



**Region and State Capital of Hannover**

[www.klimaschutz2050.de](http://www.klimaschutz2050.de)

# Master Plan of the City and Region of Hannover 100% for Climate Protection

## **On the path to a climate-neutral Hannover Region 2050**

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Gefördert durch:



Bundesministerium  
für Umwelt, Naturschutz,  
Bau und Reaktorsicherheit

aufgrund eines Beschlusses  
des Deutschen Bundestages



## **Energiewende in Germany**

(Decided by the German Federal Government 28 Sep. 2010)

Year	Reduction of greenhouse gases	Power generation by renewable energy
2020	- 40%	35%
2030	- 55%	50%
2040	- 70%	65%
2050	- 80 to -95%	80%

### Hannover Region

State Capital Hannover  
and 20 surrounding communities

Surface area about  
2,300 square kilometers  
with about 1.1 million  
inhabitants



### Master plan for the City and Region of Hannover | 100% for climate protection Shared project of the City and the Region of Hannover

- Supported by the climate protection initiative of the German Federal Ministry of the Environment (BMUB) to implement the Energiewende on the regional level.
- Competition: A total of 19 cities and communities nation-wide
- Project sponsor: State Capital and Region of Hanover
- Project duration: 4 years, 2012 to 2016



### What are we building on?

- Decisions made in the city, region and surrounding communities:  
40% CO<sub>2</sub> should be saved by 2020
- Structures created:  
Climate Protection Agency Region Hanover, proKlima – The Enercity Funds, Climate Alliance 2020
- Programmes worked out by 2020/25:  
Climate protection programmes in city, region and surrounding communities. Traffic development plan and optimised climate regional planning programme
- Many good projects implemented and communicated:  
e.g. Kronsberg, zero:e park, Passive House Schools and Kindergartens, consultation campaigns such as ÖKOPROFIT®
- Regional promotional programmes:  
by proKlima, city and region



### BMUB Funding Programme: Requirements

With the 100% for climate protection master plan, the City and Region of Hanover pursues its goal to **reduce greenhouse gases by 95% and the final energy consumption by 50%** within the borders of the region with appropriate long-term ecological and economical measures by

- increasing energy efficiency
- implementing a sustainable life style
- employing renewable energy, especially from local sources
- closing material circuits

The strategy paper “Master Plan 100% for Climate Protection” was developed from 2012 to 2013.

Gefördert durch:

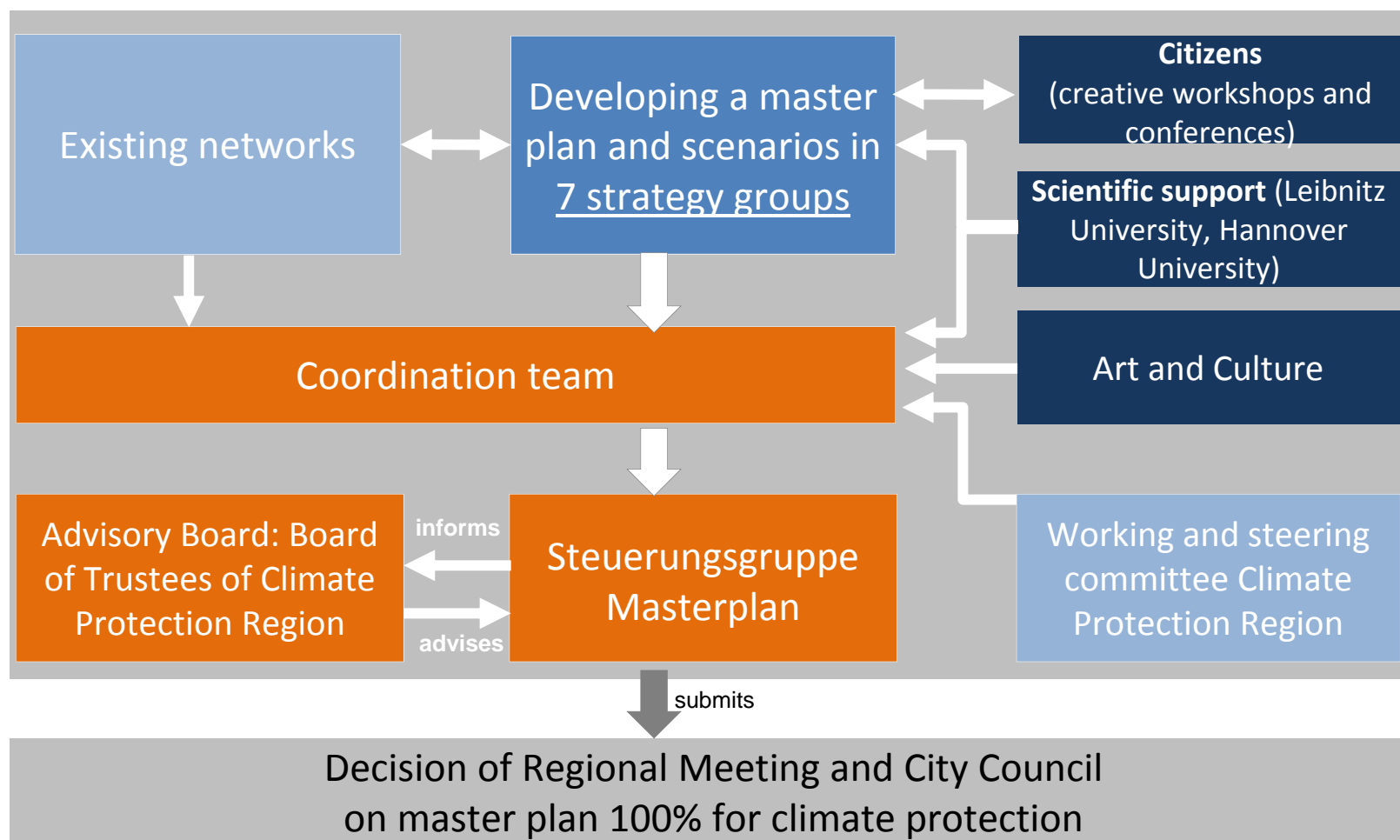


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### Overview of the project and work structure





### Seven strategy groups

#### **Broadly-designed participation process for creating the master plan**

by including 240 experts from the economy, science, NGOs and administration

1. Scenarios (saving and regenerative) potentials
2. Energy supply (including network and accumulator questions)
3. Building energy efficiency  
(focus of concern: existing residential buildings)
4. Mobility and space (land use)
5. Regional economic circulation / waste economy
6. Economy
7. Climate-friendly everyday life (lifestyle change)

Every strategy group meets 5 to 7 times

- Development of visions,
- Measures and recommendation for action,
- Necessary general conditions / framework



SG Building Energy Efficiency



### Experts of the Economy strategy group

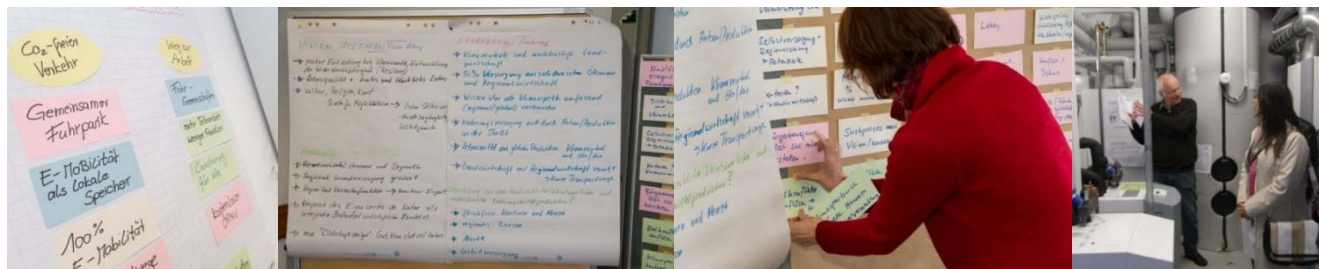


	Company
1.	alfasolar GmbH
2.	Bahlsen GmbH & Co. KG
3.	Deutsche Messe AG
4.	Flughafen Hannover-Langenhagen GmbH
5.	Handwerkskammer Hannover
6.	Hannover Impuls GmbH
7.	Hannover Rückversicherung AG
8.	IG Bergbau, Chemie, Energie
9.	IHK Hannover
10.	Johnson Controls Power Solutions EMEA
11.	Klinikum Wahrendorff GmbH
12.	LH Hannover, Wirtschaftsförderung
13.	Mecklenburgische Versicherungsgruppe
14.	NORD/LB
15.	Privatbrauerei Herrenhausen GmbH
16.	Raiffeisen-Volksbank eG Neustadt a. Rbge.
17.	Region Hannover, Wirtschaftsförderung
18.	Ricoh Deutschland GmbH
19.	Sparkasse Hannover
20.	TRW Automotive GmbH
21.	üstra Hannoversche Verkehrsbetriebe AG
22.	Verlagsgesellschaft Madsack GmbH & Co. KG
23.	VGH Versicherungen Hannover
24.	Wilkahn Wilkening und Hahne GmbH & Co. KG

### Examples of measures from the Economy strategy group : trade and industry consumption sector

Basis: The Hannover region will also be an industrial site in 2050

- Energy-optimised non-residential buildings / industrial estates
- Deployment of highly efficient “Green IT”
- Optimisation of process heat / process cooling / waste heat utilization
- Climate protection as criterion for acquisition / investments
- Mobility and logistics in the economy
- Energy consultation and energy and environmental management
- Education / motivation



### Climate-neutral everyday life in 2050:

How do we want to live sustainably in our district / our city?  
Visionary studies with citizens

- Creative workshops and conferences in five districts
- School parliaments
- Events in the countryside
- More than 5,000 participants
- Symposium “Climate Art Cities” in Sept. 2013 on the topic of Culture and Sustainability

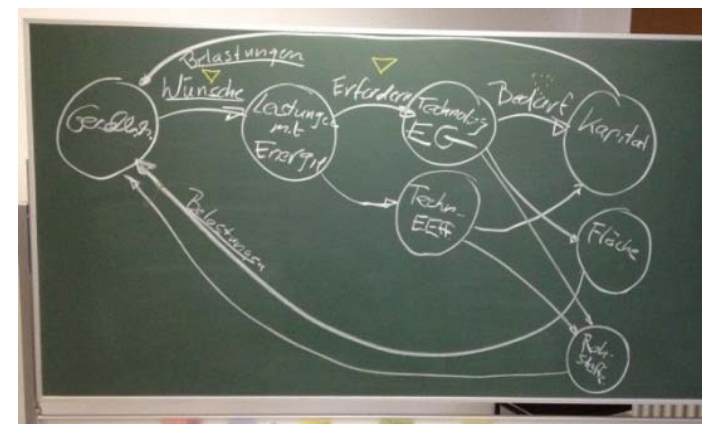


Photos: Wissenschaftsladen Hannover e.V.

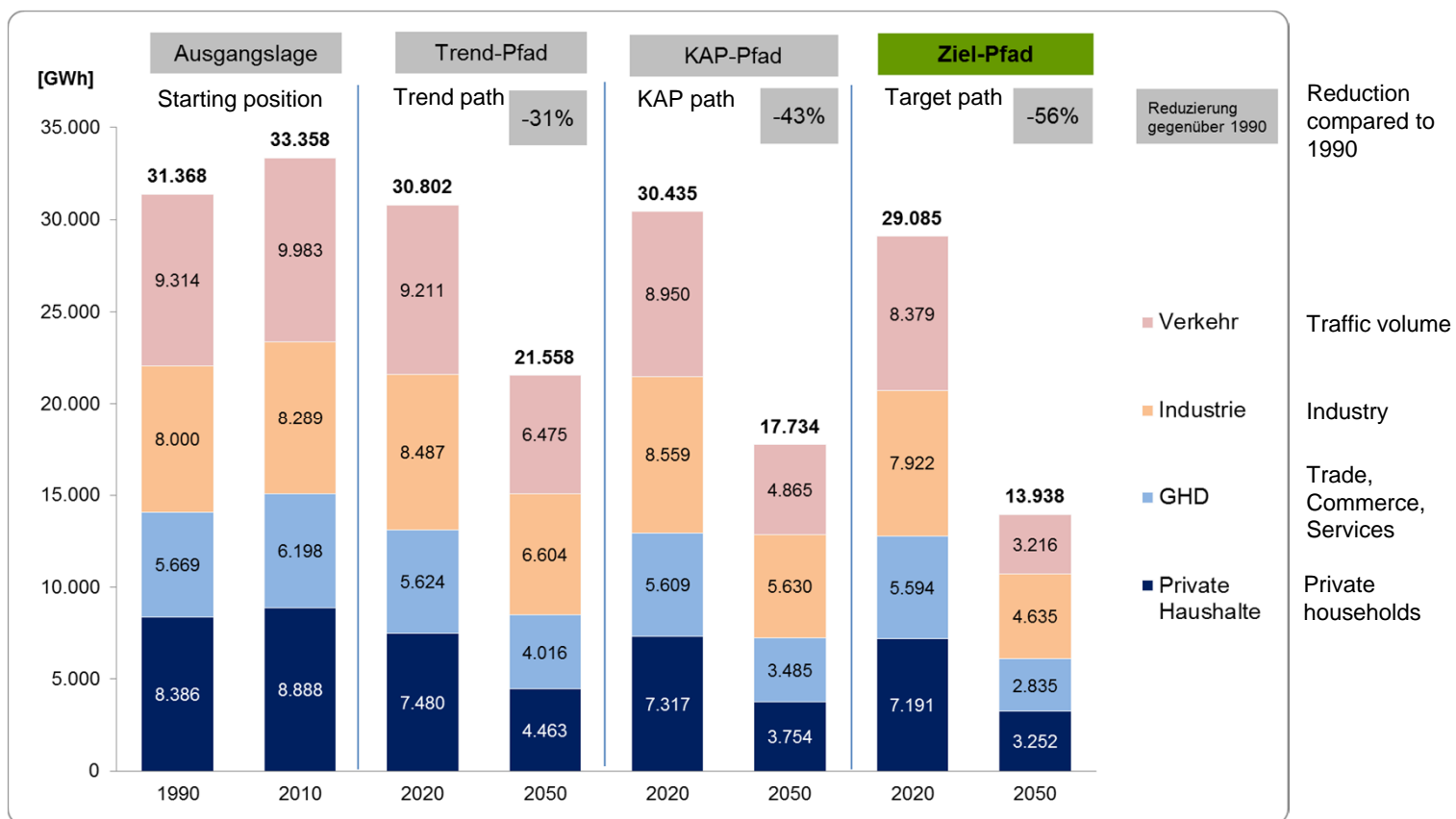
### Possible scenarios

- Trend path
- Evaluation of all objectives that have already been decided by the city and surrounding communities (KAP path)
- Master Plan Scenario:  
Target path according to project requirements

Coordination of all assumptions with the 240 experts in the strategy groups



### Scenario results for the Hannover Region: Final energy consumption according to consumption sectors



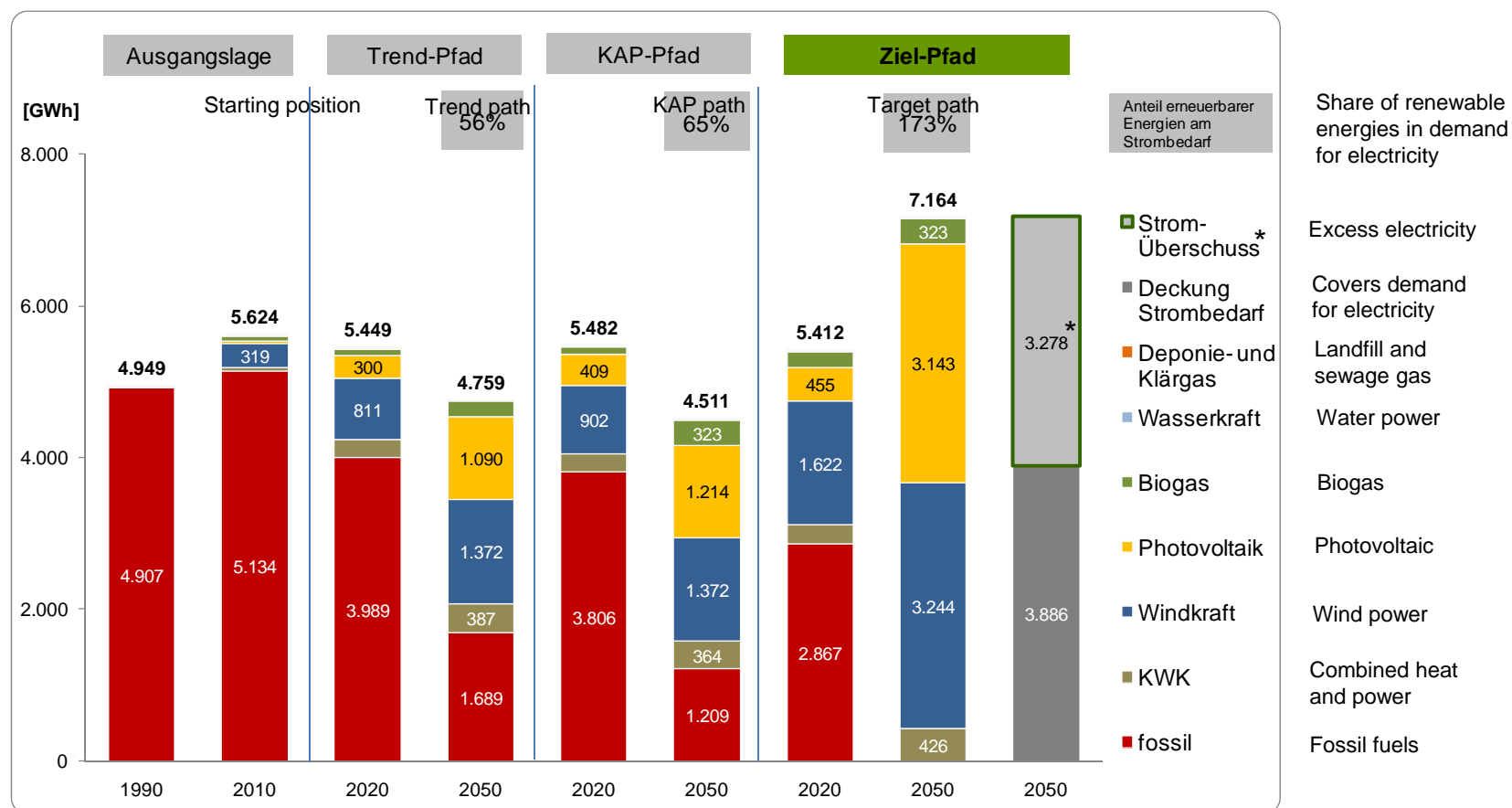


### Scenario results for the Hannover Region: Greenhouse gas emissions according to consumption sectors



This means a reduction of the inhabitant-relevant greenhouse emissions from 12.0 t CO<sub>2</sub> eq/EW (in 1990) to 0.6 t CO<sub>2</sub> eq/EW (by 2050 in the target path)

### Scenario results for the Hannover Region: Development of power generation according to fuels



\* Electricity surplus can be used for remaining heating requirements



## Regional creation of value

In 2010, in the entire Hannover region, about **2.6 billion euros were spent by the inhabitants, commerce and industry on electricity, heat and fuel**, which corresponds to a value of about €2,300 per person.

The larger the portion that is generated in the region, the higher also the portion of the budget that is available for investments in the region.

## **Initial conclusions from the project**

- A regional energy turnaround is possible.
- The fundamental technologies are available. However, decisions must be made and implemented.
- The basis is a rethinking and transformation process at all levels of society.

## **What we require**

- Reliable general conditions, both on the German Federal level as well as the European level
- A new energy market design
- Allocation of costs on the basis of use, social and economically balanced
- Continuity of subsidies





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