

June 22, 2021



SOCIETY 5.0
Conference

Business Strategies Helping avoid Climate Collapse

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Founding President



**Wuppertal
Institut**

**for Climate, Energy
and Environment**

Honorary President



**Business, I assume, wants to be
at the forefront of progress.**

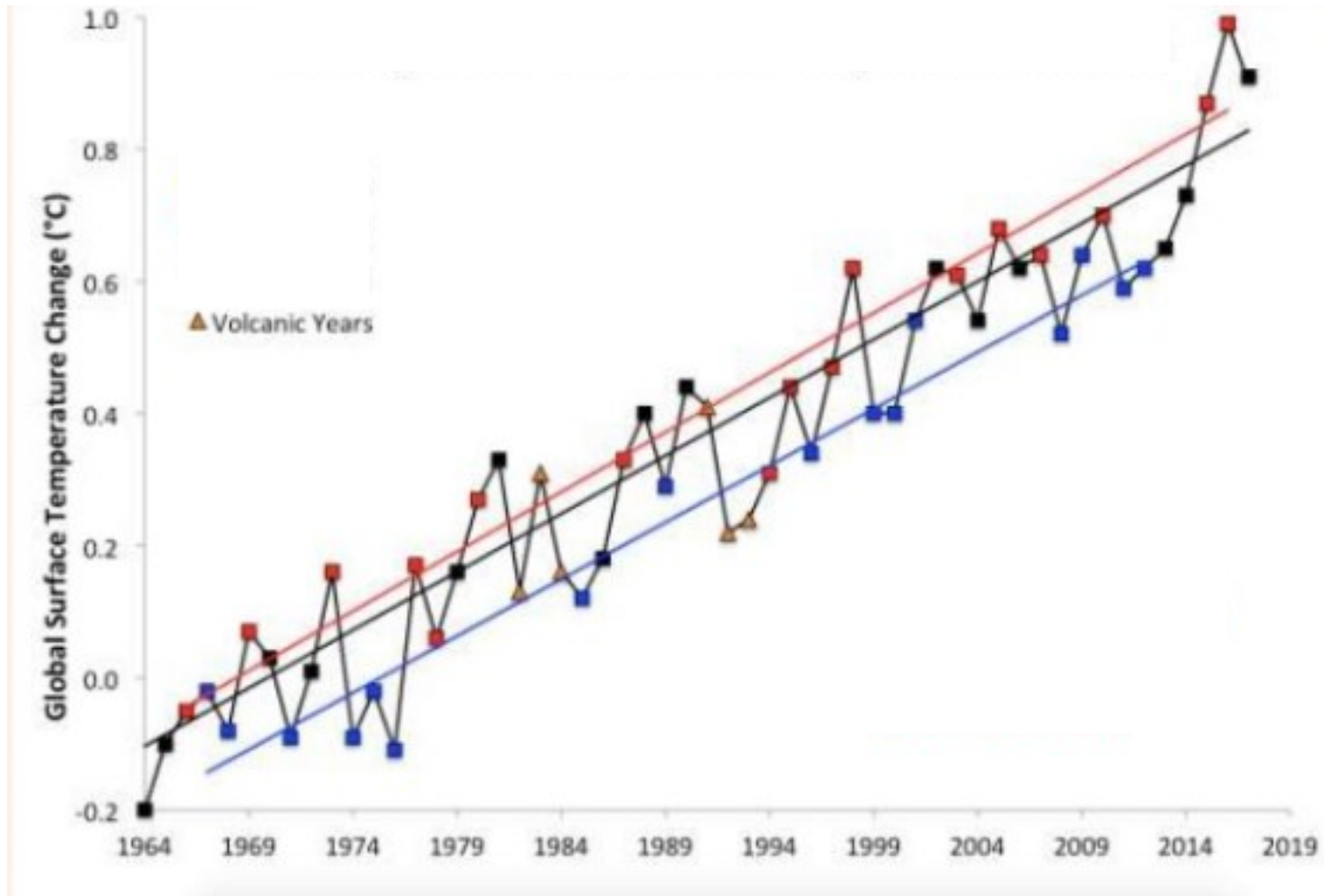
**But what is progress when the
Planet is broken?**

The State of the Planet is broken, says UN SG António Guterres (Dec. 2, 2020)



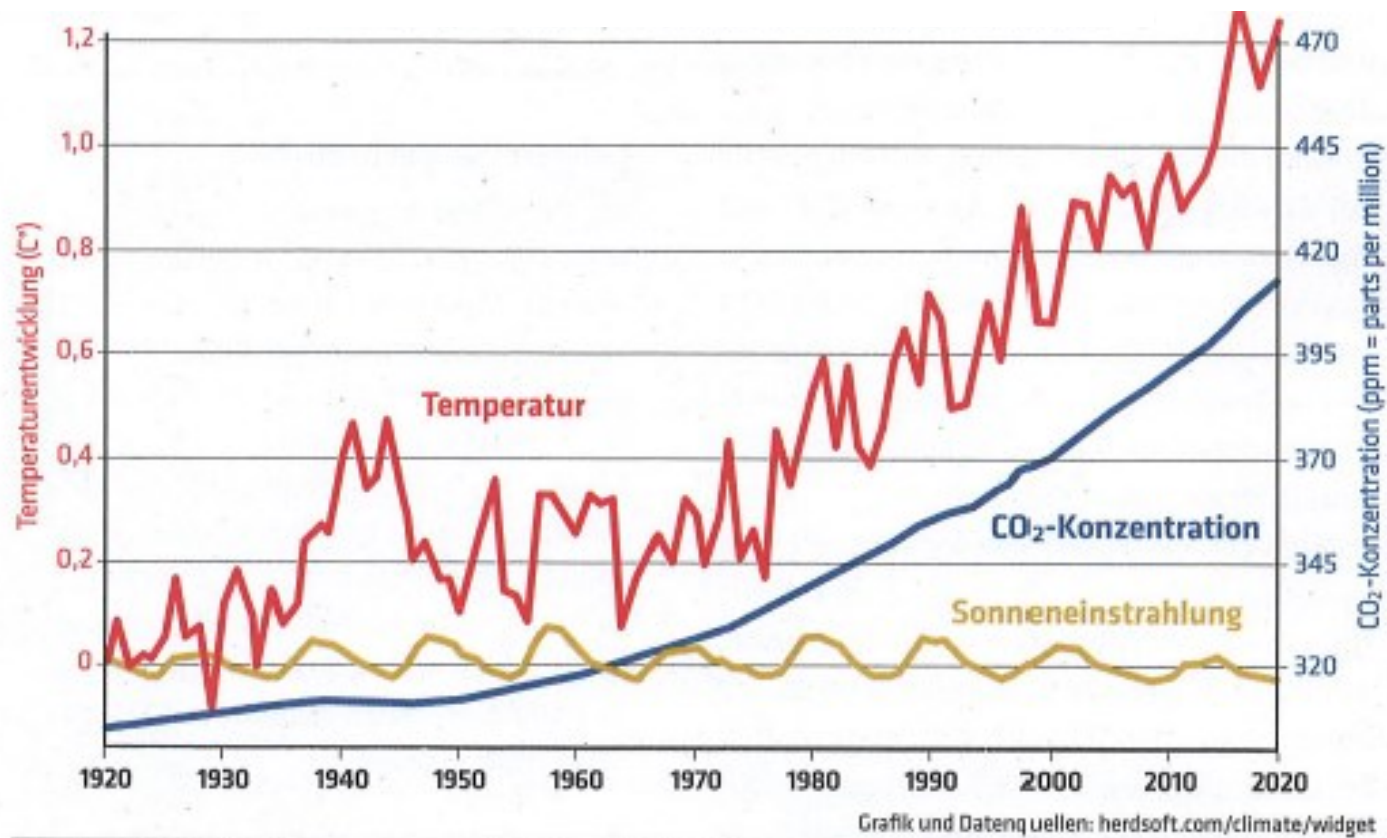
**He also says that other than with Covid 19,
there is no vaccination available!**

Relentless increase of global warming.



Courtesy Jeremy Leggett 2018

No doubt anymore:
Temperature goes with CO₂-concentration!
(Solar radiation goes by its own rhythm)



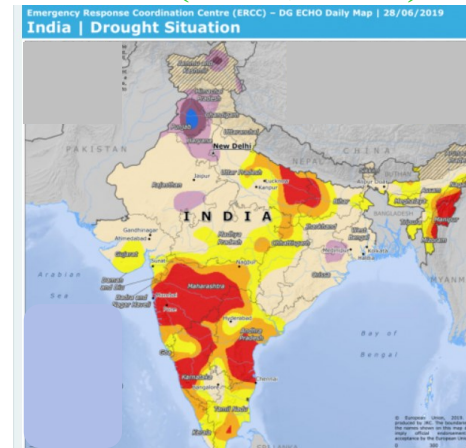
Regional disasters emerging from global warming

Houses burning in California



Incredible droughts in India (June, 2019)

Cover TIME 4. March 2019



- extreme
- severe
- moderate

Source EU Commission June 28, 2019

Cyclone IDAI leading to floods in Mozambique, March 2019



CNN.com

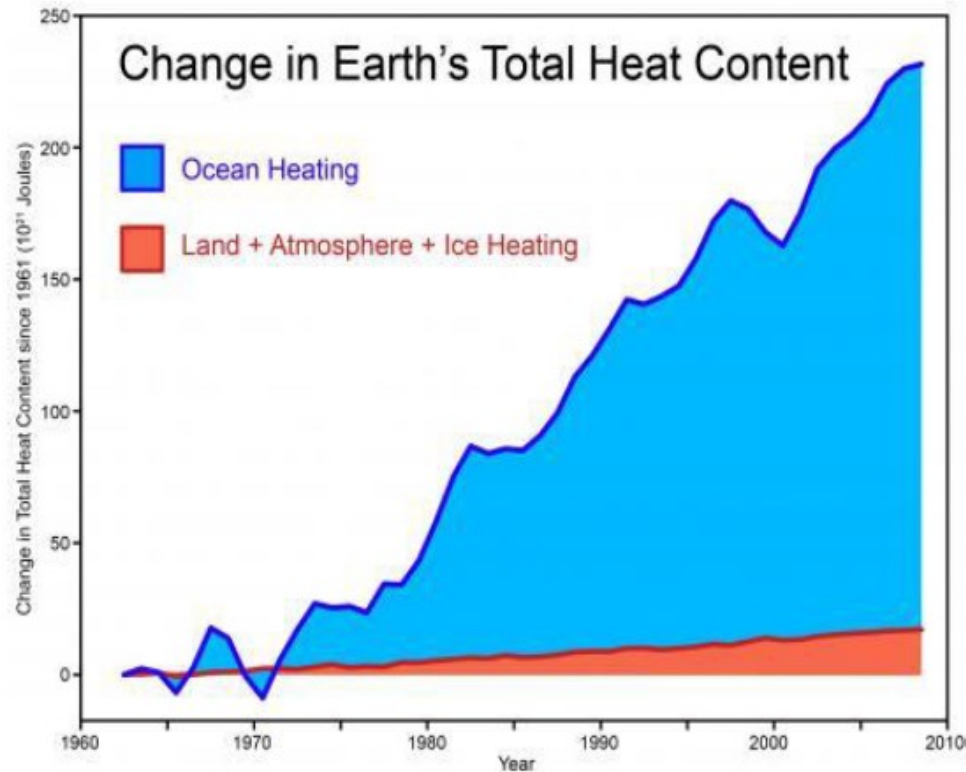
Gigantic wildfires around the Arctic Circle (2019)

Ausmaß der Waldbrände



Die unglaubliche Ausmaße der Waldbrände am Nordpol

The real heating occurs in the oceans!



Source: Skeptical Science, Church et al 2011

... meaning that the real scare may soon be the rise of the sea water table!

For illustration – look at this:

Italy during last
Ice Age (20.000
years ago)

and during the last
hot age (2 million
years ago)

Italy during
the last ice
age 20000
years ago



Italy during
the Pliocene
2 million
years ago



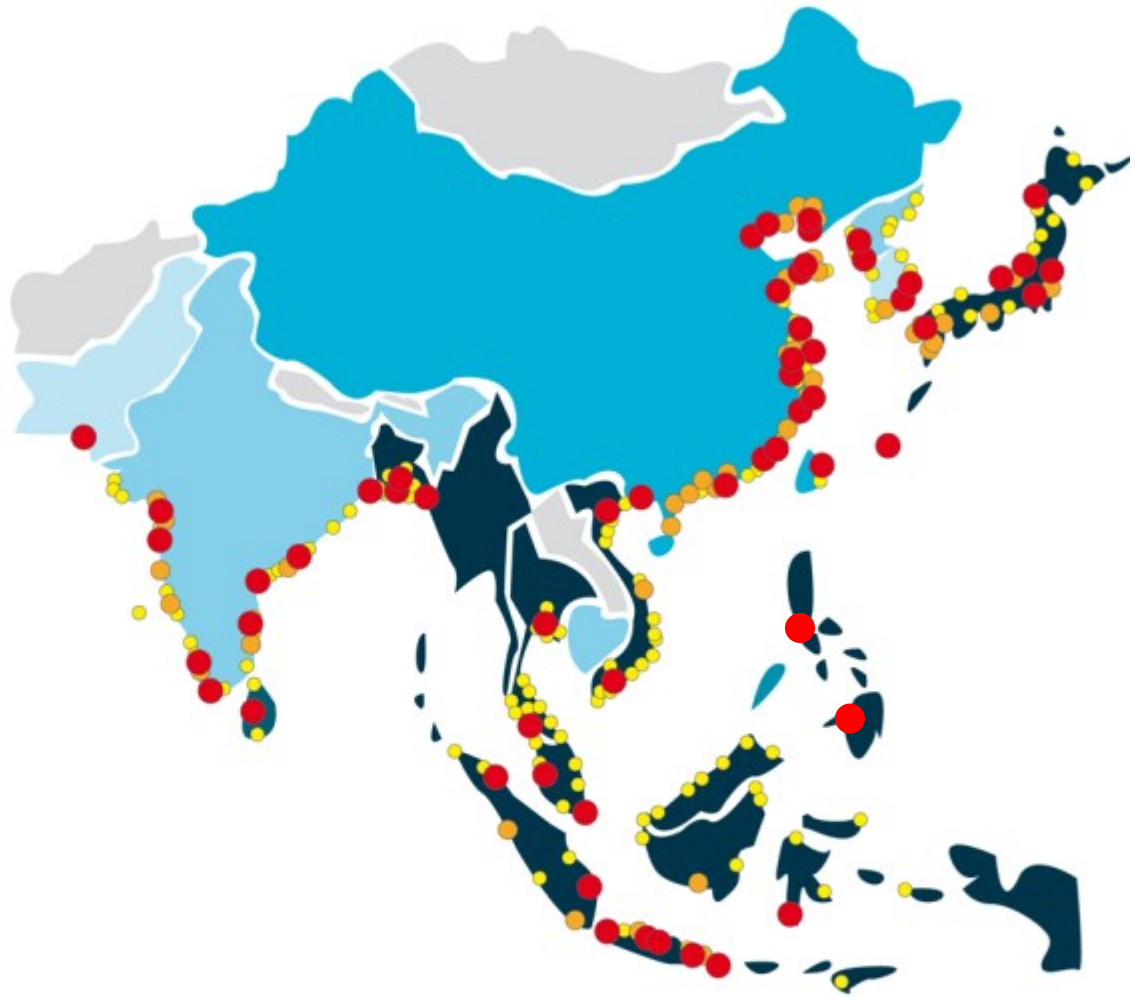
Source: Atlante Geografico Moderno, Mondadori 1996

... and imagine what that means for London, Amsterdam, Athens etc.

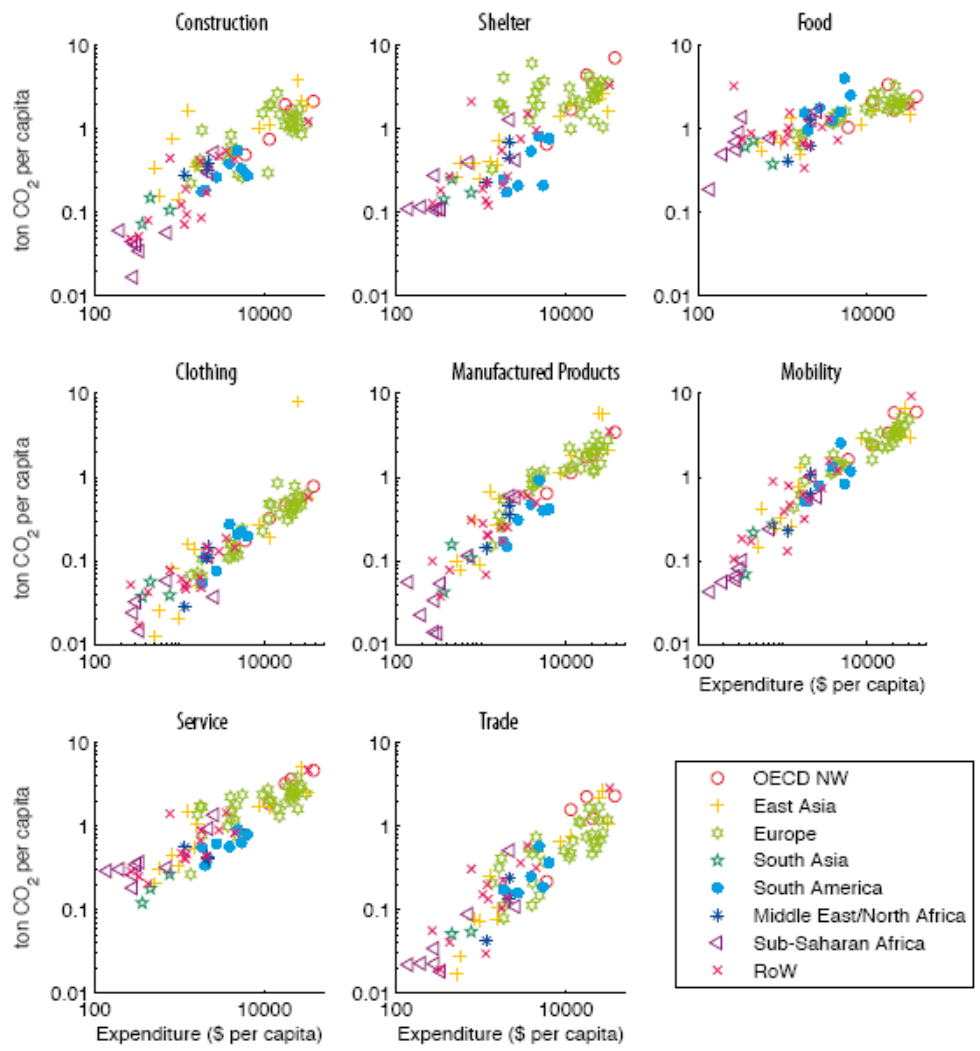
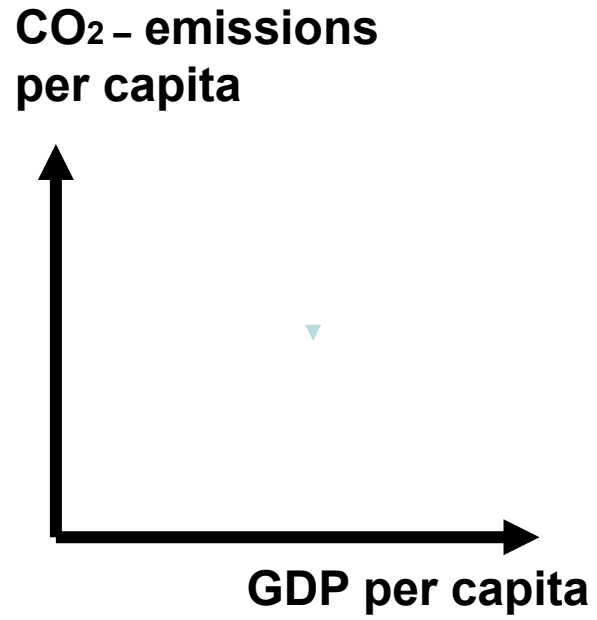
**Some 1.3 billion
people (0.8 b in Asia
alone) live right at
the ocean coasts!**

**Imagine 200 million
refugees!**

**Imagine the political
turmoils resulting!**



In a world of continued GDP growth, we must realize that growth goes with CO₂ emissions, in the 8 relevant economic sectors



Source: Hertwich, E.; Peters, G. P. Carbon Footprint of Nations: A Global, Trade-Linked Analysis Environ. Sci. Technol. 2009, 43 (16) 6414– 6420





I'm afraid that's a very unfortunate message!

**I means further economic growth means
climate collapse!**

**But as all countries of the world want further
growth, we have no other choice than**

Decoupling growth from damaging climate!

What can we do?

- **Build coastal dams** **hugely expensive** 
- **Stop coal burning** **yes, but coal regions hate it!** 
- **Electric motor cars** **rather for the rich** 
- **More modest life styles** **not popular** 
- **Expand solar power** **yes, will help** 
- **Efficiency revolution** **absolutely yes**  

Why am I emphasizing efficiency?

All energy and material consumption causes environmental damages.

Efficiency increase can cut costs, - good for business.

A five-fold increase of efficiency is feasible soon, even a twenty-fold increase seems possible.



Club of Rome Report by Ernst von Weizsäcker, Charlie Hargroves et al.

A fivefold increase of energy productivity allows us to completely phasing out fossil fuels.

A five-fold increase of material efficiency means circular economy.

The book shows both is technically feasible!



Imagine a bucket
of water of 10 kg
weight

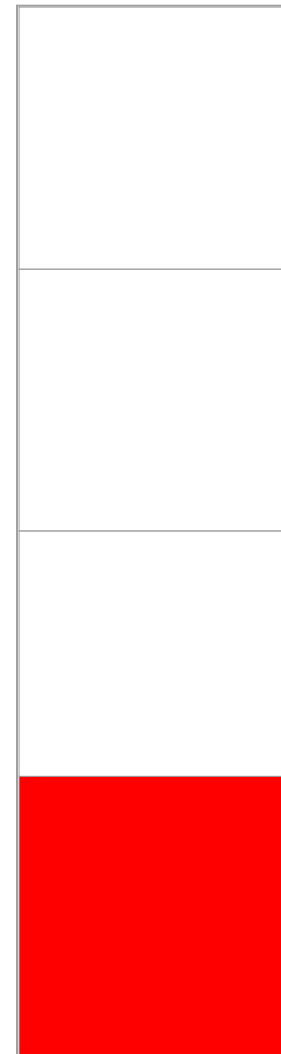
**How many
Kilowatt-
hours**

do you need to lift
it from sea level
to the top of
Mount Everest?



**The surprising
answer is:
One quarter of a
kilowatthour!**

(Physics defines one watt-second as one Joule or one Newton-meter; $\frac{1}{4}$ kwh is 900.000 watt-seconds)



1 kwh

**Phase out coal burning. OK.
But while we sit and chat,
some 600 new coal power
plants are under construction
or planned worldwide!**



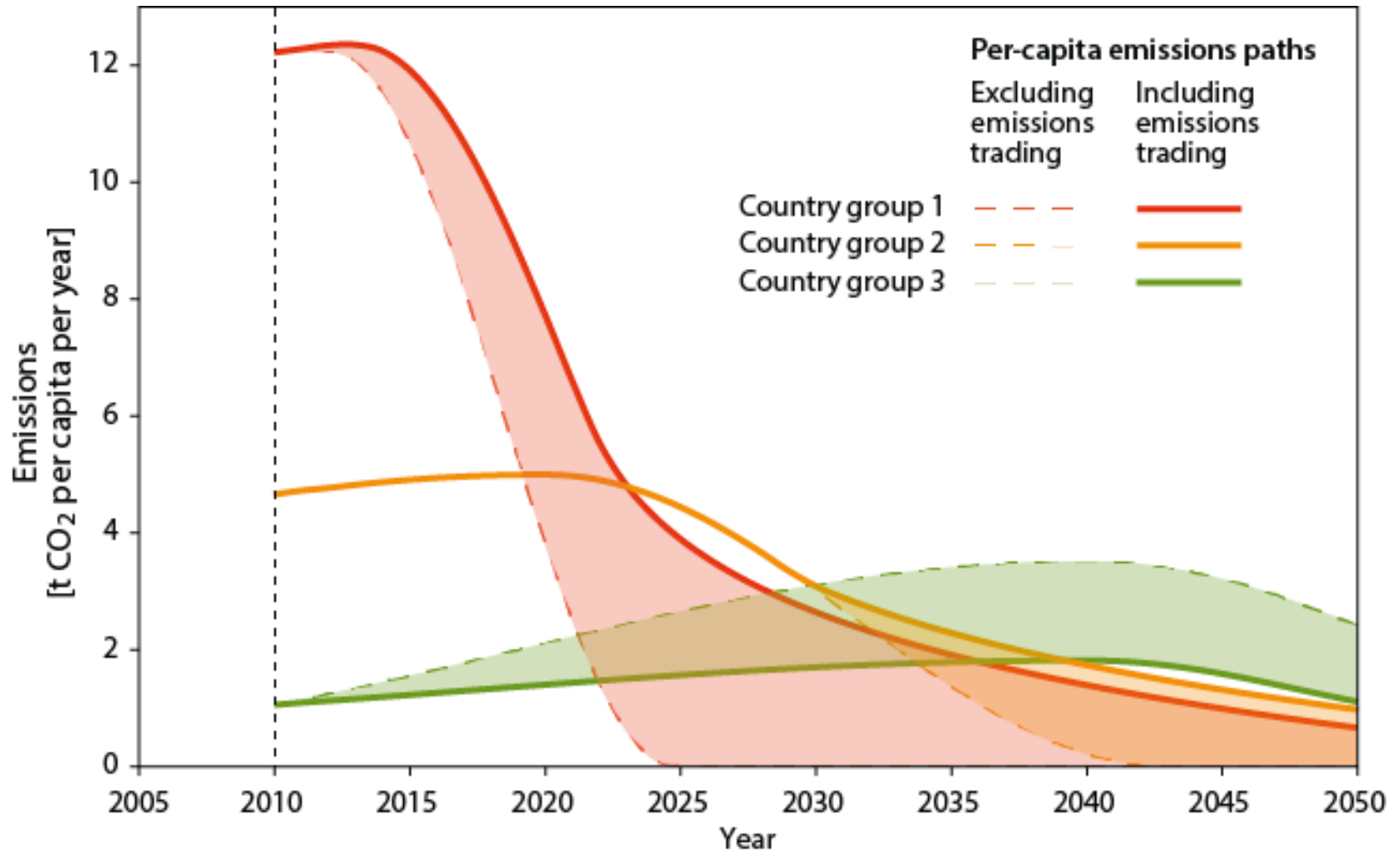
90 percent of them in developing countries!

Source: [energiezukunft](#) 13.12.2017 and 5.10.2018

Das Portal für Erneuerbare Energien und die bürgernahe Energiewende

Hence: effective climate policy must include developing countries! Otherwise we are losing the climate war!

In my opinion, the only promising strategy is the „Budget Approach“. The old industrialized countries (red lines) have almost exhausted their carbon budget and will have to go shopping to developing countries (green lines) for new permits.





www.piyushgoyal.in

In that case, the Indian Economy Minister Shri Piyush Goyal would soon switch from promoting coal power to renewables and energy efficiency while selling the respective permits to the North!

The Budget Approach is one piece in the new Club of Rome Report „Come On!“



... consisting of three parts:

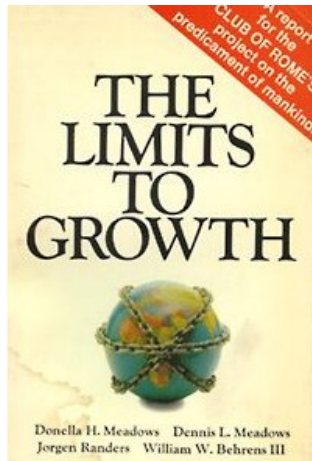
**Part One: C'mon! Don't tell us
the current trends are sustainable!**

**Part Two: C'mon! Don't stick
to outdated philosophies!**

**Part Three: Come On! Join us
on an exciting journey towards
a sustainable world!**



„Come On!“ can be seen as the sequel to the famous „The Limits to Growth“ of 1972.



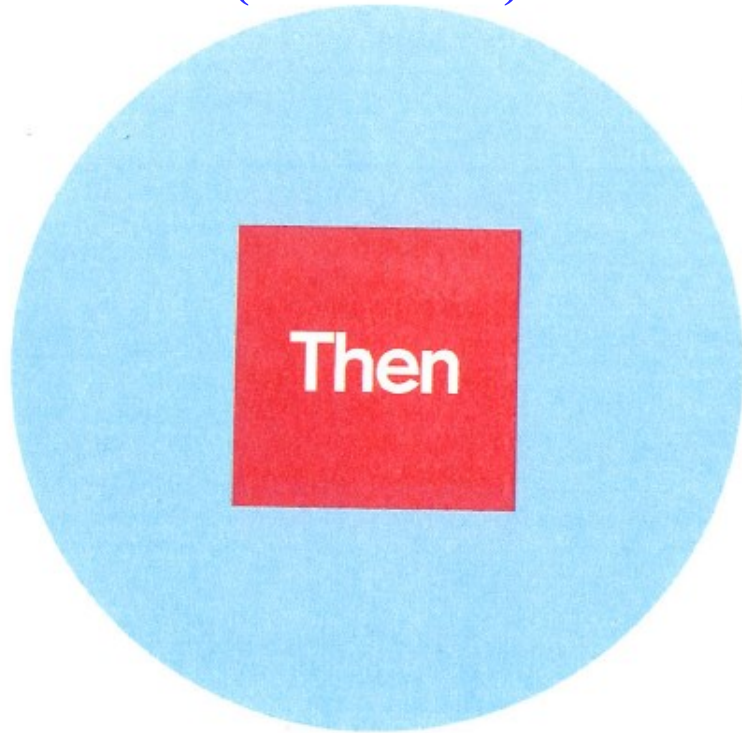
In 1972, people were not speaking about global warming. „Environment“ at that time was local pollution of air and water.



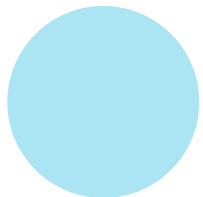
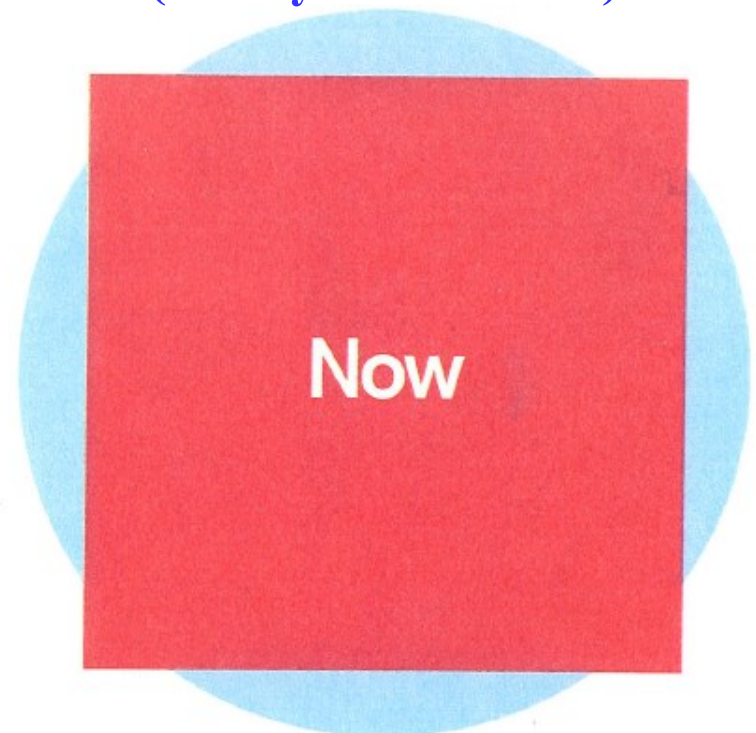
„Come On!“ addresses climate, biodiversity, digitization, policies for mitigating global warming, the wrong philosophy of neo-liberal economics. **And it suggests a „New Enlightenment“**

**At the core of Come On is the distinction between the
Empty World and the *Full World*. (Herman Daly)**

**Empty World
(sustainable)**



**Full World
(hardly sustainable!)**

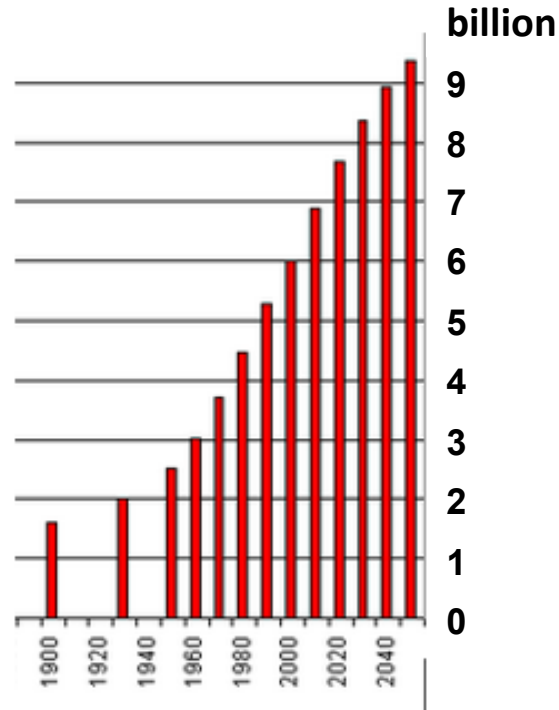
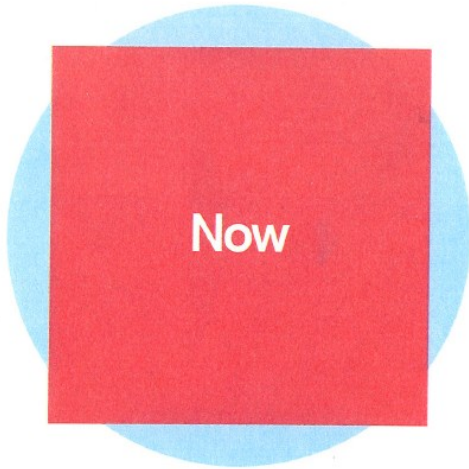


The World



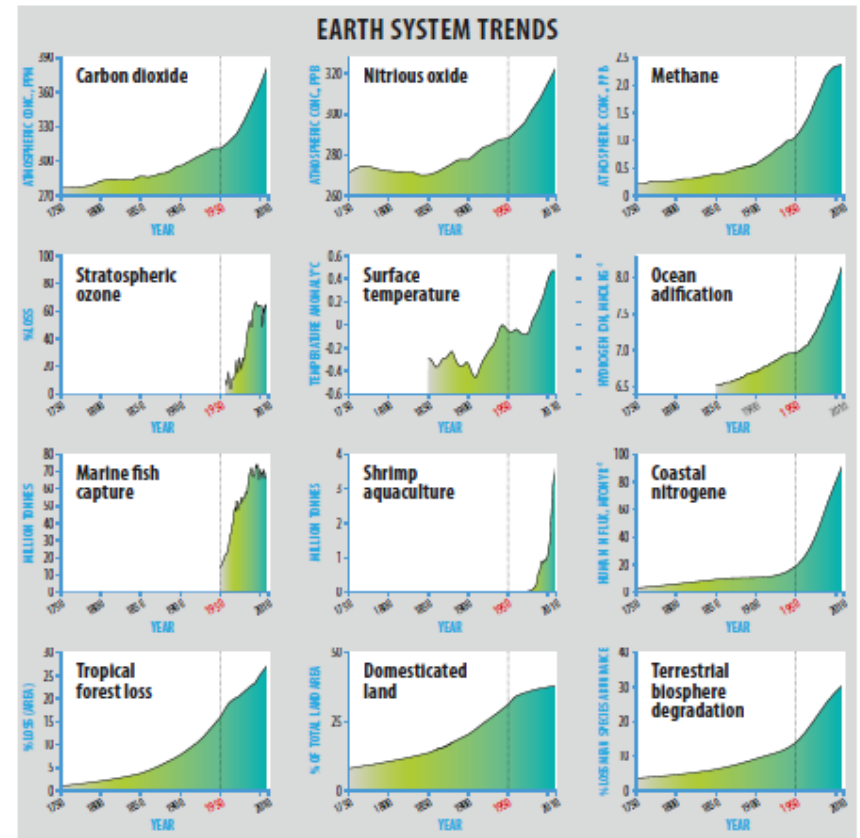
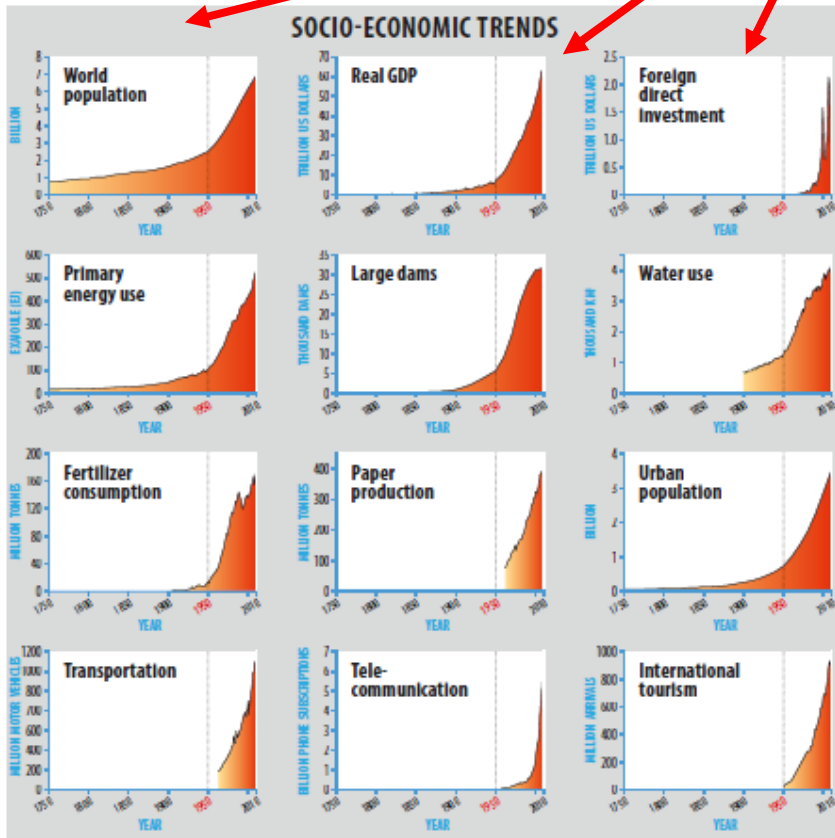
Human economy

The core fact is the world population increase



**Tripling of population,
but also 20-fold increase
of consumption!**

The Full World is now called the **Anthropocene**. 65 years of explosive acceleration!



Source: Globiaia 2011. Picture after Will Steffens, Paul. J. Crutzen, John R. McNeill. 2007. The Anthropocene: Are Humans Now Overwhelming the Great Forces of Nature? Ambio 36

**My political proposal: raise energy and commodity prices annually
– in proportion with the documented efficiency increases.
So that average monthly cost would remain stable.**

**The proposal is meant to
emulate the ping-pong
dynamic of the Industrial
Revolution**



During some 150 years of the Industrial Revolution, labour productivity rose roughly twentyfold, allowing also wages to rise twentyfold. Here is a 50 years time window from the USA.



**Gross wages per hour and labour productivity
in the USA from 1910 till 1960**

One measure of the anthropocene is the total body weights of land-living vertebrates:

67% domesticated animals, - 30% humans, leaving a mere 3% for wild animals!



Totally unsustainable!

**The current trends in the Full
World are in no way sustainable!**

Well, people seem to prefer Reassuring Lies over the Inconvenient Truth!



This is a sad answer to the question why so little progress was made despite the evident truth about global warming.



In *Come On!* we then go deeper and say that our civilizations are in a deep **philosophical crisis**. We find the same concern in Pope Francis' brave Encyclical *Laudato Si'*



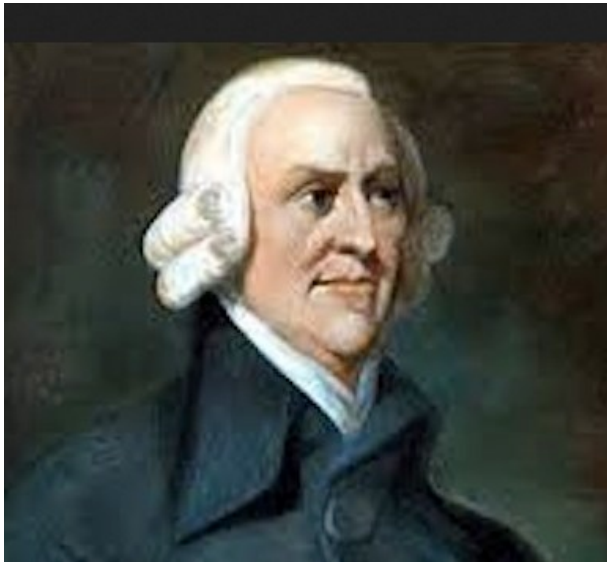
... where he declares that the **current economy** of greed, relentless competition and wild acceleration is destroying our Common Home!



**Responding to the Philosophical Crisis, we
suggest to engage in a new Enlightenment:**

Enlightenment 2.0

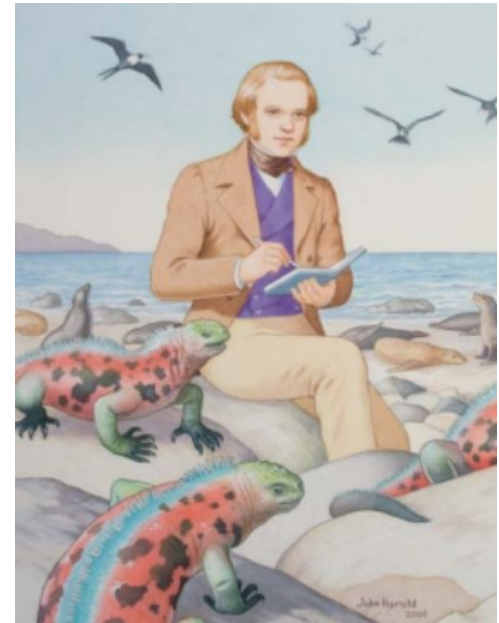
The heroes of modern economics are massively misinterpreted and abused to legitimate destructive „growth“.



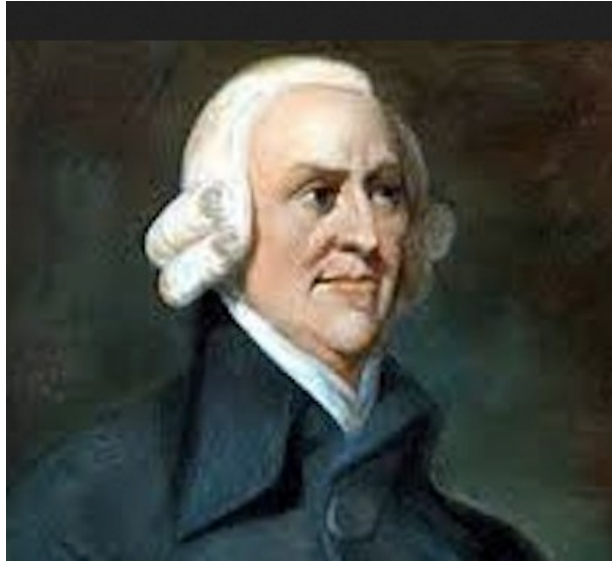
Adam Smith



David Ricardo



Charles Darwin



Picture: Blogs.telegraph.co.uk

For Adam Smith it was clear that the geographical reach of the markets (,invisible hand‘) was identical with the reach of the law and of morale!

But today, markets are global, and the law remains mostly national! Adam Smith would turn in his grave seeing that!

**For David Ricardo,
capital was not moving
across borders, but
goods and traders were
moving, - creating „com-
parative advantages“.**



picture: david-rick.blogspot.com

**But today, capital is racing around the
world in milliseconds and is enslaving the
real economies of the world. Ricardo would
turn in his grave if he was seeing it!**

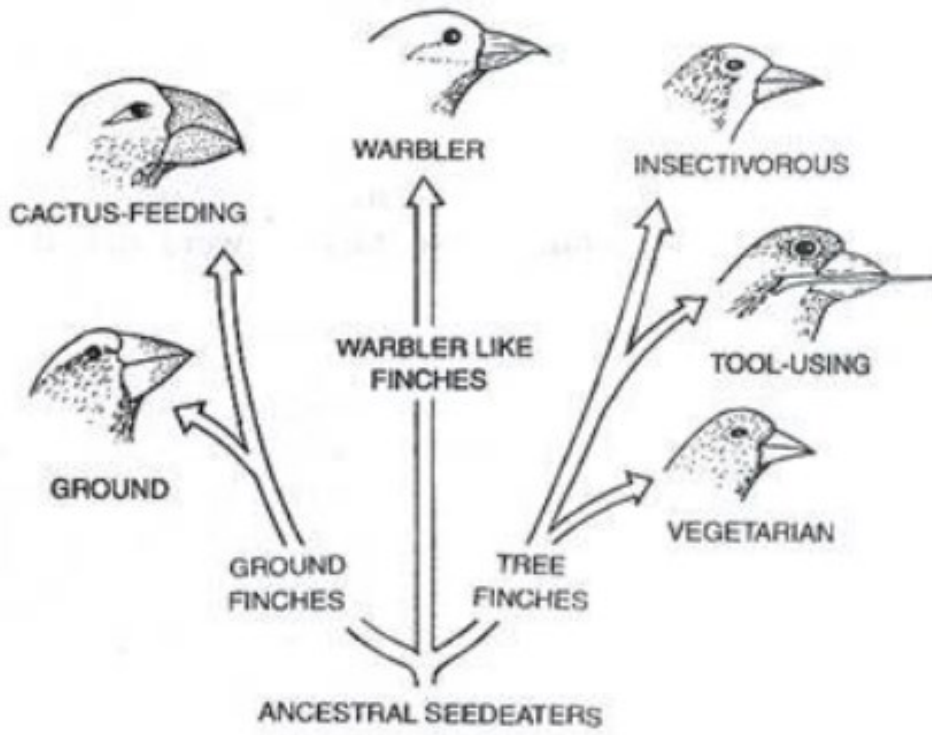


Picture: falmouthartgallery.com

**For Charles Darwin,
competition was mostly
a local affair.**

**Geographical borders
he saw as *helpful for
evolution.***

**Magnificently con-
firmed on Galápagos.**



Variety of beaks of finches that Darwin found in Galapagos islands.

Darwin finches were able to evolve *in the absence of competition* from birds from the South American continent.

Charles Darwin would find economic globalization highly suspicious!

Thank you !