborne will also announce a relaunch of the discredited private finance initiative to lure private investors into building schools, hospitals and other public projects; new rules are intended to improve transparency and risk sharing and remove excess profits.









The dramatic expansion of gas – seen by many Tory MPs as a source of cheap future energy - will be



No 49.451 £1.40

Lisa Armstrong Vintage jewellery: the pearls in my crown



Wedding blues 'I don't blame Rory for getting cold feet David Edwards sympathises, page 27



Dark day for cricket Sussex players on match-fixing charge Sport, S1-S5

The Daily Telegraph

Ministers signal start of the great oil rush

- Vast areas of South hold billions of barrels
- Go-ahead for firms to frack under homes

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Lady Weymouth had her revenge

Con men to face longer sentences if they target the elderly

CON MEN who target the elderly and vulnerable are likely to receive longer

Clarke: Quitting EU would hurt business



By James Kitsup. Putilizat Enter

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Sex-selective abortions declared illegal

By Steven Swindow
used Next Dominicates

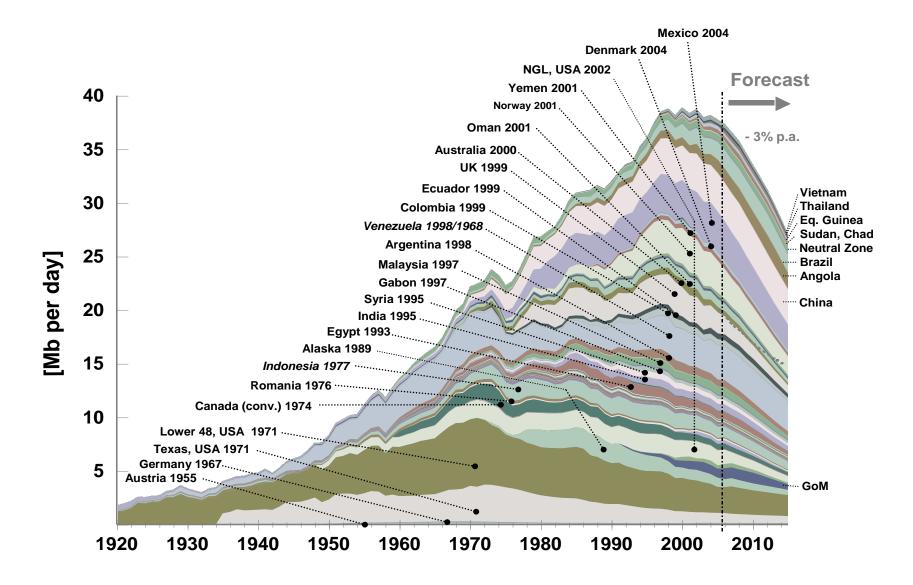
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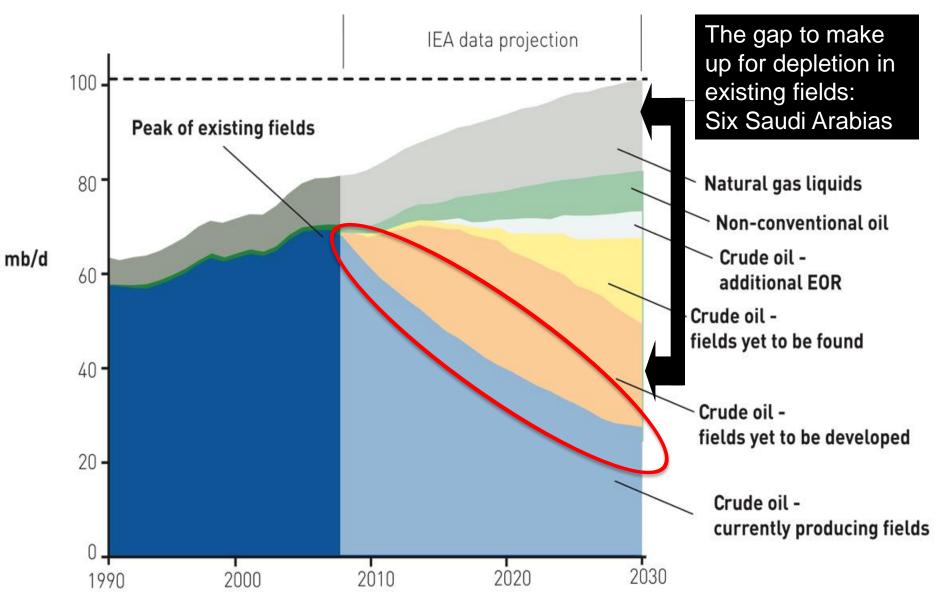


Peak oil: very much alive in most oil-producing countries



Source: Energy Watch 2007

Staving off global peak: the IEA's view in 2008

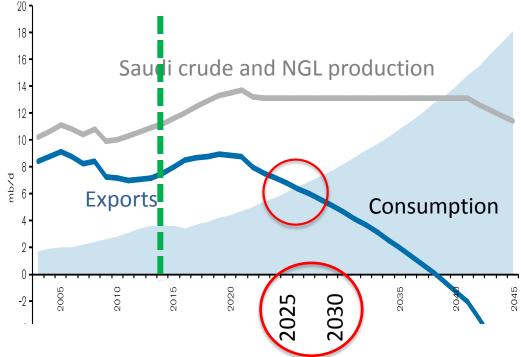


Source: IEA World Energy Outlook 2008



Saudi Arabia: not a drop to export by before 2030 on current trends





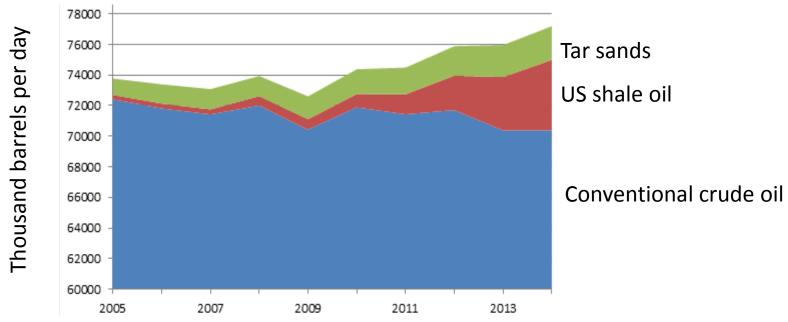


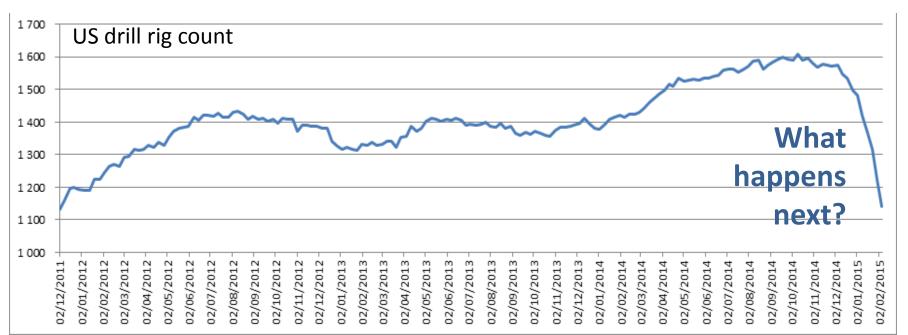


....and the proposed solution?



Global crude production 2005 – 2014 and US rig count





Tony Hayward CEO, Genel



Business model:

We are entering a new age of oil, shale is a game changer

Renewables prescription: *Too expensive*

Oil-depletion risk analysis: Peak oil is scaremongering

Bundeswehr report on Peak Oil risk (Nov. 2012):

"Psychological barriers cause indisputable facts to be blanked out and lead to almost instinctively refusing to look into this difficult subject in detail. Peak oil, however, is unavoidable."



Global oil production: a warning from industry in 2010

2010 report (<u>www.peakoiltaskforce.net</u>):

"The next five years will see us face another crunch – the oil crunch. This time, we do have the chance to prepare. The challenge is to use that time well.Our message to government and businesses is clear. Act.Don't let the oil crunch catch us out in the way that the credit crunch did."

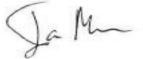


Richard Branson, Funde, Vigh Group



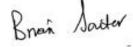


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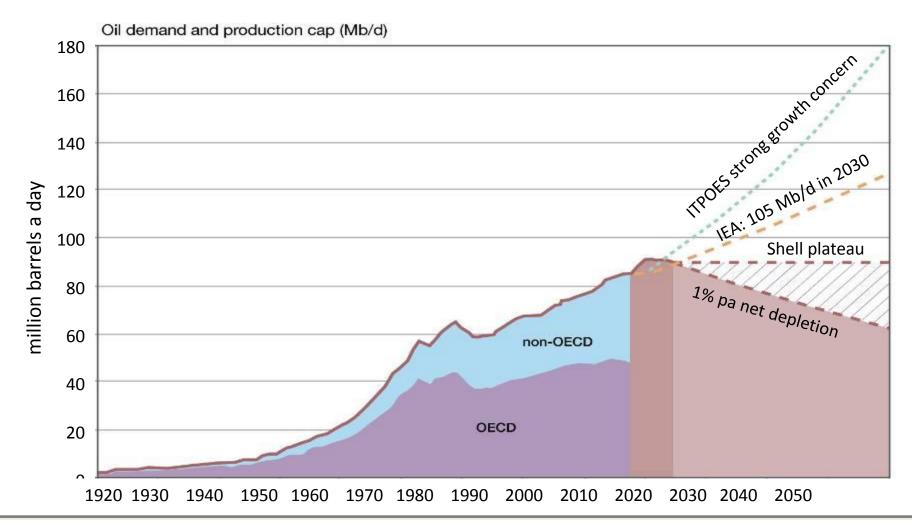








ITPOES 2010 conclusion: descent in global oil production by 2015 at the latest, at around 92 mbdnotwithstanding the hype around US shale oil.















"We know, as tellers of a story almost no one wants to hear, how difficult our mission is. But the consequences to a world caught unprepared for such an oil crisis are too great to allow us to remain silent."

Lt Col. Danny Davis & Dr Jeremy Leggett Founders, Transatlantic Energy Security Dialogue
Huffington Post, 25 Jan 2014





the energy of nations

RISK BLINDNESS AND THE ROAD TO RENAISSANCE



JEREMY LEGGETT

Covers 2004 to May 2013









The New York Times

Hard-Nosed Advice From Veteran Lobbyist: 'Win Ugly or Lose Pretty'

Richard Berman Energy Industry Talk Secretly Taped

By ERIC LIPTON OCT. 30, 2014



Richard Berman, a political consultant, said oil and gas industry officials need to exploit emotions like fear and turn them against environmental groups. "Think of this as an endless war," he told executives in a speech that was secretly recorded.

Daniel Rosenbaum for The New York Times

"Think of this as an endless war"

