

# Vorarlberg on the way to energy autonomy

**Energy Plattform  
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## Examples where we are (I)

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- Share of biomass for heating purposes: about 25%
- We run more than one hundred biomass district heating systems
- Vorarlberg has 0,7 m<sup>2</sup> of solar thermal per inhabitant and 0,7 m<sup>2</sup> of PV
- Hydropower covers about 80% of total electricity consumption
- Share of bicycle traffic is 17%
- Quality and density of public transport is similar to big cities
- We run one of the European largest implementation programme for electric mobility
- Approximately one fourth of all families used the energy consulting service
- One third of all communities take part in the programme for energy efficient communities



## Examples where we are (II)

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- In the municipalities passive house quality is common standard
- Most new buildings meet at least the low-energy standard
- We have worldwide the highest density of passive houses (almost 30% of all new dwellings meet passive house standard)
- Last year we reached a renovation rate of almost 3%

## Further important background factors

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- Most municipalities have drawn up land use development concepts
- Regionwide system for sustainable procurement in the public sector
- Programmes towards strengthening local supply systems
- Well rooted and broadly supported associations (non profit organisations, charities)
- Numerous regional planning collaboration projects for supracommunal development and management of infrastructures.
- Strategy for sustainable forest use
- Region-wide supply of public transport
- Initiatives towards sustainable tourism

# Biomass District Heating

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# Biogas Plant





The first fire station with passive house quality, supplied with renewable energy





# Factor 10 renovation of an apartment complex



Architekt: Helmut Kuess    Fotograf: Robert Fessler

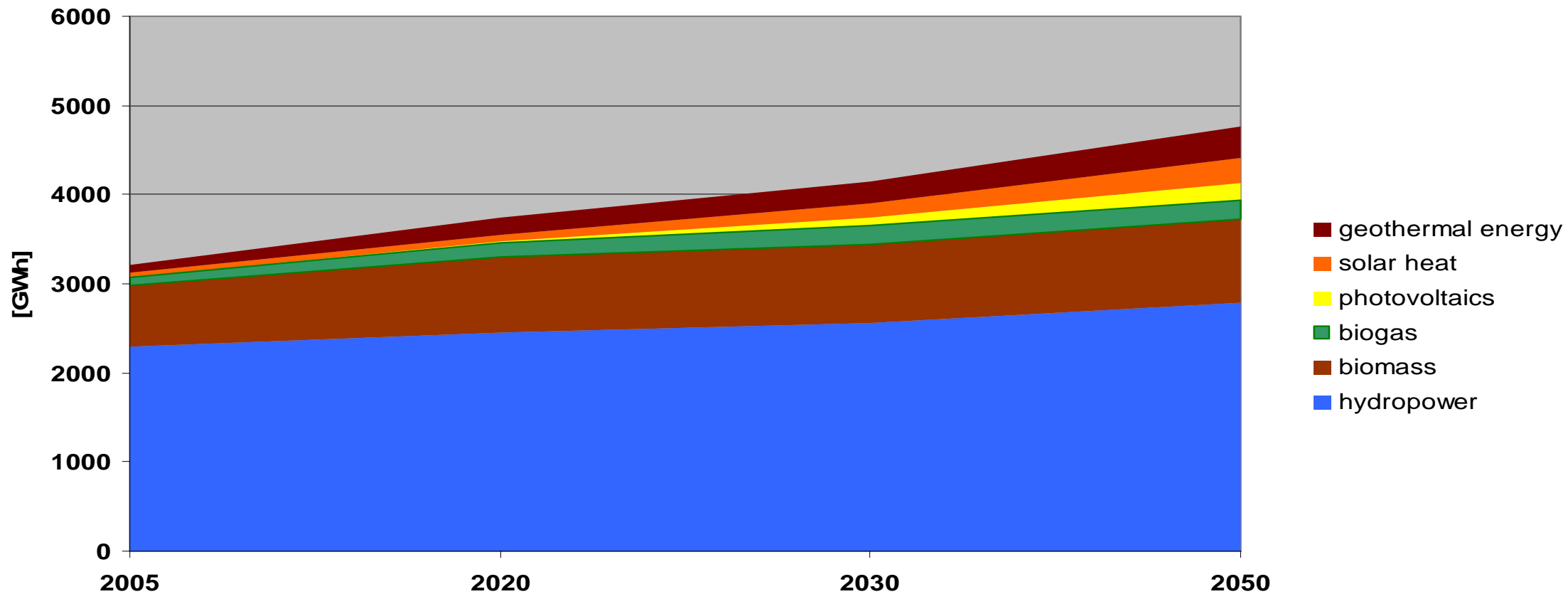


# The „Energy Future Vorarlberg“ programme – key questions of the vision process

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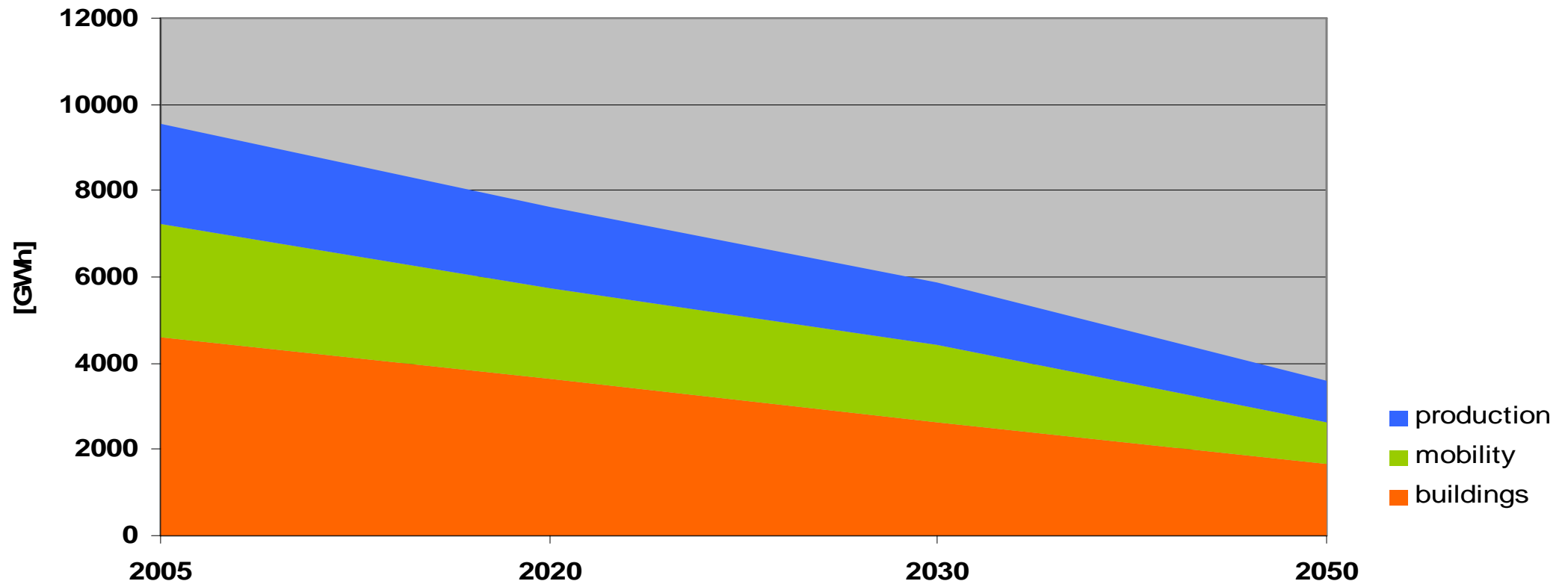
- Is a sustainable energy supply possible and in which timeframe?
- Which level of improvement in efficiency is possible on the basis of current knowledge?
- Which potentials of renewable energy sources can still be used?
- What are the basic principles of action in all relevant areas?
- What are the most important actions to recommended?
- How do we guarantee the widest possible participation and acceptance?

# Use of renewable energy sources

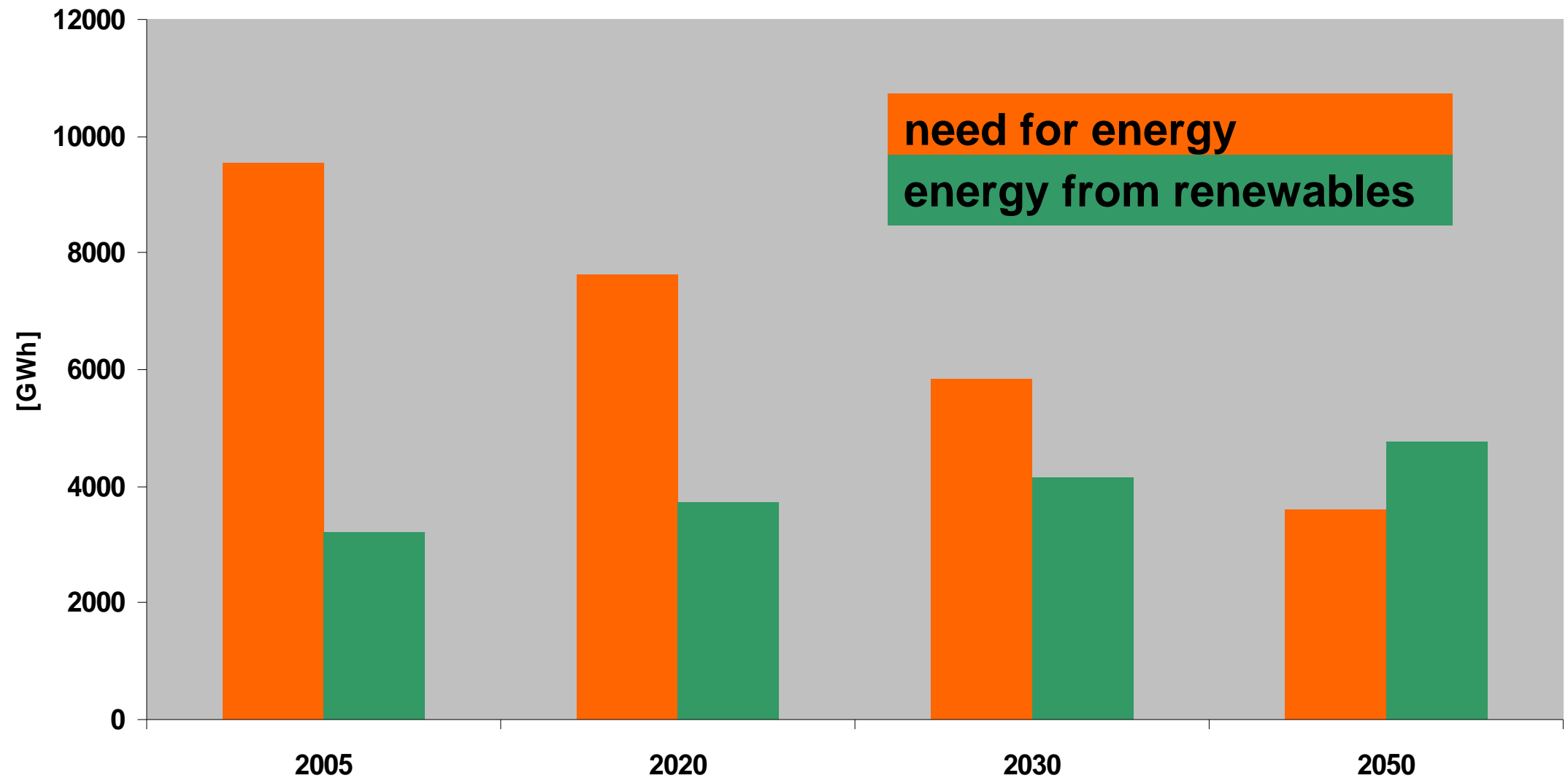




# Realization of efficiency potentials



# The goal – autonomy in energy





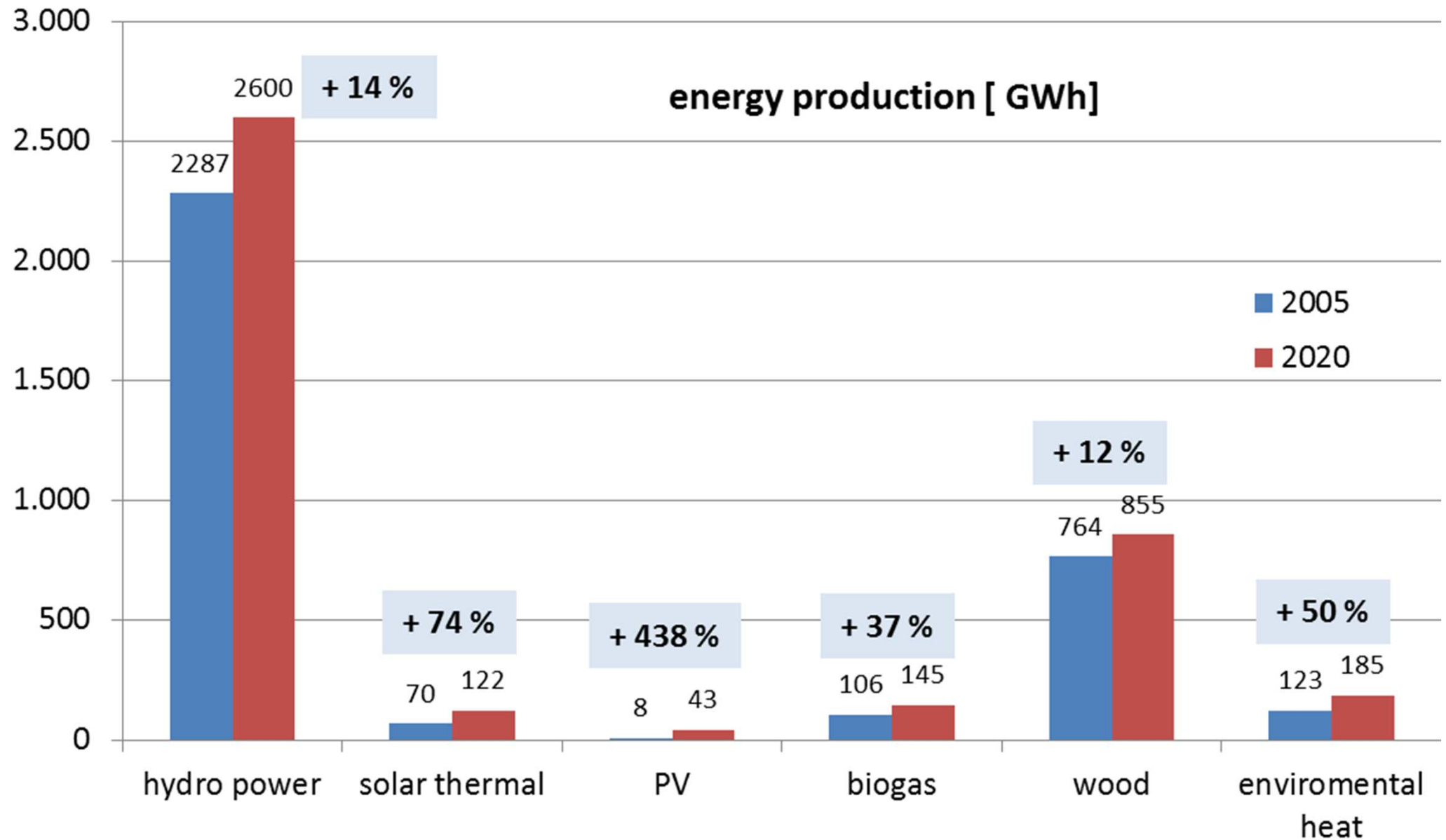
# Schritt für Schritt zur Energieautonomie in Vorarlberg

101 enkeltaugliche  
Maßnahmen

*step by step to energy autonomy  
101 grandchild suitable measures*

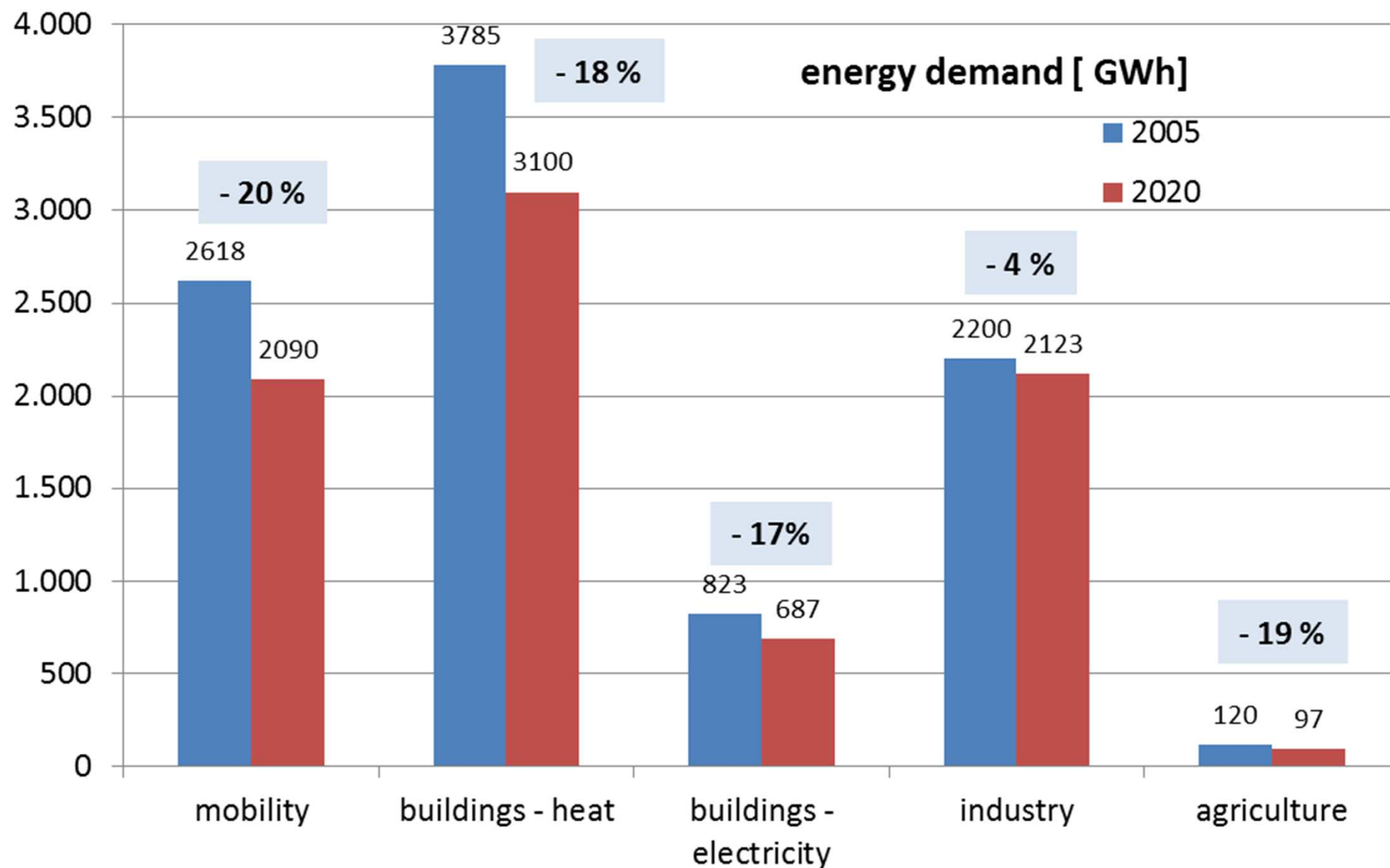


# Aims 2020 - Renewables





# Aims 2020 – Energy Demand



## Elements of the energy autonomy process

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- Vision building process including about 100 persons (imagine what could be possible in the year 2050?). Lobbyists were not allowed in that process.
- Workshops and discussions with members of the provincial parliament
- Citizen councils to evaluate and integrate opinions of citizens
- Elaboration of measures without influence of the program management (what's there is there, what isn't, isn't)
- Continuing process of implementation with institutional members (administration, chambers, associations, communities, NGO's, ..). Joint determination of respective contributions.
- Start of a common process together with citizens and (social) networks working out their possibilities to act and push behavioral changes.

## Understanding of process

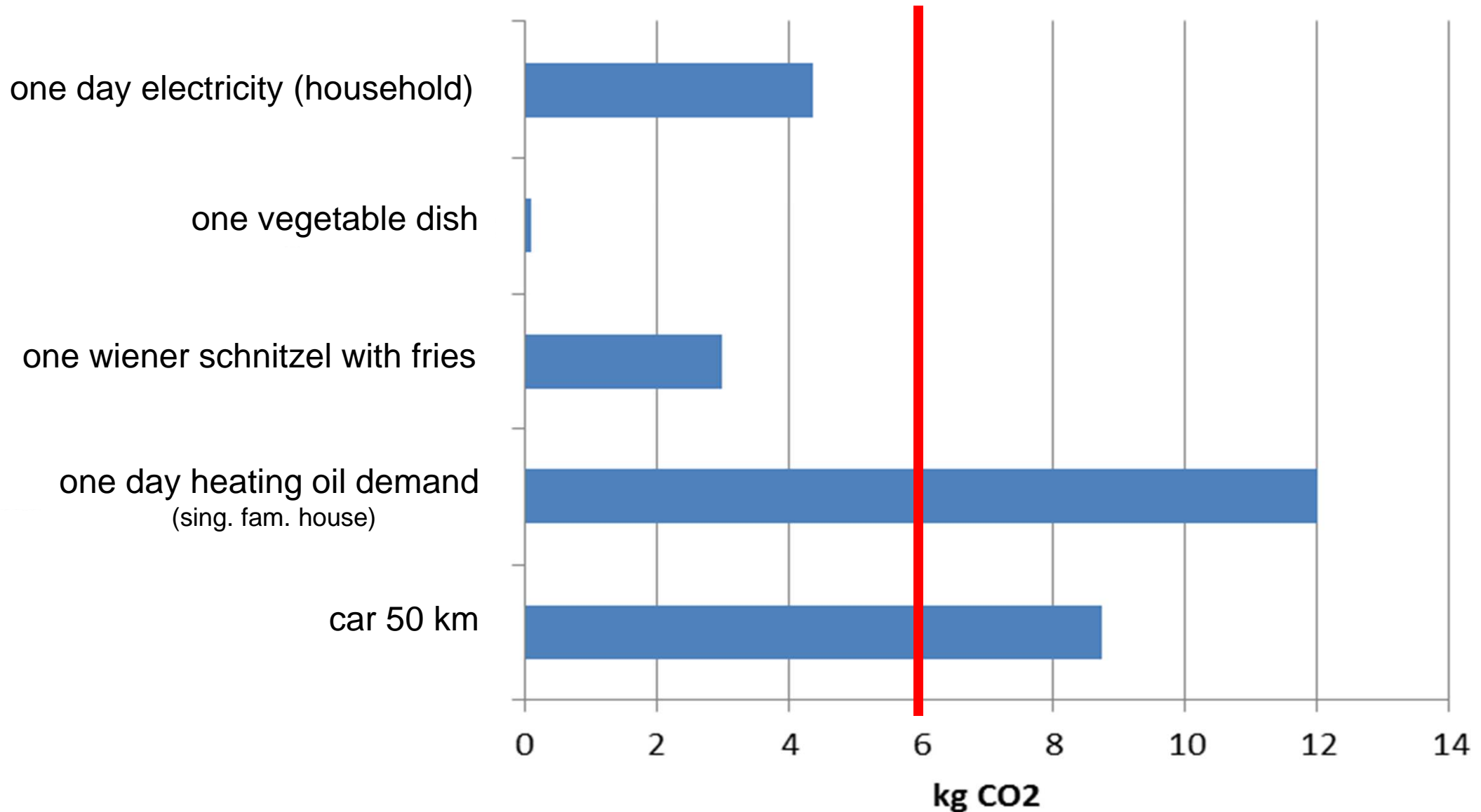
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- Working groups are the main suppliers of contents, also in the phase of realisation.
- Programme management only provides the process itself and delivers further support if necessary or requested.
- Results and agreements are worked out in dialogs only. There is no possibility for written opinion to be sent to the programme management.
- The basic process idea is to make it clear that the work is part of the development of our common living environment.

That can only be done by a public discussion. In this sense responsibility cannot be delegated. Each one – including the government – has to play his part.



# CO<sub>2</sub> emissions per day and the sustainable one day limit



# Some important questions

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## How do we live?

**What do I really need to meet my accomodation requiriments and to feel comfortable?**

*area and equipment, flat or our own house, distance to work, energy consumption, ..*

## How are we mobile?

**Where do I want to go, is it really important for me to be there?**

*means of transport, using or possessing, travelling or consuming, ...*

## What do we eat?

**What is really good for me and how do I want my food to be produced?**

*vegetarian, organic, fair trade*

## What do we consume?

**Does it make me happier having that stuff as well?**

*how much, lifespan, reparability, common use instead of possession*

## The big change process

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Change applies to a good part of living and economic areas. This task affects the society as a whole and cannot be delegatet. It can only be overcome by involving those who are concerned, which is everybody.

At the end of this process are the citizens who do not bring themselves to do the surrender, but instead develop and support – through cultural participation – a society which they consider to be good.

(Harald Welzer “Das Ende der Welt wie wir sie kannten”)



step by step to energy autonomy  
step by step to a better life  
it is up to you (and me of course)



[www.energiezukunft-vorarlberg.at](http://www.energiezukunft-vorarlberg.at)