





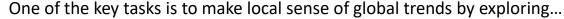
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## FORESIGHT as "change management" The language of change

Foresight starts with a reflection on how change happens.

It has its own language of change

- Drivers, Enablers and Blockers
- Megatrends
- Mesotrends
- Microtrends
- Nanotrends
- Trend breaks
- Game changers
- Weak Signals
- Etc...



- Local manifestations of global trends
- Positive impacts?
- Negative impacts?
- Interactions between different trends
- Ability to control or manage them
- Relative importance of difference factors
- Priorities
- Success scenarios
- Policy options
- Time frames within which to act

In one hour it is not possible to go into detail on many of these. I will focus on 2 or 3 major issues that provide important context for the transformation of rural economies in the coming decades...

- Climate change, energy and carbon
- The decarbonisation of farming and the carbon economy
- Social justice and the emerging model of a fair post-carbon economy



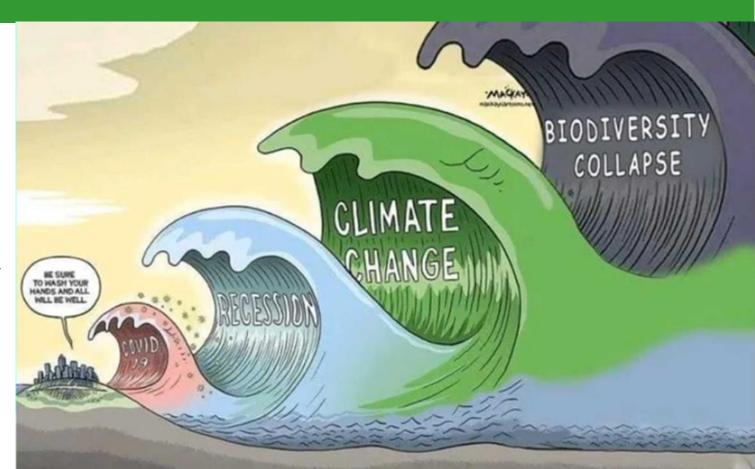
#### MAJOR 'SHOCKS' AND COMING WAVES OF DISRUPTION

This illustration is taken from a recent presentation by Unilever...

Where it explains its response to the COVID disruption and its impact on corporate strategy for the coming years...

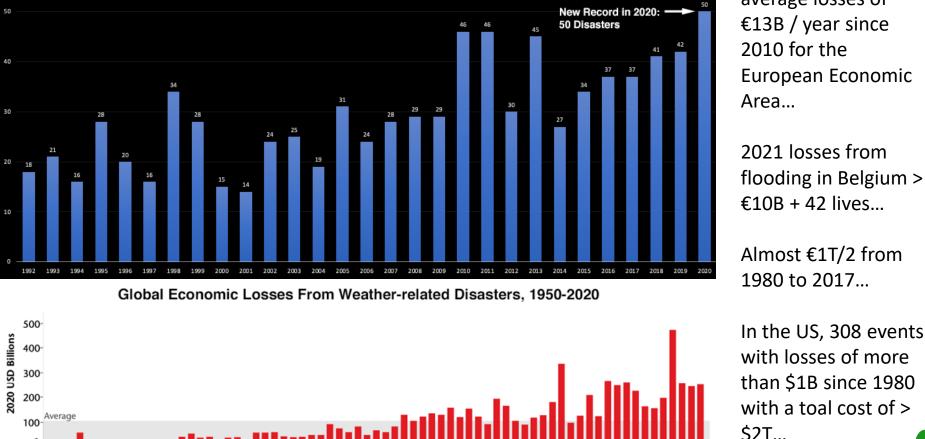
But even this does not fully reflect the situation we are in...











Data: Aon (Catastrophe Insight)

Global Billion-Dollar Weather Disasters, 1990-2020

EEA reports an average losses of €13B / year since 2010 for the European Economic Area...

€10B + 42 lives... Almost €1T/2 from

1980 to 2017...

In the US, 308 events with losses of more than \$1B since 1980 with a toal cost of > \$2T...

2010

#### What needs to be done now...

Climate change is primarily about carbon management

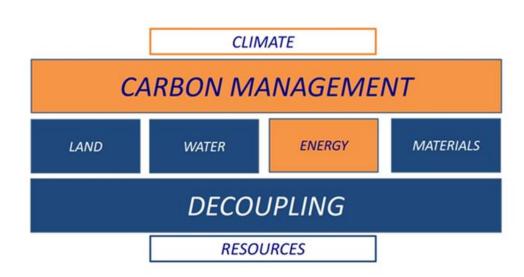
Energy from fossil fuels is one of the issues but not the only one.

The energy transition requires action on 3 fronts

- Switch to renewable sources
- Carbon Capture Use and Sequestration
- Energy efficiency (material resource efficiency, circular economy, building renovation, waste reduction, food waste, plastics, packaging...)

Ultimately, we need to decouple growth from the consumption of natural capital...





This requires change, adaptation and accommodation by everyone in almost every aspect of their lives, despite

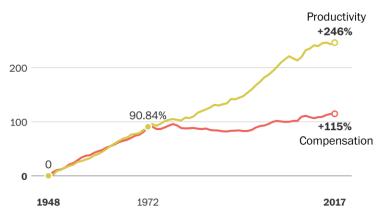
- Deeply entrenched private and public interests,
- Lobbies, misinformation and lies,
- Increasingly fragile and precarious populations.



### Something wrong with the system!

#### When companies put the brakes on worker pay

Growth in productivity and hourly compensation since 1948

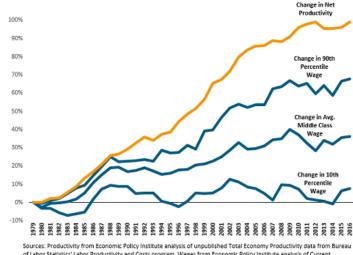


Note: Compensation includes wages and benefits for production and non-supervisory workers

Source: Economic Policy Institute THE WASHINGTON POST

#### MA Wage Growth Has Lagged Productivity Gains For Decades





Sources: Productivity from Economic Policy Institute analysis of unpublished Total Economy Productivity data from Bures of Labor Statistics' Labor Productivity and Costs program. Wages from Economic Policy Institute analysis of Current Population Survey data.

Note: The "average middle-class wage" is the average of wages between the 20th and 80th percentiles of the distribution



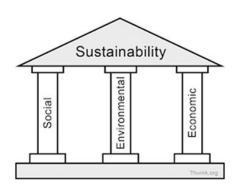
In the EU: Thomas Piketty has written about the increasing polarisation of society...

In the US: Michel Hudson, Rana Faroohar, Robert Reich, Bernie Sanders, AOC...

New ideas being explore include Universal Basic Income, Carbon Tax and Dividend...



#### A new and emerging model of the economy ... Link to SDM





The "Capitals" Coalition is a fusion of the "Natural Capital" Coalition and the "Social and Human Capital" Coalition

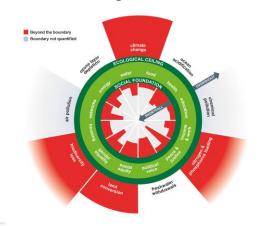








The "Doughnut" Model



## One sector in dire need of re-invention is farming ...

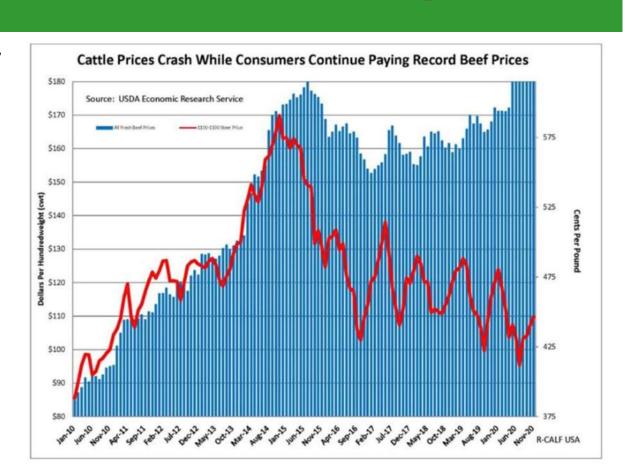
Some sectors fair better than others (dairy for example) but many fair very badly and farmers are often on the verge of poverty.

As long as the cost of food stays low, governments and indeed farmers themselves have generally failed to improve the situation.

Farm families often depend on off-farm income (tourism etc.) along with subsidies that are justified on the basis of compliance and multi-functionality.

Only now is the true extent of the ecosystem services that they provide beginning to be recognised.















### **Decarbonizing the Agri-Food Industry**

Farmers have been demonized, even to the point of violence, for their contribution to global warming.

Arguably, they are not being treated fairy. Only their emissions are counted and not what they capture...

Some studies indicate that certain ruminant farms are overall carbon negative....

On climate issues, the AKIS has failed them, and much needs to be done...





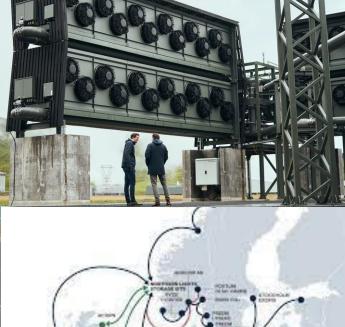
What can be done to reduce emissions from dairy?

- Measurement
- Plant and animal genetics
- Feed and feed supplements
- Grassland management
- Wearables ...
- Carbon sequestration (as with coal...)



# Nature Based Solutions, Ecological Services and the Voluntary Carbon Markets...





#### Electrification, Automation, Data-Intensification



#### Takeaways + Innovation in Governance and Finance

I survey a range of challenges which should come top of the regional agenda for the coming years. Not just climate, but many more. The biggest being the threat of biodiversity collapse. All of this has to be addressed against the backdrop of a major crisis in society arising from inequality, a need for better jobs and a desire for social justice. This will challenge governments at all levels - EU, national and regional

- To understand the challenge
- Set priorities and
- Find the funds needed to act

1: The EC has provided a very clear sense of what the priorities should be for the coming years, based on the Green Deal, The Resilience and Recovery Plan, the Biodiversity Strategy and CAP reform...

2: The Foresight approach can help to make sense of this from a regional perspective. In ways that ad-hoc initiatives such as hackathons and world cafés cannot. This approach is being actively encouraged by the EC. To do this well, you may need outside help.

3: Finding the money to do what needs to be done will be a challenge and a key to success, but it has also been an area for rapid innovation in the last decade. Regional governments will have to combine funds from the EU budget, national budgets, regional budget along with contributions from the private sector. A major source of funding will come from the NRRP, the regions are being told to develop Local Green Deals. Innovation is happening on both budget acquisition and deployment and encouraged to seek technical assistance. New ideas include...

- Green Bonds: The EU raised an extra €800B for the RRP, the member states are doing the same... the regions will follow suit
- Government Managed Funds: Government Venture Capital, Cascade Funds, Revolving funds, Opportunity funds, Blended finance ...

