Pressure from investors and general trends

Amandine Favier, 15th of April 2016

Gold Standard Conference: Grow to Zero

The finance landscape is diverse: not «one» investors

Financial Institutions	Sub-types of Financial Institutions
Banks	Investment banks; Corporate banks; Retail banks; Online banks; Credit Unions; Thrifts
Asset manage-ment	Fund-of-funds; Mutual Funds; Index Funds; Hedge Funds; ETFs; PE funds; Infrastr. funds; Commodity funds; REITs; Pension Funds; Sovereign Wealth Funds; Insurers; Endowment funds & other non-profits; I-Banks; Other corporate funds; Closed-end mutual funds
Insurance companies	Life; Non-Life; Health; Reinsurance
Market facilitators	Credit rating agencies; Stock Exchanges; Information providers; Brokers; Money transfers

Source: BCG Analysis

Investors are key for climate change

To trigger a change towards sustainable economy : There is a finance need of 780 billion USD / a to finance decarbonization*

To address environmental degradation: Today, 670 Billion USD / a are invested in additional fossil fuel reserves

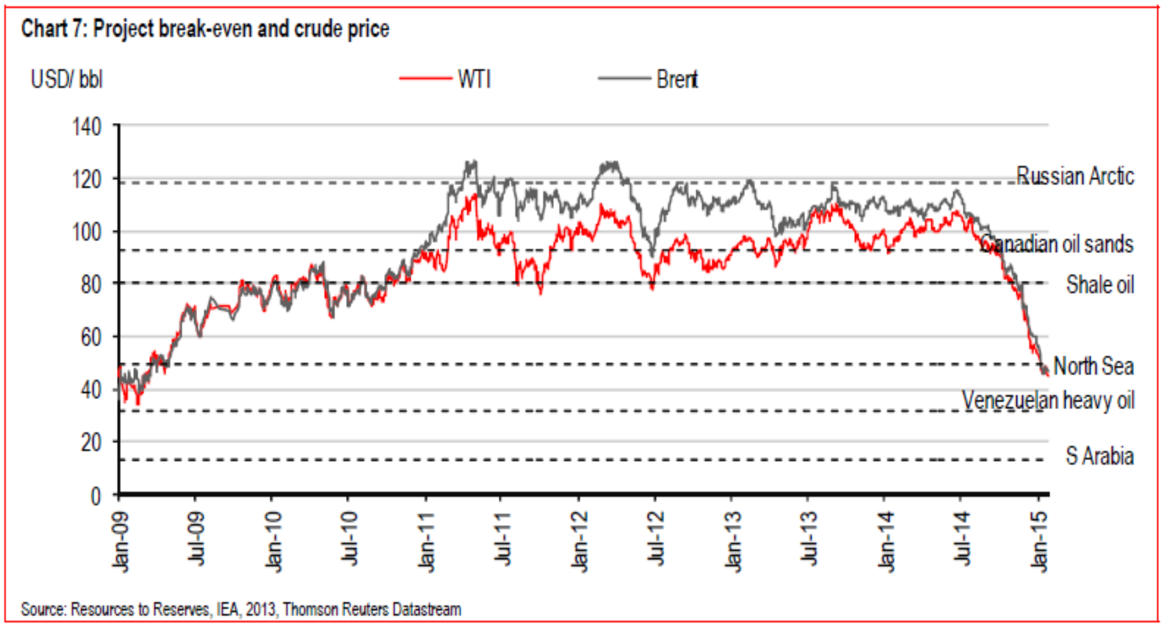
Huge Investment Gap and Disconnection between regulators and politics working toward a 2C° goal and the fossil fuel industry

Middle-and long term risks for investors stemming from climate change

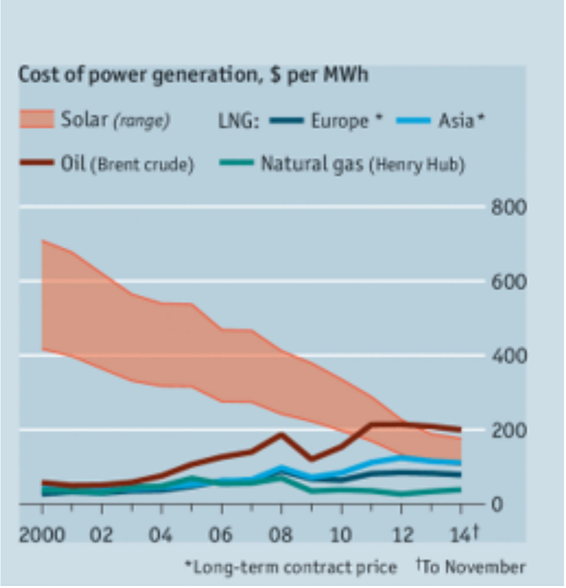
Regulation: «Between <u>60-80% of coal, oil and gas reserves </u>of publicly listed companies are 'unburnable' if the world is to have a chance of not exceeding global warming of 2°C" (so-called "carbon bubble")

Source: Carbon tracker

Economics



Innovation:



[1]HSBC April 2015, Stranded Assets, what next?

WWF

Fossil fuel investments : increasingly risky

STANDARD & POOR'S RATINGS SERVICES

RatingsDirect®

What A Carbon-Constrained Future Could Mean For Oil Companies' Creditworthiness

1. **Dept S&P (2012)**: Climate regulation could result in downgrading of fossile fuel companies.

Oil & Gas/Climate Change Europe

Oil & carbon revisited

Value at risk from 'unburnable' reserves

HSBC Climate Change

HSBC Global Research

- Lowering carbon emissions could put future oil and gas developments at risk
- Demand effects may mean lower oil and gas prices, a greater value risk
- Statoil's 'unburnable' reserves amount to 17% of market capitalisation; low costs mean BG has little value at risk

2. **Equity HSBC (2013)** : Climate regulation could trigger Domino-effect: 40 - 60% loss of market capitaization of oil & gas titles.

24 April 2014

Kepler Cheuvreux

Energy transition & climate change

ESG Sustainability Research

Stranded assets, fossilised revenues

USD28trn of fossil-fuel revenues at risk in a 450-ppm world

3. **Kepler Chevreux: (2014)** Under a 450-ppm Scenario, the fossil-fuel industry would stand to lose **USD28trn of gross revenues** over the next two decades.

What can investors do to manage risks?

Strategies to Act	
Divest	Avoid Fossil Fuel Exposure Entirely
Decarbonize	Set targets to lower the carbon intensity of the porfolio
Hedge	Invest in the «winner» of the low carbon economy
Communicate	Be transparent on your carbon exposure
Engage	Engage with companies to transform their business models
Integrate	Integrate carbon data in the financial valuation model: Internalization of externalities

Source: WWF, adapted from Southpole Carbon

Investors are starting to move

Montreal Carbon Pledge

25. September 2014 at the UN Climate Summit

"US$10 trillion in assets under management, as of the United Nations Climate Change Conference (COP21) in December 2015 in Paris"

120 Signatories up to today

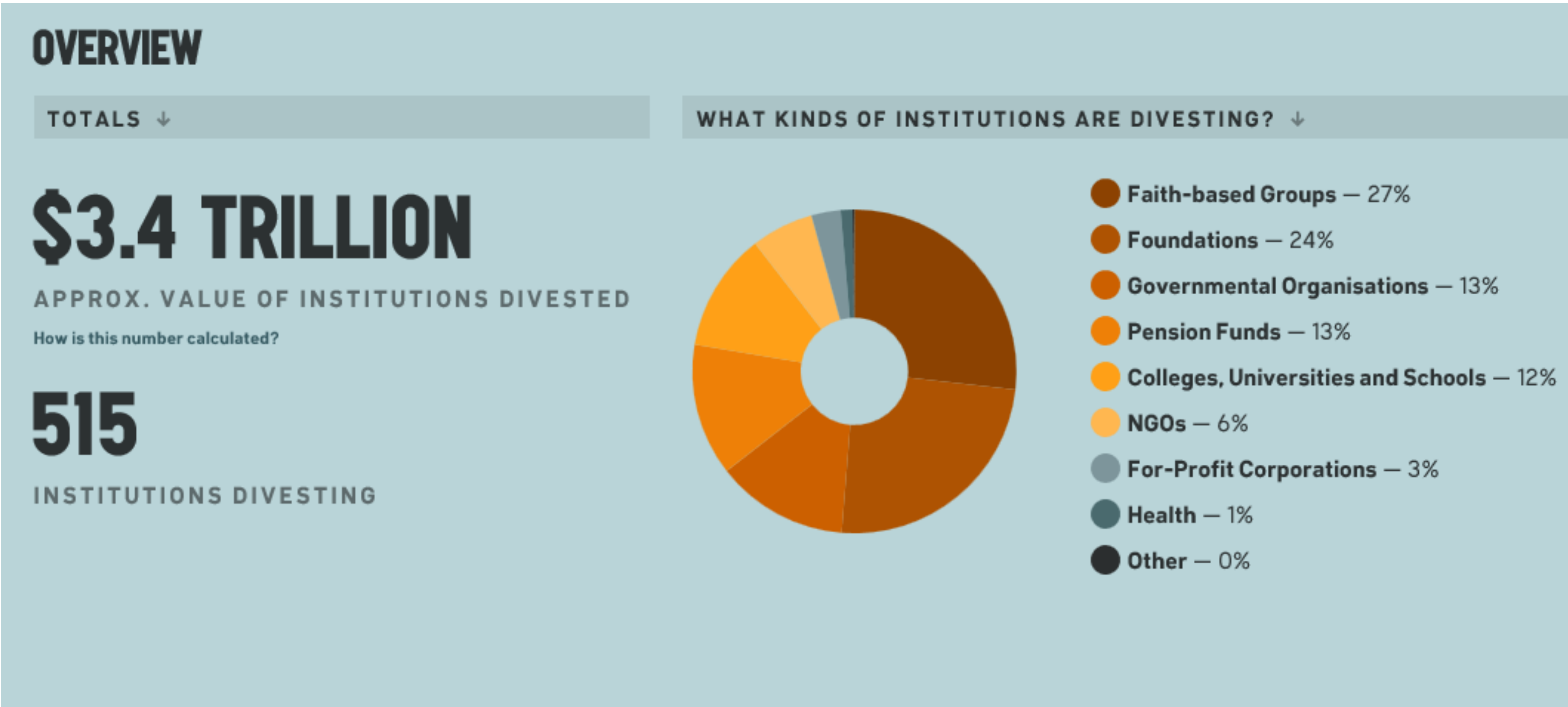
Portfolio Decarbonisation Coalition

23. September 2014 at the UN Climate Summit

"Leading institutional investors have joined forces to substantially reduce the carbon footprint of US$100 billion of institutional investment worldwide until COP21".

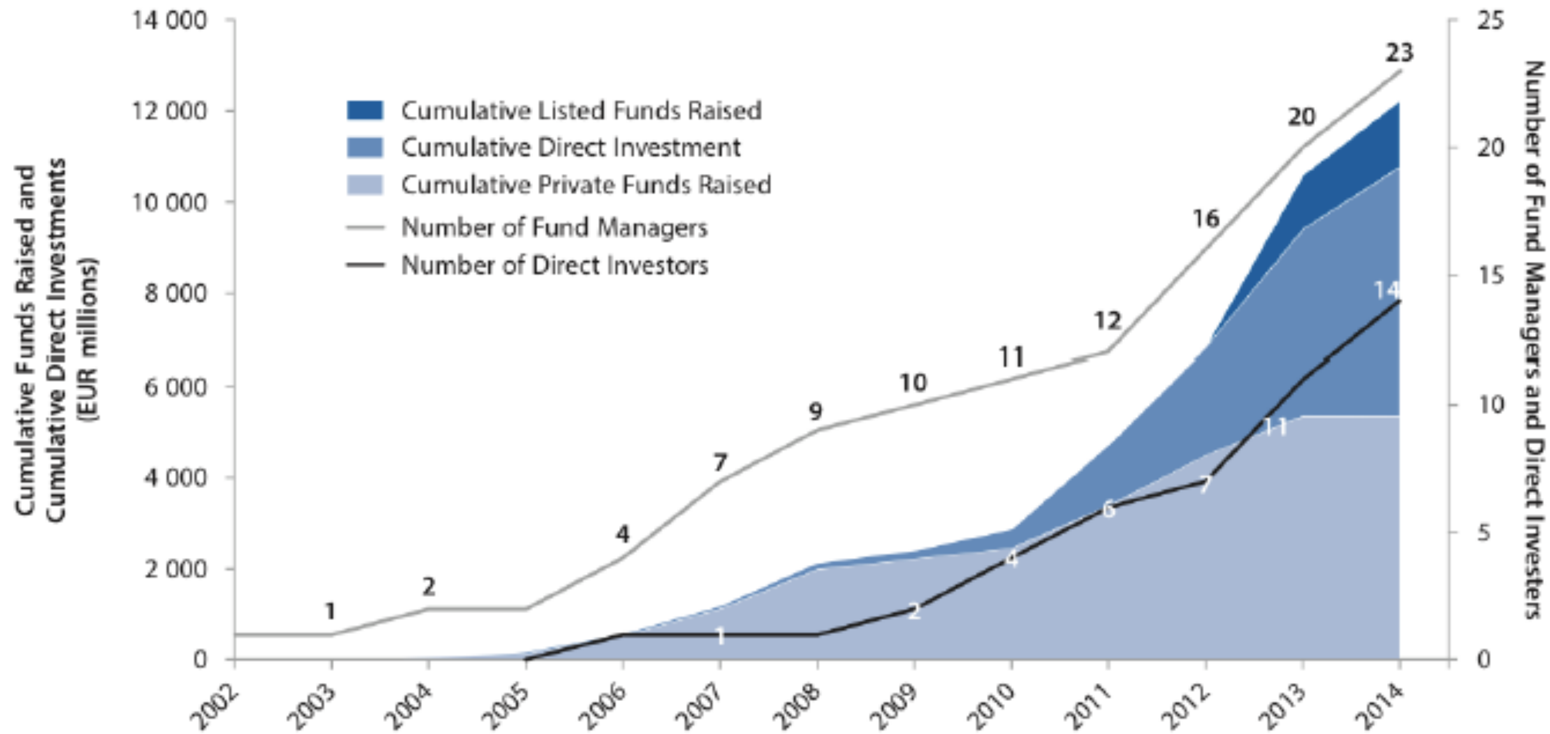
Membership at $600bn up to today and 26 members

Divestment movement has picked up



Source: http://gofossilfree.org/commitments/

Institutional Investors Increasingly Invest in Renewable Energy



[Source: OECD (2014), Mapping Channels to Mobilise Institutional Investment in Sustainable Energy, Green Finance and Investment, OECD Publishing citing Murley (2014)]

Source: Shifting Private Finance Towards Climate-Friendly Investments, EC, 2015

New Regulations for Asset Owners and Pension Funds are coming in place

Article 48 of the *French Energy Transition Law* (May 2015):

*«**Institutional investors** (insurance companies, public institutions, public pension funds) shall include in their annual report,and make available to their beneficiaries, information on **how their investment decision---making process takes social, environmental and governance criteria into consideration**, and the means implemented to contribute to the financing of the ecological and energy transition. This includes: **risks induced by climate change,** including the GHG emissions associated with assets owned»*

France now requires institutional investors to disclose on ESG integration and risks stemming from Climate change

WWF

Examples of Climate Strategy

Le Fond Français des Retraites (FRR):

The fund has a very clear climate change strategy in five points and clearly states that they do not exclude any sectors:

1) Measuring its carbon footprint and the exposure of its portfolios to fossil fuel reserves.

2) Reducing the carbon footprint (emissions and fossil fuel reserves) of its portfolios and therefore the associated carbon risk.

3) Investing in renewable energy and innovative technologies.

4) Pursuing dialogue with institutional investors and issuers as part of a policy of engagement centered around existing collaborative initiatives (PRI, IIGCC, …).

5) **Encouraging** issuers to adopt virtuous behavior by promoting greater transparency of information

Source: http://www.fondsdereserve.fr/en/socially-responsible-investment/the-frr-and-climate-change

Examples of Climate Strategy

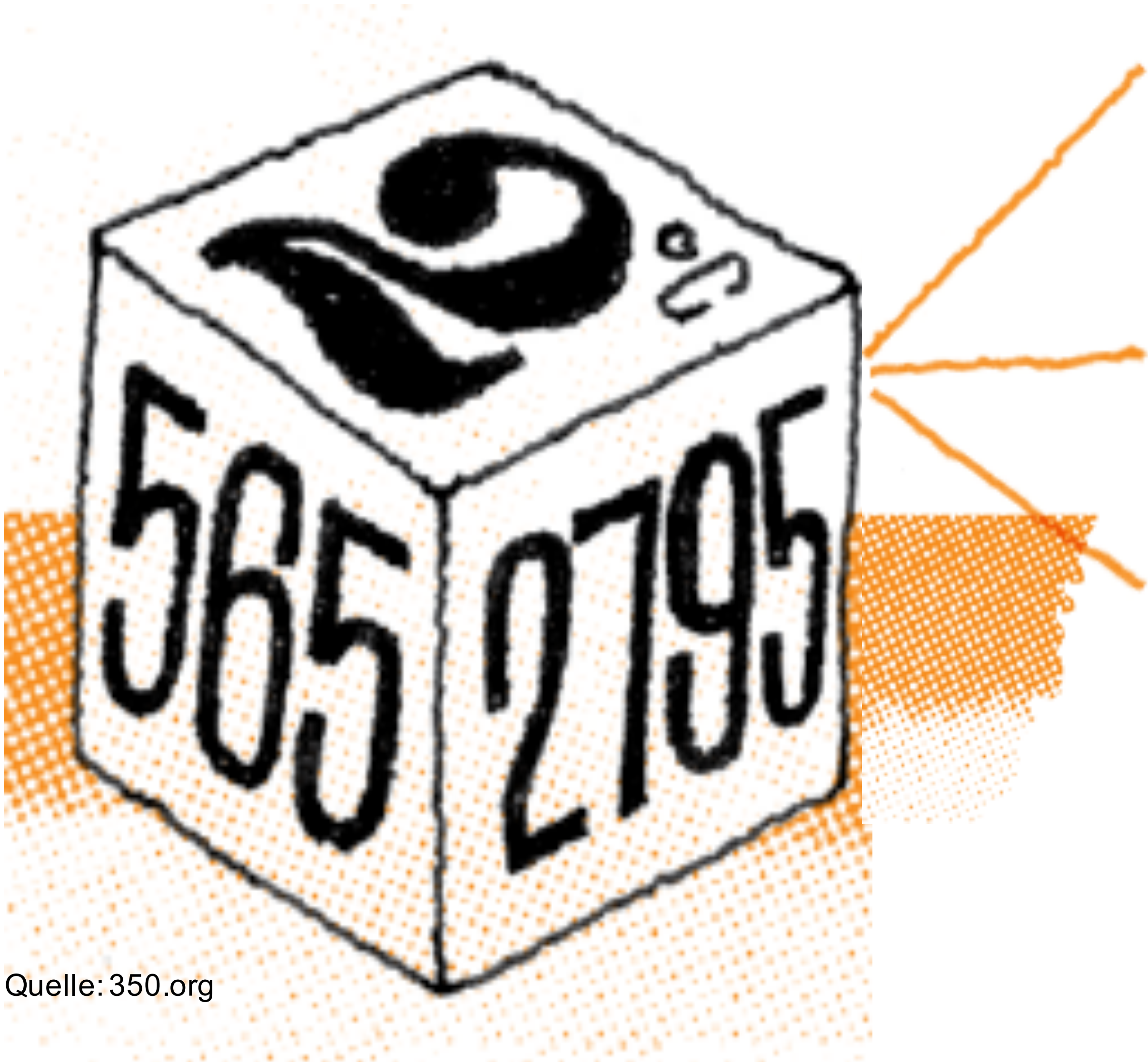
The Swedish Fund AP4

- Climate change and governance are the two pillars of the ESG strategies of the fund.

- AP4's strategy is to decrease their carbon footprint without excluding any sectors by excluding companies with high greenhouse gas emissions and companies with large fossil fuel reserves.

- AP4 has a target of 100 % of global equities portfolio in low-carbon strategies by 2020. The fund is a founding member of the Potfolio Decarbonisation Coalition (CDP)

More information on their climate strategy:
http://www.ap4.se/en/esg/climate-change-a-focus-area/



Quelle: 350.org

2°C: The maximum amount of global warming without causing runaway climate change. Almost every country in the world, including the most oil-soaked, have agreed to meeting this target.

565 gigatons: The amount of carbon scientists say we can burn and keep warming below 2°C. At current rates, we'll burn this amount of carbon in just 16 years.

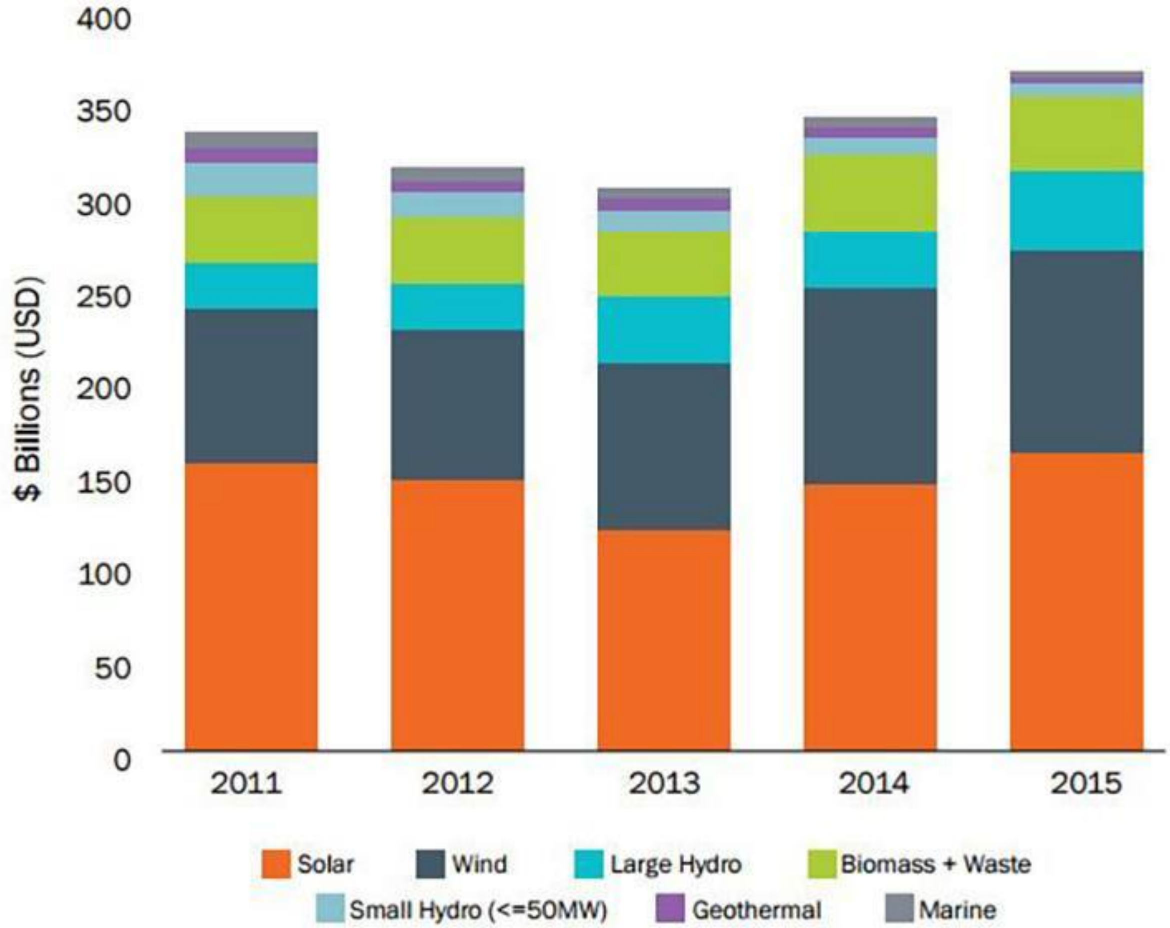
2795 gigatons: The amount of carbon fossil fuel companies have in their reserves. That' enough carbon to cook the plant nearly 5 times over—and everyday the industry is searching for more carbon to burn.

➲The majority of oil, coal and gas reserves have to stay in the ground!

Table 2: Selection of institutions to have announced divestment from fossil fuel investments

Investor	Country	Category	Strategy	Divestment	Date of announcemen
Second AP Fund	Sweden	Pension	Partial divestment	12 coal and 8 oil-and-gas companies.	Oct-14
ANU	Australia	College	Partial divestment	Iluka Resources, Independence Group, Newcrest, Sandfire, Oil Search, Santos and Sirius, representing 5.1% of holdings.	Oct-14
Rockefeller Brothers Fund	US	Family fund	Fossil fuels	Initially, coal and tar sands. Ultimately, all fossil fuels.	Sep-14
Storebrand	Norway	Pension	Partial divestment	13 coal extractors and six firms that are heavily exposed to oil sands, later decision to divest from coal-heavy utilities.	Jan-14
Boxtel	Netherlands	Local authority	Partial divestment	200 fossil fuel companies that hold the largest coal, oil, and gas reserves.	Oct-13
Orebro	Norway	Local authority	Fossil fuels	All fossil fuels	Jun-13
Church of Sweden	Sweden	Religious	Fossil fuels	All fossil fuels	Sep-14
The University of Glasgow	UK	College	Partial divestment	Divested £18m from the fossil fuel industry and froze new investments	Oct-14
Green Mountain College	US	College	Partial divestment	200 fossil fuel companies that hold the largest coal, oil, and gas reserves.	May-13
Hampshire College	US	College	Fossil fuels	All fossil fuels	Dec-11
Peralta Colleges	US	College	Partial divestment	200 fossil fuel companies that hold the largest coal, oil, and gas reserves.	Dec-13
Prescott College	US	College	Partial divestment	200 largest fossil fuel corporations over the next 3 years	Feb-14
San Francisco State Univ	US	College	Partial divestment	Coal and tar sands companies, began process to look at fully divesting from the fossil fuel industry	May-13
Sterling College	US	College	Partial divestment	200 fossil fuel companies that hold the largest coal, oil, and gas reserves.	Feb-13
Stanford	US	College	Coal	Coal mining companies	May-14
World Council of Churches	Switzerland	Religious	Fossil fuels	All fossil fuels	Jul-14
The University of Sydney	Australia	College	Carbon	Cut its fossil fuel investments by reducing the carbon footprint of its portfolio by 20% over three years	Feb-15
Oslo	Norway	Local authority	Coal	Coal companies	Mar-15
Nordea	Sweden	Asset Manager	Coal	Up to 40 coal-mining companies	Jan-15
KPL Pension Fund	Norway	Pension	Coal	Companies that derive more than 50 per cent of their revenues from coal	Nov-15
Local Government Super	Australia	Pension	Coal	Companies that make more than a third of their revenues from coal mining or coal-fired electricity generation	Oct-14
Norges Bank IM	Norway	Sovereign Wealth Fund	ESG	22 carbon-intensive fossil fuel companies	Feb-15

Total Investments in Renewable Energy



$367 billion was invested in renewable energy around the world

Source: A Year for the Record Books, Clean Energy Canada 2015

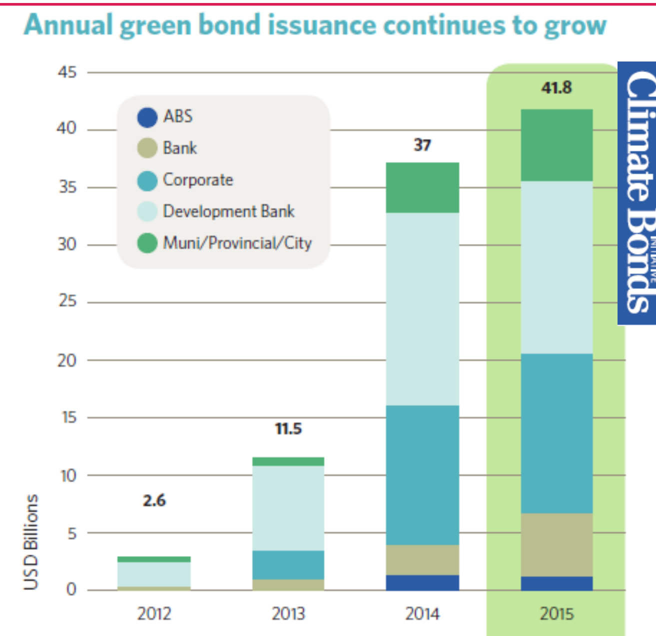
Illustration, Responsible Business Conduct und Langfristige

«Pensionskassen müssen Ihren Einfluss als Investorinnen und Aktionärinnen nutzen um die schnelle Dekarbonisierung der Wirtschaft voranzutreiben» Ban Ki-moon, 2015 in einem Aufruf an Investoren, die Finanzierung von Grüner Energie bis 2020 zu verdoppeln.

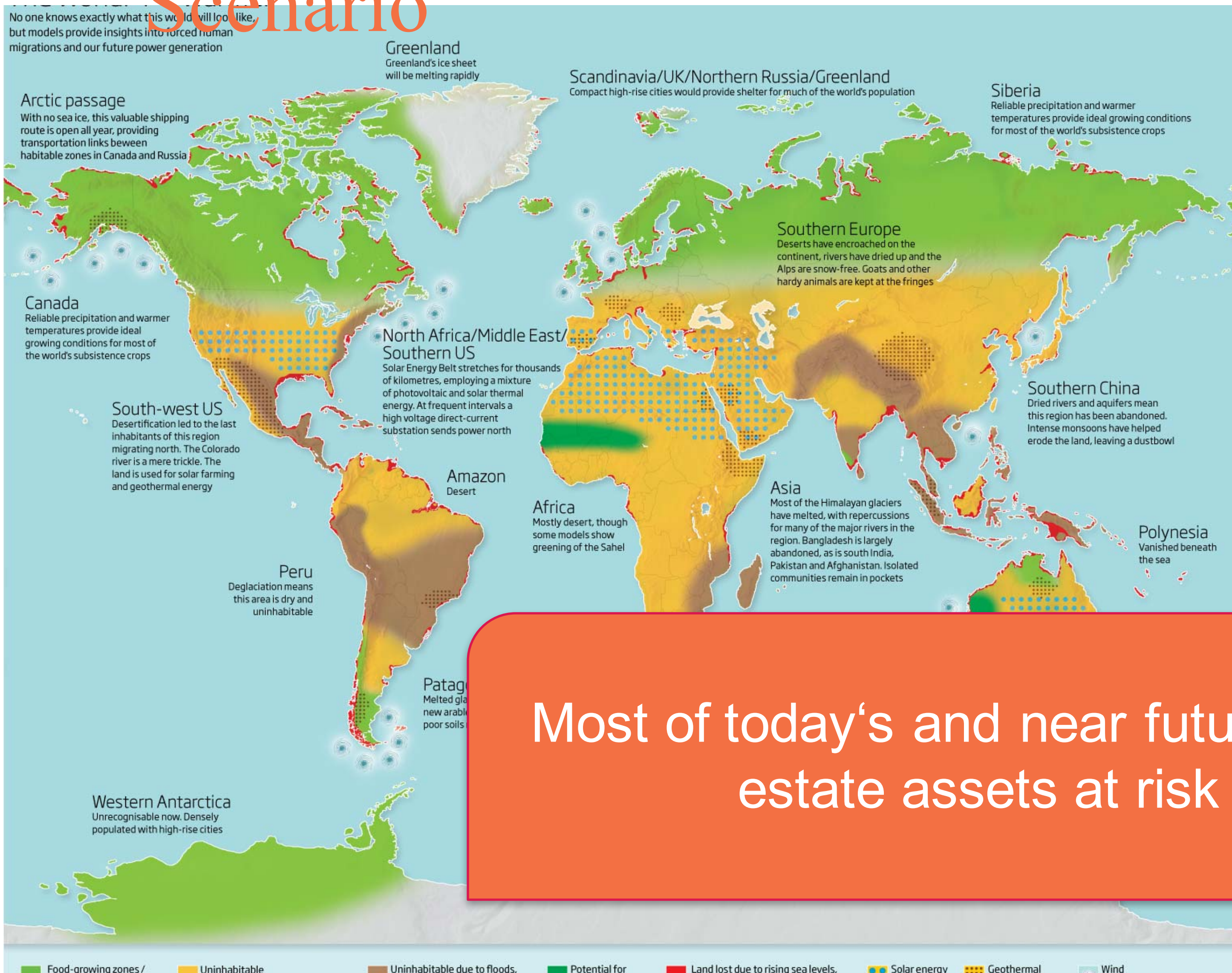
«Klimafinanzierung ist durch den Zeithorizont, Anlagegrösse und Anlagekategorie -nämlich Infrastruktur- im Einklang mit den Interessen langfristigen Investoren.» Christina Figueres, UNFCCC Executive Secretary, 2015

Investitionsvehikel, wie auch vorgeschlagen von Cambridge Associates:

- Direkte Investitionen in nachhaltige Infrastruktur
- Green Bonds
- YieldCo's



The World in 2100, +4°C Scenario



Yellow and brown: largely inhabitable areas

Most of today's and near future's real estate assets at risk

Source: New Scientist, 2009

Divestment: a $5 trillion challenge?

- Fossil fuel is a large asset class:

  - current values of 1'469 listed **oil and gas** was **$4.65 trn.** in 2014 / 275 **coal** companies is **$233bn.**

- Attributes in term of scale, liquidity, value growth and dividend yield

- Other sector offers some of the same attribute but not all of them

  - Information technology : larger with $7trn but pay lower dividends
  - Real Estate Investment trusts pays high dividend yields (>4%) but is a smaller sector ($1.4 trn. market cap.)
  - Clean energy sector = 106 companies with a total value of $**220bn**

Divesting from the coal sector will be easier than oil and gas :

  - Economic rationale (50% down in the past five years)
  - Smaller sector

Source: Fossil fuel divestment: a $5 trillion challenge, Bloomberg 2014

Existing Tool: Investors Guide to Carbon Footprinting

Investor guide to carbon footprinting

What's it all about?

Within the landscape of carbon metrics, it is sometimes difficult to find the right direction. We built this compass to guide you through current and developing carbon assessment tools: What can they tell you? What do they not tell you? What are the main methodological choices and how do they affect the end results? We explore and answer these questions in a simple and user-friendly way by looking at three types of metrics: carbon footprints, alternative and complementary measures (including green-brown share and 'avoided emissions') and static/forward-looking benchmarks. We also review the methodology of the main data providers on the market and detail the results of a series of workshops organised by the Institutional Investor Group on Climate Change (IIGCC).

In partnership with

IIGCC
Institutional Investors Group on Climate Change

2° Investing Initiative

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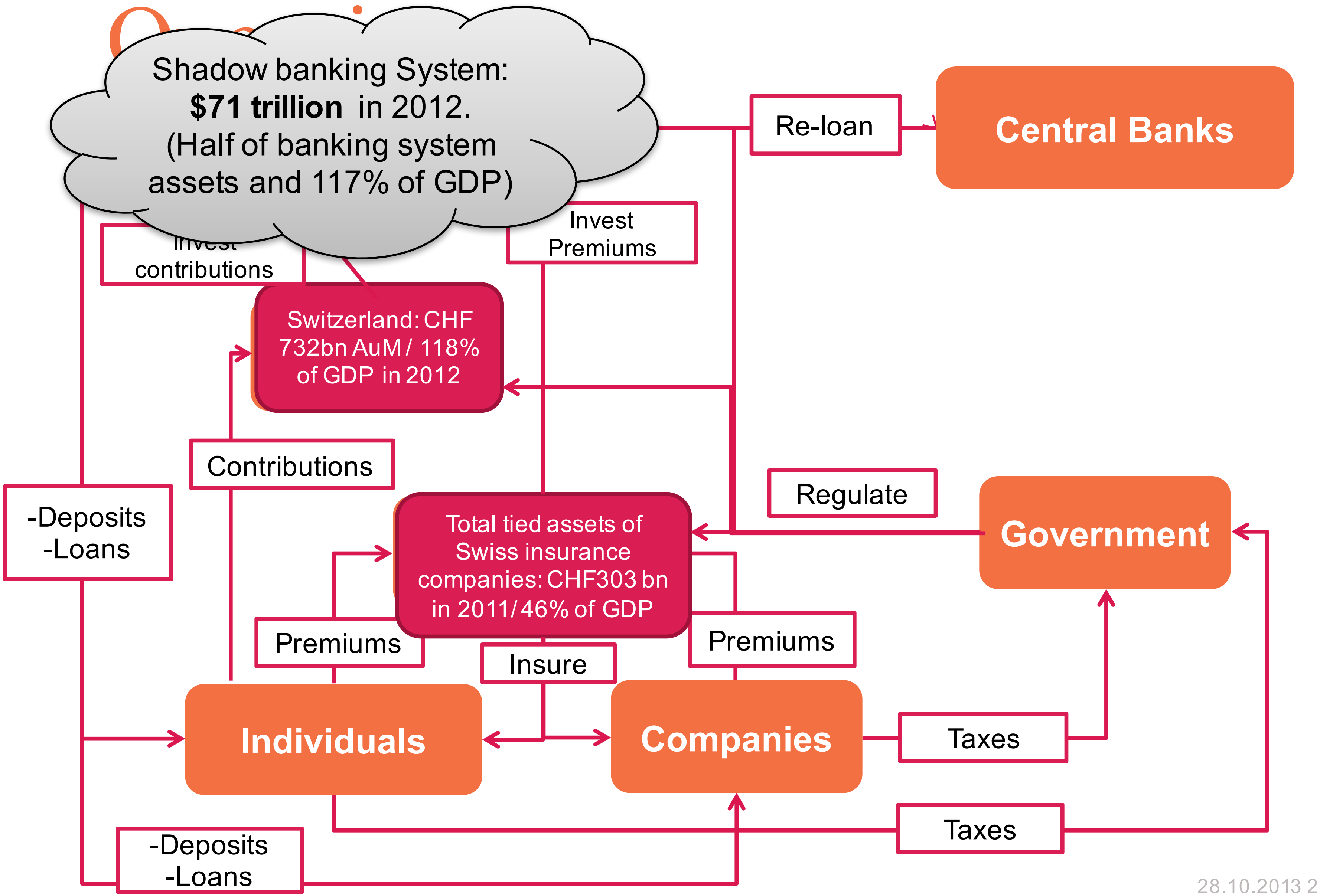
Financial System – an



UNEP Inquiry: What are the critical factors hindering the transition towards a more sustainable financial system

1. The failure of prices to reflect true costs

2. The disconnect between long-term impacts and short-term decisions.

3. The instability of the financial system.

UNEP Inquiry: What are the pre-conditions for the transition towards a more sustainable financial system

1. A financial system that serves the needs of the real economy
2. The valuation of true costs
3. The precautionary principle
4. The rule of law

Environmental risks such as climate change are increasingly recognized by financial actors and regulators

Governor of the Bank of England – Mark Carney

"The majority of proven coal, oil and gas reserves may be considered 'unburnable' if global temperature increases are to be limited to 2 degrees Celsius."

"This may lead to stranded carbon"

"In light of these discussions, we will be deepening and widening our enquiry into the topic,"

Bank of England letter to Environmental Audit Committee 30th October 2014

Additional work is needed about relevance of environmental and social issues financial stability to inform policy options.

RWE-case Regulation matters: sometime over night

EU Financial Institutions are exposed to fossil fuels

Total exposures of the EU financial Institutions to high carbon sector **exceed €1 trillion**[1]. The total estimated exposures are approximately:

- € 260-330 billion for EU pension funds (appr. **5%** of total assets)
- € 300-400 billion for insurance companies (appr. **4%** of total assets)

1. Source: The Price of Doing Too Little Too Late, The impact of the carbon bubble on the EU financial system, February 2014.

Estimated Loss for EU Pension Fund from Climate Risks

For the EU pension sector as a whole, estimated losses from a climate shock scenario would be in the range of **2.5% to 3.4%**

This implies a loss of **€ 130-180 billion** on € 5,100 of total assets.

But

→ A slow transition will be more costly

→ Doing nothing causes the largest risks

1. Source: The Price of Doing Too Little Too Late, The impact of the carbon bubble on the EU financial system, February 2014.