

# Sustainable Consumption: Living like a King



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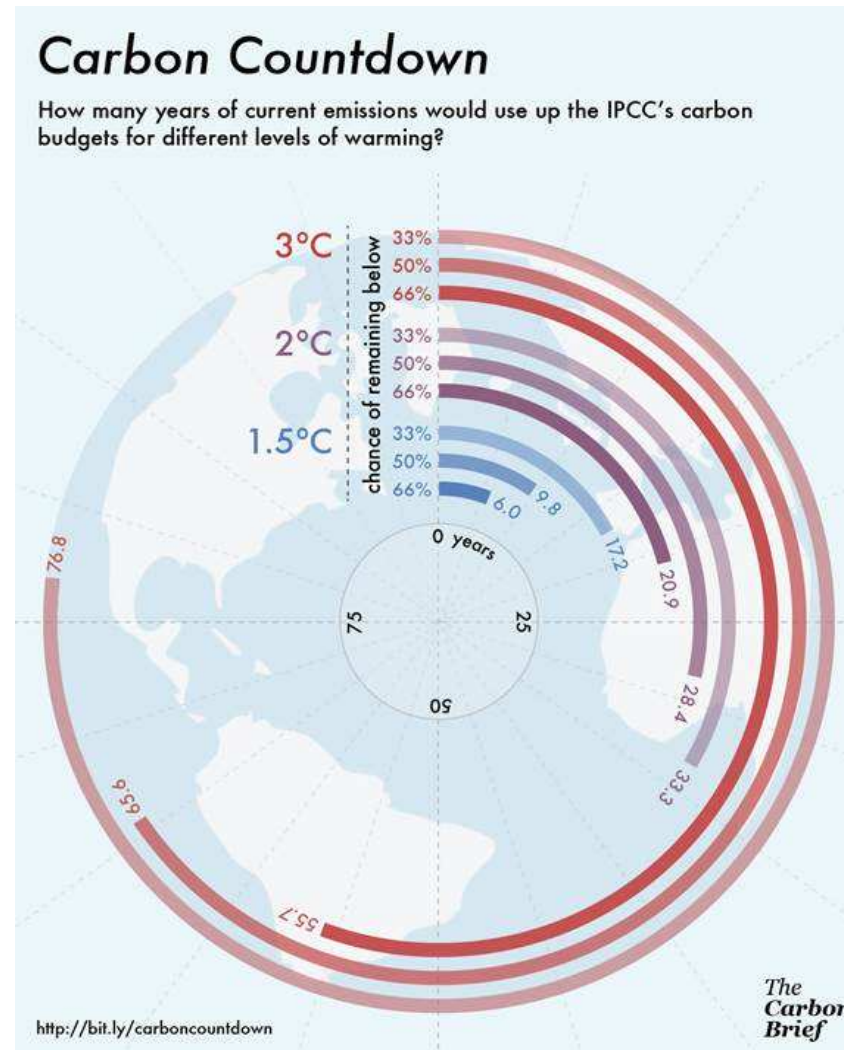
5th International Convention of  
Environmental Laureates,  
Freiburg 10.03.2016

# Agenda

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- 1. Introduction**
- 2. Living like a king**
- 3. Consumption in Germany**
- 4. Transformation as new strategy**
- 5. Energiewende in Germany**
- 6. Green City Freiburg**
- 7. Agenda 2030 - Policy**

# Carbon Countdown



## The two worlds and their LOHAS

- LOHAS 1: Lifestyle of **Health and Sustainability**
- LOHAS 2: Lifestyle of **Hunger and Survival**
- 795 million people go hungry (2015)
- 836 million people are extremely poor (below 1.90 \$/day)
- wars and civil wars (in Syria, Kongo ...)
- many refugees



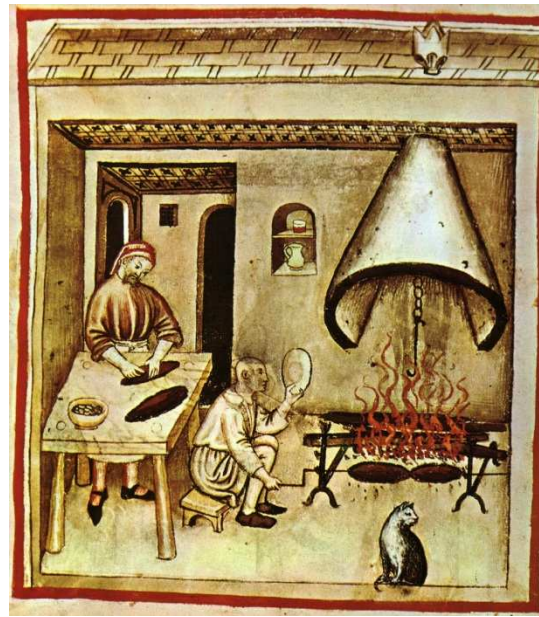
# 2

## Living like a king

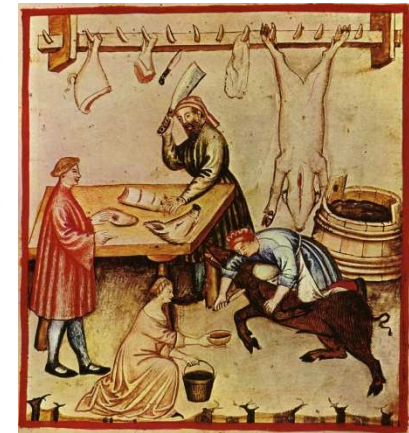


# Living space, heating, hot water, lighting

- Ample living space
- Fewer heated rooms
- Laborious hot water
- Laborious light



# Food



- enough food, but little variety
- expensive spices
- coffee
- no tropical fruits



# Mobility



- Laborious travel by foot,
- on horseback (= 1 hp),
- by carriage (= 4 hp)

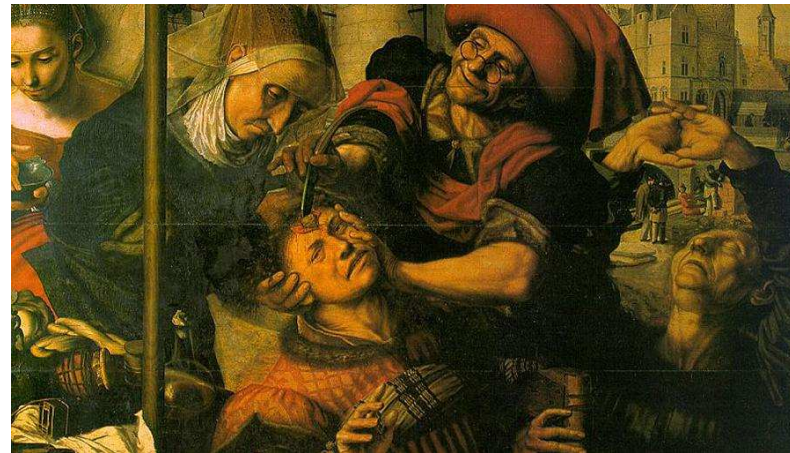
nowadays:



- public transport,
- individual cars,
- e-bike: 1/3 hp (!)



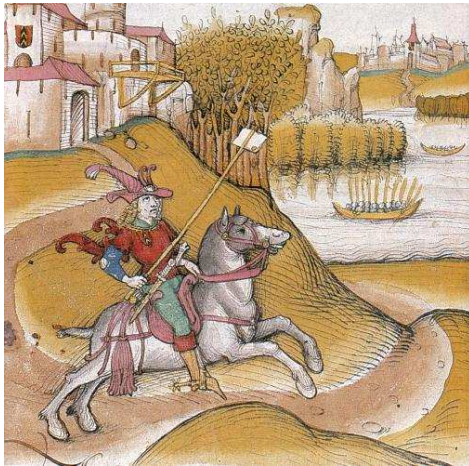
# Healthcare



- cholera
- plague
- sepsis
- short life expectancy
- no antibiotics
- no immunization
- no narcotics



## Communication - by messenger or carrier pigeon



nowadays:

- telephone (fixed line)
- mobile phone
- smartphone
- SMS
- mail
- internet
- Facebook
- Whatsapp ...



## The king and the bondslaves



# Transforming our world. The 2030 Agenda for sustainable development.

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## ***Our vision***

- We envisage a world free of poverty, hunger, disease ...where food is sufficient, safe, affordable and nutritious ...with safe drinking water and sanitation ...where human habitats are safe, resilient and sustainable ...

## **Sustainable Development Goals**

- Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture
- Goal 3. Ensure healthy lives and promote well-being for all at all ages
- Goal 6. Ensure availability and sustainable management of water and sanitation for all
- Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all
- Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

**Transformation is our catchword**

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# 3

## Consumption in Germany

# Failed Consumption



## Transport – automobile dominance

- 538 passenger cars per 1000 inhabitants (China: 69, Nigeria 31)
- German car-drivers prefer big, fast and highly powered cars. The car is like their living room (with heating, air-conditioning, HiFi, telephone, Internet)
- Average horsepower has tripled from 32 hp (1960) to 134 hp (2010)
- 30% of newly licensed cars have a top speed above 200 km/h
- Excellent alternatives such as highly-efficient cars (see [www.ecotopen.de](http://www.ecotopen.de)), railways, local public transport systems, carsharing, cycling, e-bikes are used only partially and by too few people, even in densely populated cities.

**FAILED CONSUMPTION**



C1





## Trends in housing & heating

- Residential floor space per capita was 19.4 m<sup>2</sup> in 1960, today it is 46,5 m<sup>2</sup> (China 28 m<sup>2</sup>, Nigeria 6 m<sup>2</sup>)
- Energy consumption for residential heating per m<sup>2</sup> and year in 1960: approx. 300 kWh; today approx. 160 kWh – but overall floor space has more than doubled. Efficiency gains have been compensated by higher demands upon comfort and convenience.
- New-build rates below 1%. Insufficient use is made of alternatives offering high environmental performance (such as Plus-energy houses/offices, e.g. the Öko-Institut building). Retrofitting of building stock (99%) is too slow (retrofit rate approx. 1%).

**FAILED CONSUMPTION**



# Meat production and consumption



Import of 3,18 million tonnes of soy as animal feed per year, mainly soy out of Brazil\*

\* see the movie „Agrokalyptse“



High meat export volume (incl. parts difficult to sell, e.g. innards, feet, poultry wings, ears.....)



- industrialized production
- high level of meat consumption

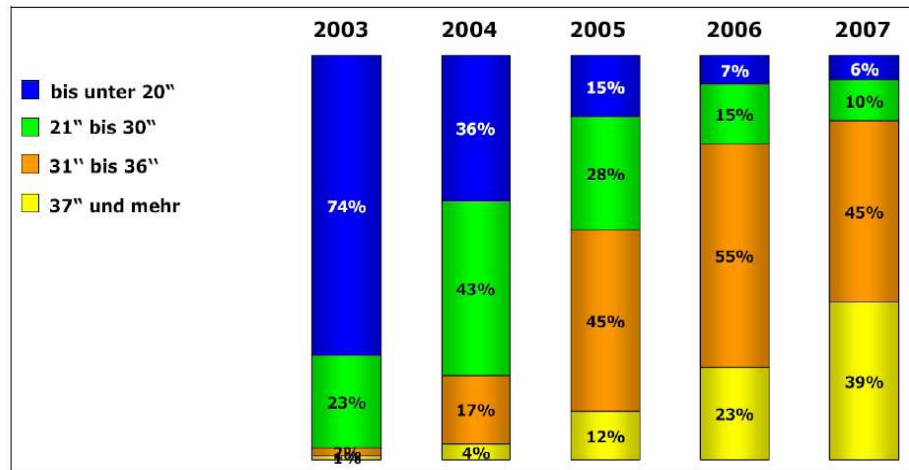
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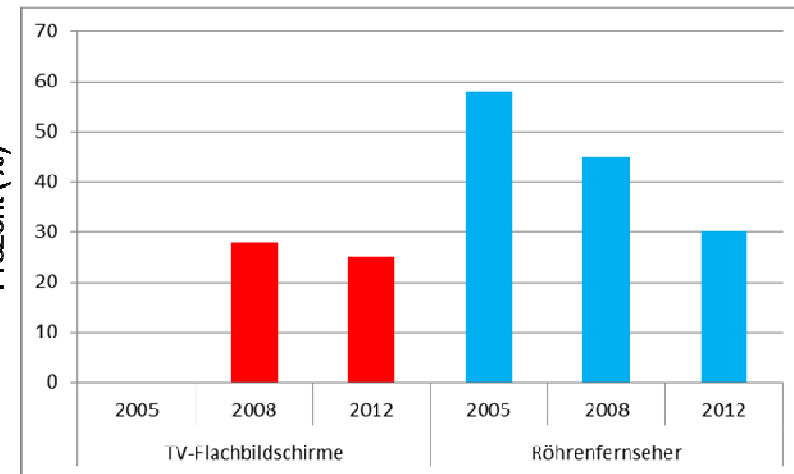
Workers from Eastern Europe, employed in small dummy companies, deplorable working conditions in Germany's slaughterhouses

- Inadequate cattle breeding
- Water pollution
- Unhealthy nutrition, obesity
- High healthcare system costs (app. 17 billion €)

## Trends in TV sets in Germany



Quelle: GfK/GfU 2007



Red: flat-screen; Blue: cathode ray tube

- Massive market shift towards larger TV sets within only four years (due to LCD technology).
- Annual proportion of TV sets replaced by new units, because the existing one was faulty.
- (primary) average life:  
cathode ray tube 12 years (2012), flat-screen 6,2 years (2012)

**FAILED CONSUMPTION**

# Every year a new smartphone (advertisement Vodafone)



**FAILED CONSUMPTION**  
Every 12 month exchange  
of your old smartphone  
against a new one.



# The German consumer and his global bondslaves



**FAILED CONSUMPTION**



Price per notebook in Germany: ca. 400 – 600 €  
Wage per notebook in China: ca. 20 - 30 € (=5 %)



Wage per month („recycling“): ca. 20 € (Ghana, Nigeria)



Price per t-shirt in Germany: ca. 20-40 €  
Wage per T-shirt in Asia: 1-3%



Price per kg coffee in Germany: 15 €  
Wage per kg in Guatemala: 0,50 € (3-5%)

## Love of nature

- Germans love nature. Especially the nature encountered in tropical countries such as Brazil or the Maldives, where Germans like to fly to.
- In contrast, efforts to establish small (!) National Parks in Germany (such as, recently, the Northern Black Forest National Park) are resisted fiercely.
- Germany, a forest-rich country, is the world's second-largest paper importer and third-largest cellulose importer.

Paper consumption per person and year

Germany 248 kg; India 9 kg; World 57 kg

**FAILED CONSUMPTION**



## Mental and cultural imports

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- ...big fat people ...big fat cars ...big fat living rooms?
- Although German consumers enjoy a high and luxurious level of material consumption, many remain dissatisfied, fearful, unhappy.
- In the World Happiness Report Germany ranks 26.
- Many seek guidance from the cultures and religions of other countries:  
Mediterranean food and lifestyle, meditation techniques such as yoga or tai chi, music and dancing (Salsa, Tango), buddhism, pristine nature, buen vivir ...

By the way: many of these lifestyles were exemplified by immigrants ...

## Conclusions

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- Consumption is excessive and expanding.
- The potential to reduce consumption is large, but remains untapped – although it largely incurs no extra cost and no loss of comfort.
- Only 5 -10% of consumers behave (partially) sustainably.
- New technologies arouse new desires.
- Aggressive advertising and contracts boost consumption.
- Most consumers have enough money – incl. for nonsensical stuff.
- Statutory conditions are unfavourable (no speed limit on motorways, tax exemptions for aviation, insufficient local public transport services, lack of green criteria in public procurement).
- Among consumers: unwillingness to make everyday changes, lack of time, misjudgements, overly complex information, no prestige.

**Sustainable consumption will only succeed by means of targeted transformation efforts and change of the regulatory framework!**

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# 4

## Transformation as new strategy

# Industrial Revolutions and Transformations

## 1st Industrial Revolution



## 2nd Industrial Revolution



## 3rd Industrial Revolution



## 4<sup>th</sup>: Targeted Energy Transition & Sustainable Development

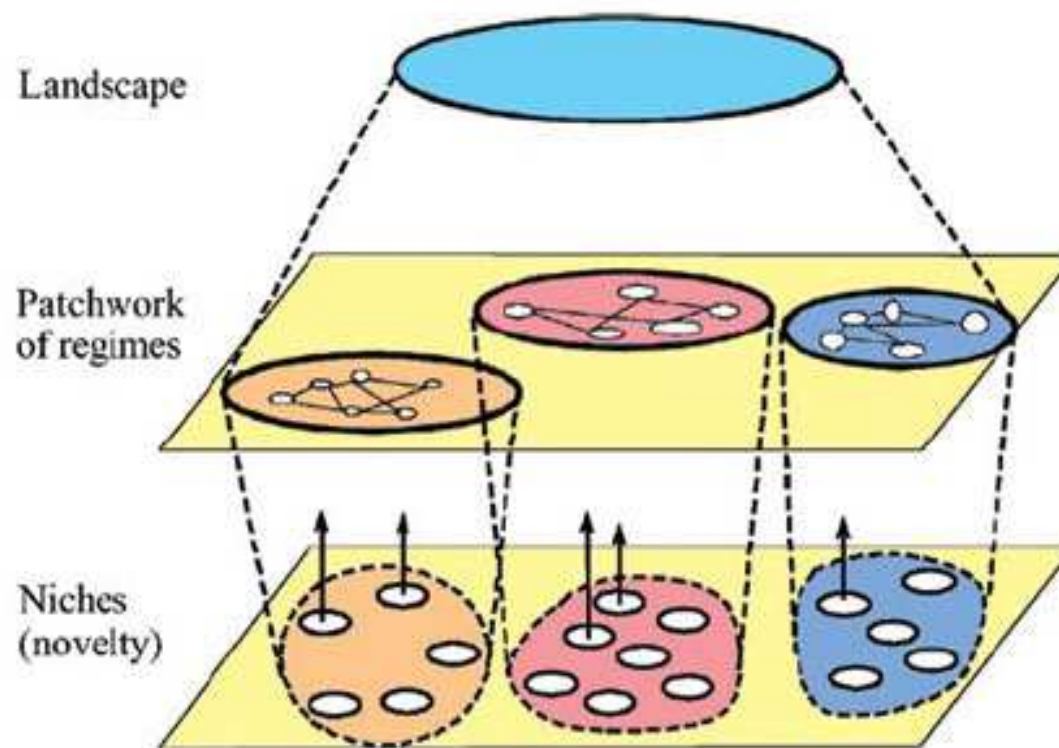


## Transformation

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- The typical environmental policy measures (more efficient products, filter technologies, materials substitution) do not suffice to change the underlying structures.
  - The experience gathered with (non-managed) industrial revolutions teaches us that transformation processes can be initiated in a targeted manner, but can not be planned in detail. Transformations usually take decades. The energy transition in Germany is a good example.
  - Transformations are usually launched by civil society. State actors and measures follow later.
  - Sustainable development is an example of a desired transformation. However, it is an extremely complex one (many different countries, many sectors, global economic and strategic conflicts).
  - Sustainable development can probably only be achieved in a gradual process involving many smaller and medium-sized transformations.
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# Multi-level perspective: Landscape – Regimes – Niches (innovations)



Examples:

Fukushima, climate change, financial crisis, war in Syria, refugee movement

Rio summit, Agenda 2030, Paris conference

Many projects undertaken by Laureates (mainly social and institutional innovations, but also technological ones)

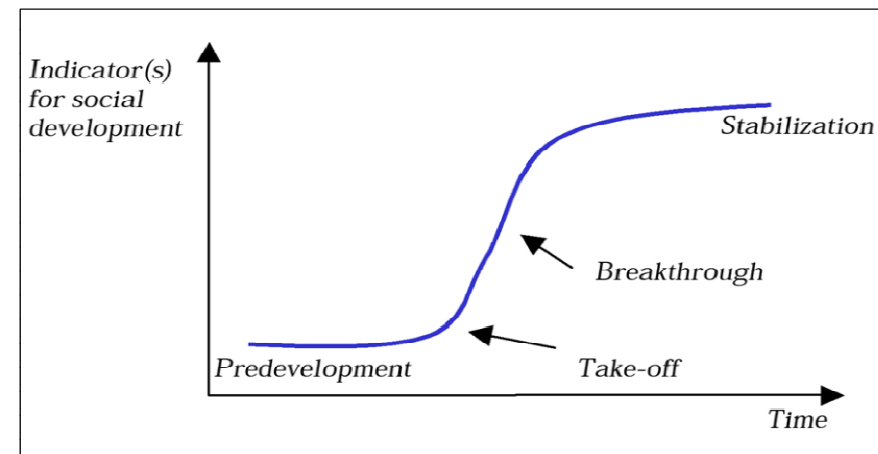


# 5

## Energiewende in Germany

## Half-way to energy transition (*Energiewende*)?

- Major transformations take several decades
- Strategy drafted by the Oeko-Institut in 1980:
- Many key events and activities before 2010 or Fukushima, e.g.
  - Oil crisis
  - Chernobyl
  - Climate change/conferences
  - 100,000 Roofs Programme
  - Renewable Energy Act



Quelle: R Kemp & Loorbach, 2006

# The transformation puzzle

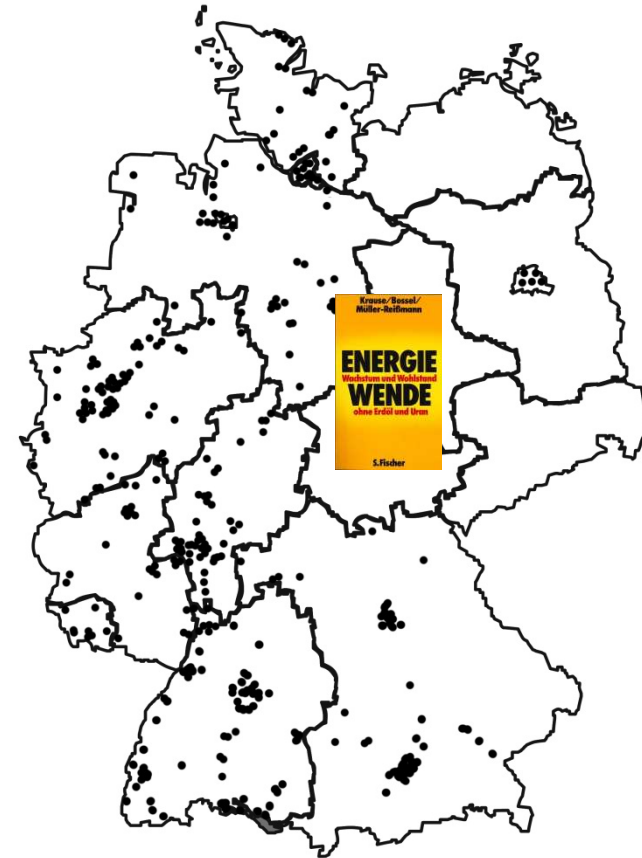


eight connected key fields of action and social subsystems

## Energy Transition Committees

After Chernobyl (1986), 400 Energy Transition Committees were founded across Germany upon the initiative of the Oeko-Institut, and collaborated over a period of two decades:

- Campaigns
- Congresses and public awareness
- Local-authority projects
- Founding of energy agencies and energy service companies





# 6

## Green City Freiburg

# Green City Freiburg



# Green City Freiburg

successful anti-nuclear protests in Freiburg and region publication of bestseller books (e.g. Energiewende, Der Öko-Knigge, Chemie im Haushalt), ban on the legendary uphill motor race, replaced by a cycle run

Steady increase of cyclists in city traffic, Electricity Savings Initiative for low-income households; energy upgrading of a school financed and done by a student-parent-teacher consortium; environmental products platform for consumers /www.ecotopen.de), successful Low-energy light bulb campaign ("Meister Lampe")

Volkshochschule Wyhler Wald (adult education centre) on the site for the planned nuclear power plant, founding of the Oeko-Institut (an independent non-profit scientific institute, created and worked out the Energiewende, transdisciplinary focus); Ökmedia-Institut - hosted annual international film festivals, Ökstation Environmental Education Centre

first major mail order company specialised in green products (Waschbär), many new solar and wind power systems funded by Freiburg citizens, construction of Germany's first solar module production plant, founding of the international marketing company SAG



new and more sustainable residential areas (Vauban, Solar settlement - low energy building, traffic calming); strong expansion of tram and regional rail network; expansion of cycling infrastructure;

Photovoltaic development by Fraunhofer Institute for Solar Energy Systems; Germany's first energy-plus district; first apartment block to be renovated to passive house standard

Freiburg served as model for many other urban districts across Germany, **several subsequent laws by the state** were influenced by Green City Freiburg: the phase out of nuclear power in Germany, the Energiewende, the Adoption of the Federal Government's Energy Concept to promote renewables, the Energy Savings Check funding programme

# 7

## Agenda 2030 - Policy



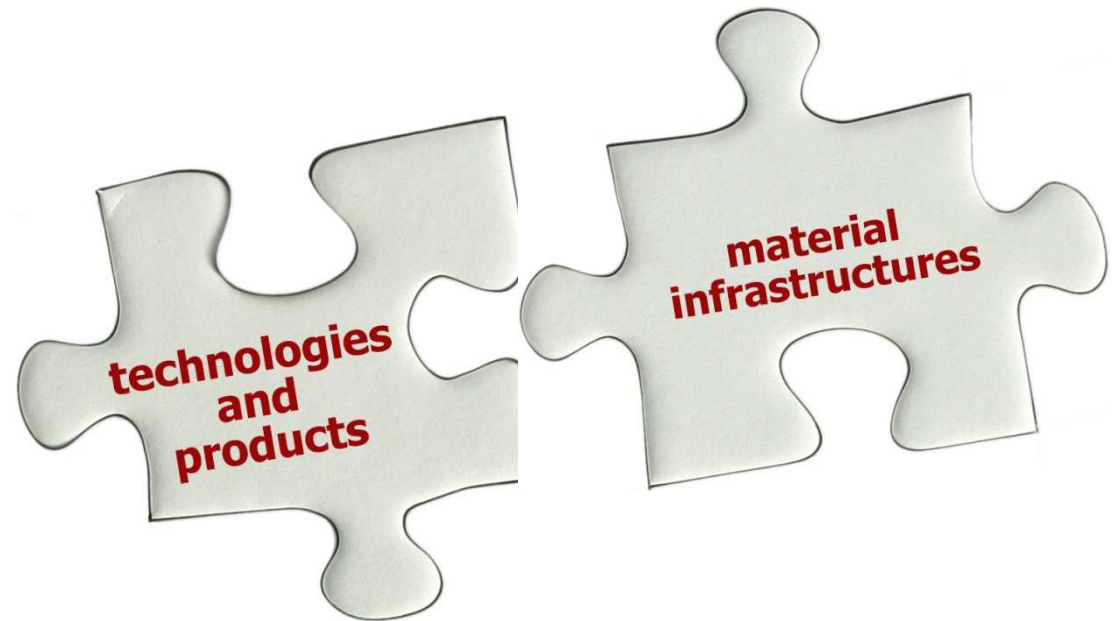
## Promoting Market-based instruments

- Planetary guard-rails for markets: carbon taxes
- Taxation of strategic resources
- Abolishing environmentally harmful subsidies
- Promoting value creation by ensuring that primary resources are processed and refined in the countries of origin
- Divestment campaign (unburnable carbon, stranded assets)



# Promoting globally deployable technologies and services

- Photovoltaics
- Wind power
- Computers
- Mobile phones
- Internet
- Payment via mobile phone



## Promoting locally appropriate technologies

### Existing Partnership: Germany - Africa

- Micro-biogas (cow dung and water)
- Drip irrigation (combined with local weather data)
- Seawater desalination
- Small and large storage batteries in combination with PV (instead of inefficient disposable batteries)



## Promoting globally deployable statutory instruments

- Uexkuell: Future Policy Award
- Renewable Energy Act (Germany)
- Golden Carrot Initiative (US)
- Speed limits
- Urban transport schemes  
(Amsterdam: shift to cycling;  
Lagos: rapid-transit buses using dedicated bus lanes,  
instead of building an expensive subway)



## And we need the „Coalition of the willing“...

- NGOs, pioneers, laureates, consumer, entrepreneurs, filmmakers, green cities, cooperation





# Thank you for your attention!

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