

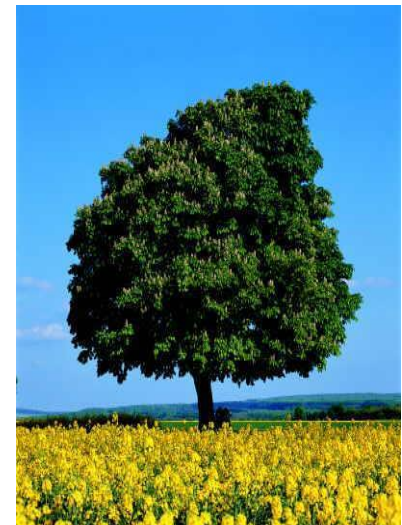
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ECONOMY**

Nine levels of socio-ecological justice -
The potential of climate policy to be pro-poor

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Multiple crisis

- **Economic** crisis
- **Financial** crisis
-
- **Various environmental crises** (decrease of species, water, soil,.....).
- **Climate crisis - probably the most fundamental - in the medium run**

Various crises reinforce each other

COMMON CAUSATION -COMMON SOLUTION

COMMON DENOMINATORS OF CAUSATION

UNEQUAL DISTRIBUTION

SHORT TERM profit mechanism

CAPITAL ACCUMULATION

**“This changes everything - Capitalism vs
climate”**

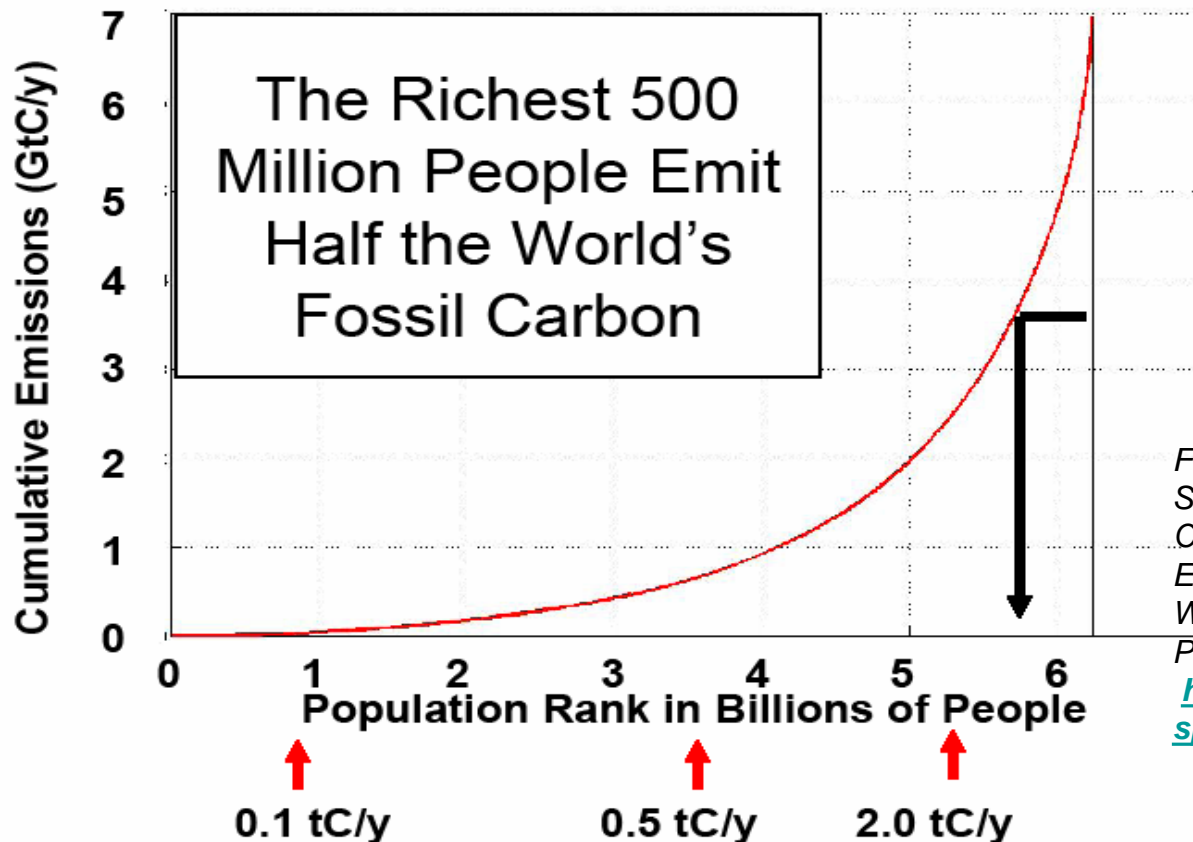


**Naomi
Klein**

**There are many arguments that a solution of
climate change under capitalist market
conditions will not be possible**

Causation of climate **crisis** and global distribution

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From: Pacala S.W.: *Equitable Solutions to Greenhouse Warming: On the Distribution of Wealth, Emissions and Responsibility Within and Between Nations.*

Princeton, at IIASA, November 2007
<http://www.iiasa.ac.at/iiasa35/docs/speakers/speech/ppts/pacala.pdf>

Correlation between income and emissions

Income as proxy for class

Empirical correlation of stratification along income for consumption and emissions per capita

Evidence of differentiated emissions/consumption of the traffic services a day for Austria: quartiles (income):

<i>DISTRIBUTION MATTERS!</i>	20 km
2 nd quartile	40 km
3 rd quartile	53 km
4 th quartile	80 km

(see: Steininger K., Gobiet W. (2005): *Technologien und Wirkungen von Pkw-Road Pricing im Vergleich*, Wegener Center Graz, Bericht 1/2005, p 20f

GHG emissions along deciles (household income) – Austria for different spheres

Blue: services

Dark green: various

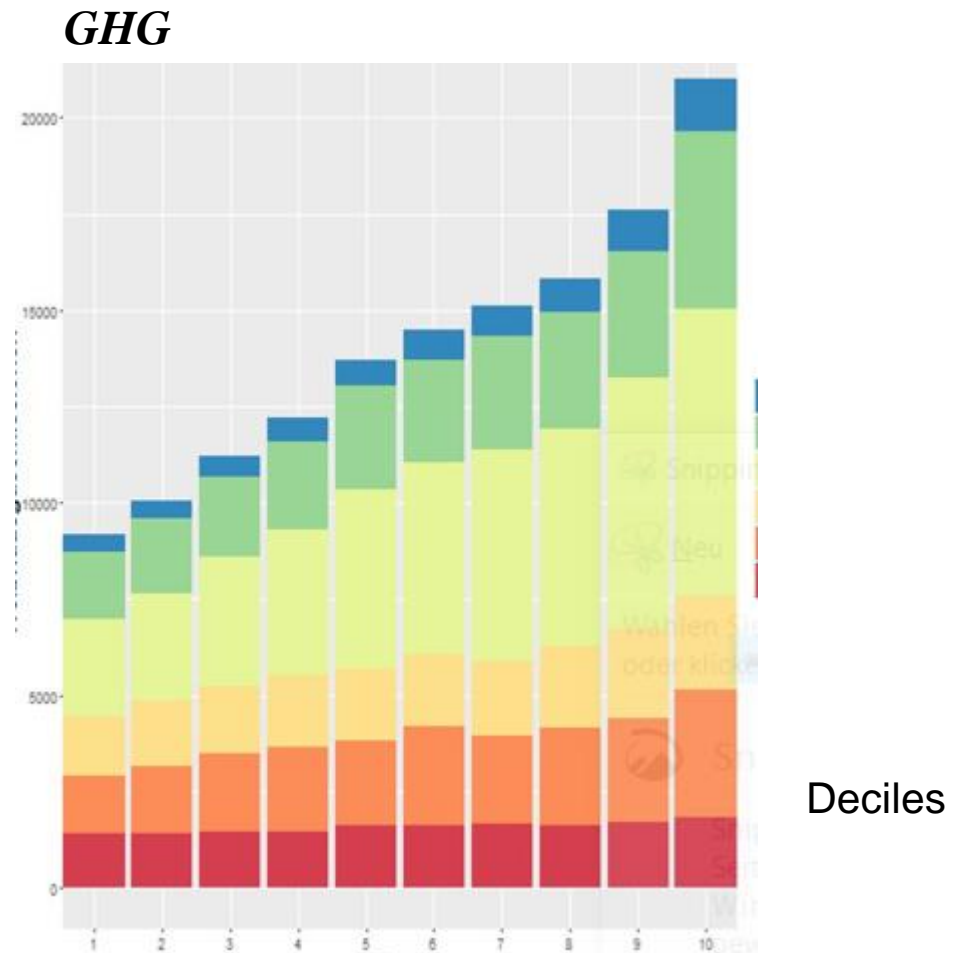
Light green: mobility

Light orange: energy

Orange: habitation

Red: food

***DISTRIBUTION
MATTERS! Deciles***



**Correlation between income
(Wealth) and exposure to negative
environmental effects**

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Socially differentiated exposure

**Empirical correlation of stratification along
income for exposure**

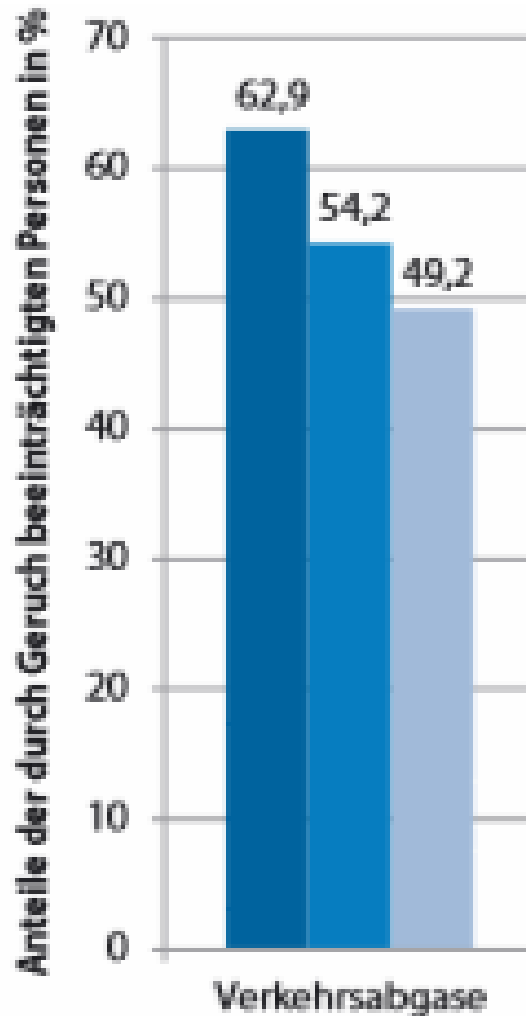
- E. g.: Harassment by traffic exhaust emission different for income and wealth
- Persons at risk of poverty evaluate their exposure to negative environmental effects in all fields (noise, air quality, green space...) worse to others

Harassment by traffic exhaust emissions

Low income – medium income – high income

Austria

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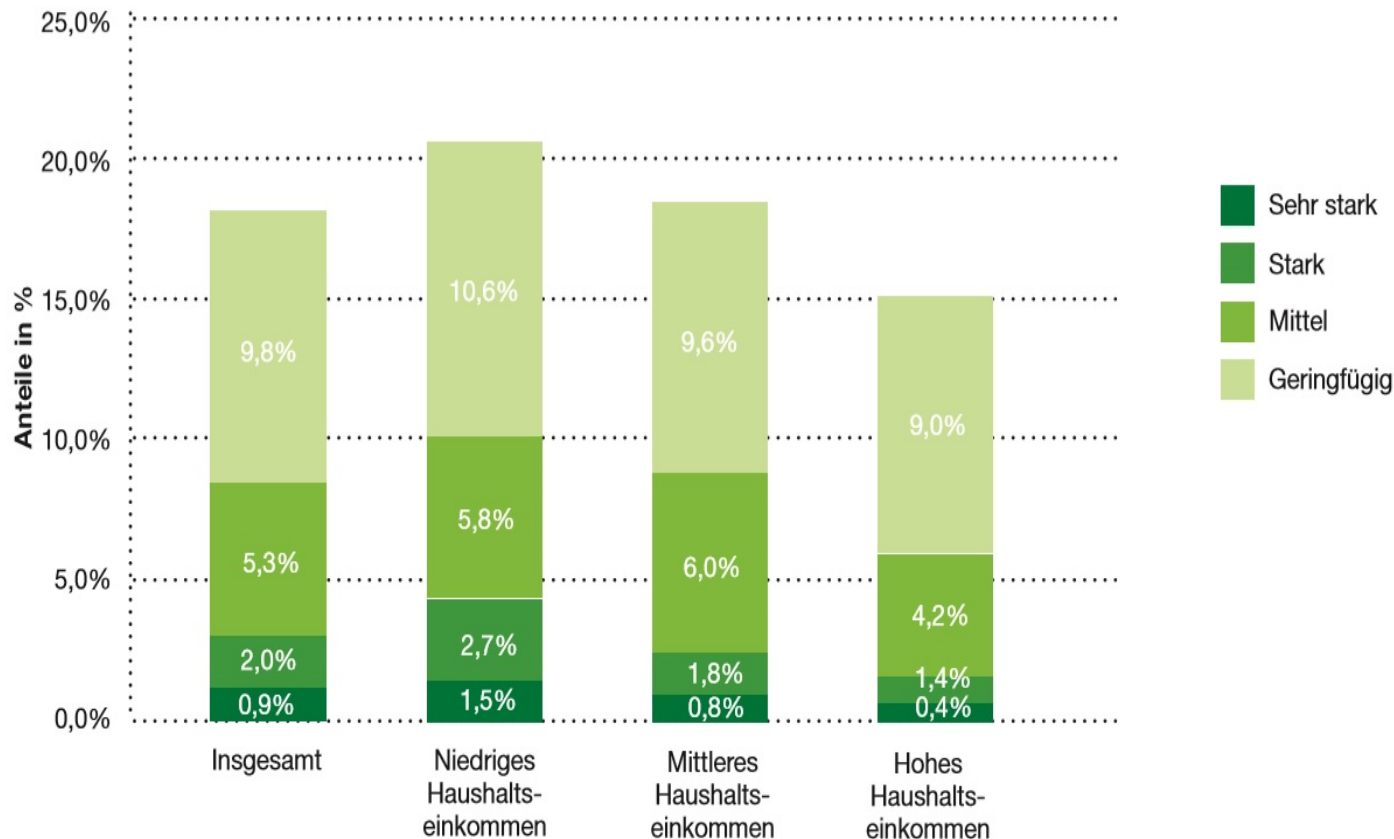
*Auf „Äquivalenz“-Basis: Bei Einkommen und Ausgaben werden Kinder in Haushalten differenziert berücksichtigt
Aus: Pretenthaler Franz, Habsburg-Lothringen Clemens, Sterner Cornelia (2008): Soziale Aspekte von Climate Change Impacts in Österreich, 2008. S.10

More general: Harassment by smell and exhaust emissions - along income - Austria

Total income – low income – medium income – high income

Dark green = strong; light green = slight

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Implication on health

Health conditions differ substantially along classes and strata:

So e.g. in Germany the expectation of life in the upper quintile of income is 8,3 years longer for women and 10,8 years for men than in the lowest quintile,

and the expectation of healthy years differs still more the gap is 13,3 years for women and 14,3 years for men

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Concrete distribution issues are underexposed in the climate policy discourse.

If lower income groups are relatively more disadvantaged by different forms of socioeconomic and socio-ecological inequality, these groups will experience an increase in the socio-ecological burden when climate change continues

On the other side SO lower income groups WILL EARN MORE GAINS BY EFFECTIVE CLIMATE POLICY

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Dimensions of distributions

- **Social-economic**, ("classical" income distribution)
- **Socio-ecological**,
- **Spatial** (especially place of residence and workplace)
- **Temporal or Intergenerational dimension**

The **socio-ecological dimension** can be divided again into **nine** levels.....

Nine levels of the socio-ecological dimension of distribution

(*Pro rich* *pro-poor*)

1. (Real) **Access and use of "natural services"**

2. Vulnerability/Imposition by environmental degradation and damage by exposition and alternatives to escape

3. Risk and uncertainty by future pollution

Eg floods, landslides, storms, heat stress, accident hazards

4. Causing environmental degradation and damage (current and historical)

5. Costs bearing - burden sharing, direct and indirect incidence of environmental measures. E.g. CO2 tax

6 Possibilities to influence environmental policy measures

7. **Co-benefits: Benefits from positive changes by environmental policies**

8. **positive indirect impacts of environmental policies**

z. B. Air quality improvement

9. Adaptation effects to positive changes in the environmental situation – e.g. due to the rise in land prices

Climate policy is pro-poor

7 of these 9 levels of the socio-ecological dimension of distribution are asymmetric in favor of upper income levels: with pro-rich effects:

Only **level 6 and 7 - the positive impact of environmental and climate policies and co-benefits** are pro-poor.

So the **overall impacts of climate policy are basically pro-poor, especially** when at the costs of environmental measures (e. g. by taxes) the pro-rich effects can be mitigated, eliminated or reversed by a **per capita bonus** or other compensations

If **lower income groups** are relatively more disadvantaged by different forms of socioeconomic and socio-ecological inequality, **these groups basically will experience an increase in the socio-ecological burden when climate change continues**

On the other side SO lower income groups WILL EARN MORE GAINS BY EFFECTIVE CLIMATE POLICY

Profit rate devalues future

- Via discount rates ("time preference rate"), future values are transformed to present values (future harms or positive effects).

$$\$X = \$X / (1+r)^n$$

r:= discount rate n:= number of accounted years

- Mechanism of **compound interest** !
- Usually in practical terms in **cost-benefit analyses** discount rates are assumed as high as the **average profit rates of about 5-6%**.
- Discount rates, which are not close to zero, devalue future damage (or positive effects) beyond the immediate next few years or decades to a value close to zero. See the diagram.
- So mitigation of climate change would hardly be worthwhile. Future in general or the life basis of life for future generations almost completely is devalued (e. g. the calculations of **Nordhaus** on climate change).

Discounting central for distribution

202 *Dividing time and discounting the future*

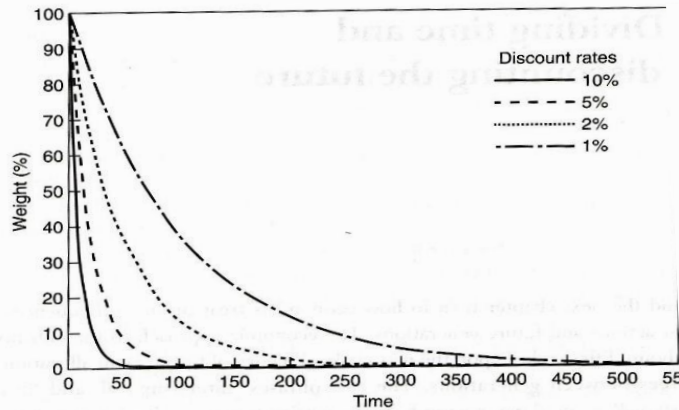


Figure 8.1 Reducing the weight of future events

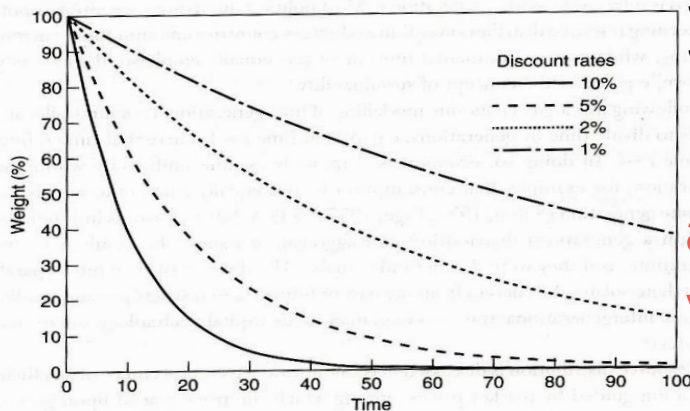


Figure 8.2 Weighting for 100 years of discounting

within about 40 years, at which point values (flows of costs or benefits) would add almost nothing to the summed discounted value arising from a project. Even the lower rates of 1 or 2 per cent limit time horizons to a few hundred years with events then having little or effectively no weight in decisions. Figure 8.2 shows the impact within a 100-year time horizon. For example, under the 10 per cent rate half the

C. Spash (2002)

Spash, C.L. (2002): *Greenhouse Economics*. Routledge, Seite 202

Discount rates in the height of average profit rates push the value of future near zero

Sustainability by zero-profit rate ?

- The well-known Stern-Report on climate change is criticized by mainstream economics due to “too low” discount rates: Stern report would so implicate „too high“ values of future harms (**Nordhaus***) and „alarmism“
- (but Stern Report is to criticize for other reasons)

So:

- Only when the decisions on investments no longer dependent on the profit rate; or when the profit rate / discount rate is near to zero, a sustainable development is possible

*Nordhaus, William: Critical Assumptions in the Stern Review on climate Change.

<http://www.sciencemag.org>. *SCIENCE* Vol. 317, 13 July 2007

Climate change as the “greatest market failure” (STERN)

- **Is Climate change“ the “greatest failure” of mainstream economics?**
- If, according to the Sir Stern report climate change is the “greatest market failure of history”, then mainstream economics has been involved essentially at the biggest “market failure“
- Strange: NORDHAUS as “Nobel prize winner”!
- Profit in mainstream economics often is a premium for “risk” to make capital available
- Now in some dialectical turn the profit mechanism and the capital accumulation turned back the risk by the CO2 accumulation in the atmosphere - an absolute socialisation of risk
- **By the “risk” of profit the global risk for mankind and civilization has developed to the largest extent.**



Basics of climate policy

2°C target

Copenhagen
accord & Paris
Treaty

because of irreversibility and uncontrollable implications when $> 2^{\circ}\text{C}$

→ fixed volume of future GHG emissions

How to allocate this volume of remaining GHG emissions? = Which **distribution** among countries and persons?

Missing link of climate policy

2°C target
(Copenhagen
Accord & Paris
Treaty)

+

CBDR
(Rio 1992 and
Rio+20)

→ fixed volume of future GHG emissions

basic distribution principle

(**C**ommon **b**ut **d**ifferentiated **r**esponsibility)

=X (*but which concrete implementation?*)

The equation for the missing link of climate policy

2°C target
(Copenhagen
accord & Paris
Treaty)

fixed volume of future GHG emissions

+

CBDR
(Rio 1992 and
Rio+20)

basic distribution principle (**C**ommon **b**ut
differentiated **r**esponsibility)

+

X

= climate stabilization

The missing link of climate policy:

Equal rights !

2°C target
(Copenhagen
accord & Paris
Treaty)

→ fixed volume of future GHG emissions

+

CBDR
(Rio 1992 and
Rio+20)

Common but differentiated responsibility)

+

**Equal
rights**

=climate stabilization

Concepts of equal rights in the context of climate change (1)

- Heuristic approach
- The starting points for the view of equality and fairness in connection with the climate change can come e. g. from:
 - ⑩ ❖ **ethical moral reasons,**
 - ⑩ ❖ **obligations from international documents,**
 - ⑩ ❖ **concepts of the sustainable development.**
- Or from the fact that necessary international contracts simply will not come into being otherwise
- Fundamental principles of distribution
 - can be e. g. – (pre- scientific/political/ethical):
 - ⑩ ❖ Parity
 - ⑩ ❖ Proportionality
 - ⑩ ❖ Priority

Concepts of equal rights in the context of climate change (2)

- In principle we can see procedural, effort-oriented and results-oriented principles of equality and fairness
- Oxfam e. g. uses 3 principles:
 - **Fairness,**
 - **capability,**
 - **simplicity**
- CICERO-ECZ stress
 - **guilt,**
 - **capacity und**
 - **need**

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