



An energy neutral Kortrijk Region in 2050.

Towards a regional energy strategy

English management summary

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Activity 3.2: Roadmaps and Strategies

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European Union



The European Regional Development Fund

Context

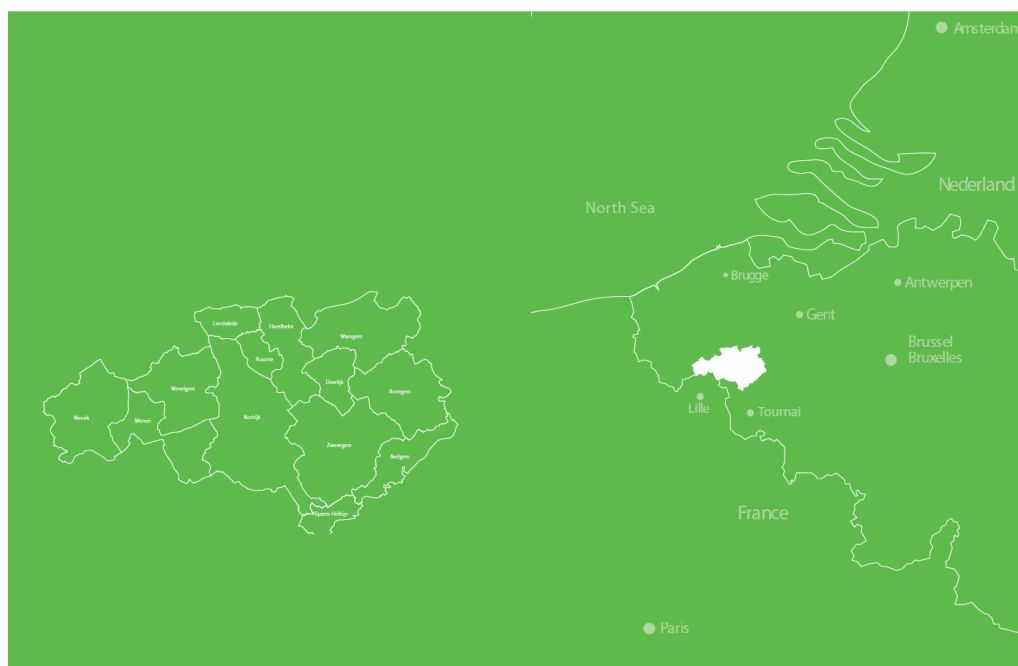
On July 5, 2012, Leiedal presented the regional energy strategy for the Kortrijk region (Flanders, Belgium).

Leiedal adopted all the results and recommendations of a regional process with expert groups and stakeholder consultation in the publication “South-West Flanders energy neutral by 2050, towards a regional energy strategy”. The booklet is a first milestone in a regional energy transition. She combines the knowledge of local governments and regional organizations, with new insights based on studies and advice from outside experts.

The publication was realised as part of the North Sea Sustainable Energy Planning project (North Sea SEP), under Work package 3, activity 3.2.

The publication contains:

- What is the energy transition (Global / regional), and what will be the impact?
- CO₂ calculator for the region
- Status Quo of the current situation, trends and challenges
- Transition Paths: vision and strategic objectives
- Proposals for local and regional actions



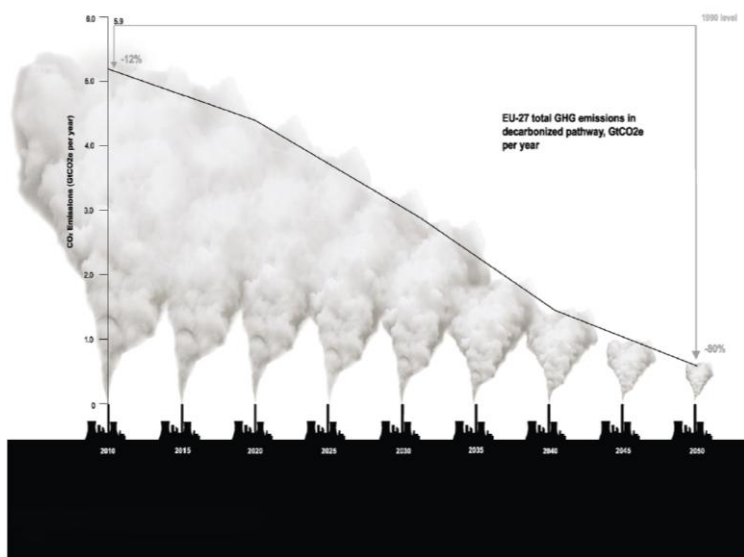
Management summary:

“An energy neutral Kortrijk Region in 2050. Towards a regional energy strategy”

Within Europe, a large "energy transition" is expected, a drastic change in dealing with energy. As a region we better prepare. It comes to ensuring our prosperity in a context of more scarce and more expensive energy. But how do we deal with renewable energy and how can we be more energy efficient?

In the “cahier” (booklet) we propose a vision on the energy transition for the Kortrijk region. It is a kick-off and a key ingredient for a regional energy strategy. This vision is the result of a thought process based on several regional energy forums and expert working groups and was accompanied by a regional energy steering committee. The cahier synthesizes the knowledge of local governments and regional organizations, with new insights based on studies and advice from external experts.

An energy strategy must be framed within the European energy and climate policy because it is the European Union who takes the lead. The European Union aims at a reduction of 80% to 95% CO₂ by 2050, starting with 20% reduction by 2020. Energy is responsible for almost all CO₂ emissions through the consumption of oil, gas and coal. A reduction of the CO₂ emissions will be a consequence of energy neutrality.



That's why we push for a central mission: "South-West Flanders (the Kortrijk region) energy neutral by 2050, with the intermediate step -30% CO₂ in 2020." That is the energy challenge for the region.

Energy neutral means: in 2050 the regional CO₂ emissions from energy are reduced to zero. This should be attained by a much higher energy efficiency for heating, cooling, lighting, traffic ..., whereas the remaining energy demand can be met with renewable energy.

Energy is an important part of regional development and therefore local authorities and local stakeholders should focus on this theme:

- The Kortrijk region has some very specific challenges: the energy prices are higher, there are limited opportunities for renewable energy, the buildings are less well-insulated, we have many SME's, a less "energy friendly" spatial pattern (highly oriented to car traffic), a higher risk of energy poverty, a very high energy dependency... The balance is not so positive. This requires customized solutions.
- 12.5% of the gross value added of the Kortrijk region is spent on energy. A much larger amount could return to the region, e.g. the investments in insulation of buildings creates local employment and a lower heating bill. The money is now spent to import natural gas.



- The policy field of energy might contribute to solutions for other challenges. For example in housing policy (the energy cost is part of the cost of living), the poverty (energy poverty), economic policy (energy solutions for businesses) and especially in the spatial policy (this creates the necessary frameworks in energy neutral building and sustainable mobility).
- We must provide answers to climate change and the depletion of resources such as oil and natural gas. These are global trends, they manifest gradually and very few consequences are yet visible. But that's no reason not to anticipate. We know that doing nothing will cost more than doing something. If we are too late to invest in energy efficiency and renewable energy, the bill of our current energy system will eventually be higher. The transition to a new energy system goes beyond an optimization of the current system: *"It is not about to insulate the roof, it's about how buildings can become energy neutral."* And that requires a different kind of thinking. Therefore we speak about a transition.

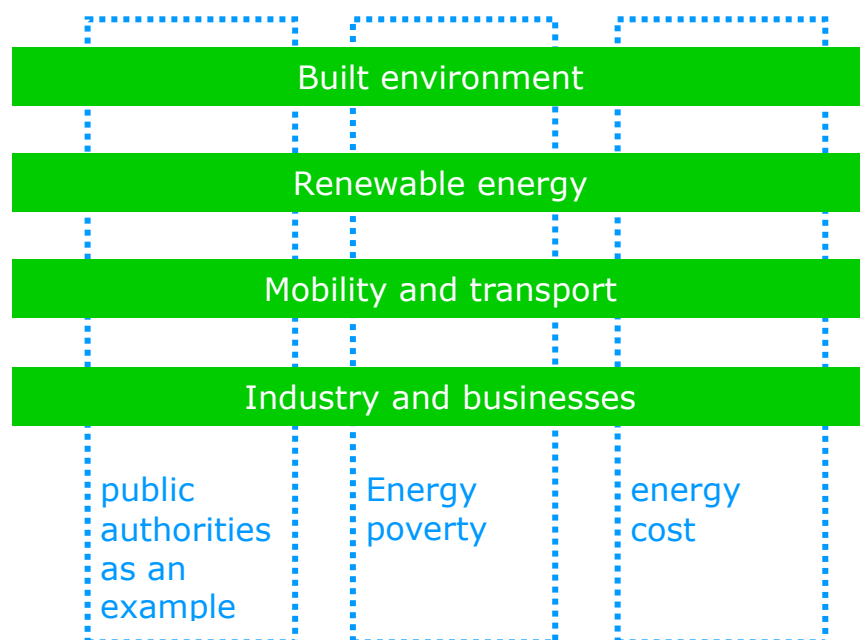
The good news: we are not alone. The Kortrijk region cannot achieve an energy-neutral society on its own. But that is not necessary: the European Union chose this option. The Kortrijk region can benefit from this. To become energy neutral is a shared goal and shared responsibility:

- Shared between the European Union, Belgium, and Flanders, the Province, the cities and municipalities. At each level action is needed: the European Union imposes standards on the energy performance of buildings, while the Flemish government invests in renewable energy. Cities and towns, for example, can intervene in their spatial structure.
- Shared between governments, local stakeholders, citizens and businesses. A cooperation is essential. For example in enhancing the knowledge of local building contractors and architects, in reaching vulnerable groups or in the development of services for SMEs. Citizens must be convinced of the usefulness of an energy-neutral home.

We have identified seven themes. For these themes we developed answers to the question how the Kortrijk region can realize sustainable energy system and become energy-neutral region in 2050.

There are four "harder" themes that are CO₂-related: built environment (40% of regional CO₂ emissions), renewable energy (avoids CO₂), mobility and transport (30% CO₂) and business (25% CO₂).

There are three "softer" issues that cut across the four "harder" themes: the examples public authorities should be, energy poverty and energy prices.



1. All buildings energy neutral by 2050

The new buildings should be built energy neutral as soon as possible, because this is the future standard.

But the big challenge is the existing building stock: 70% of the buildings in 2050 already exist. The insulation level of the building envelope (roof, walls, windows, and floor) must be seriously improved. People who build and renovate need a much better support (financial and technical).

The existing initiatives can be grouped into one approach: energy scan, construction plan advice, grants, loans, group purchasing of insulation, etc.

Renewable energy should be integrated into buildings: solar panels, solar water heaters and heat pumps. All this requires new expertise in the design of new buildings.

Finally there is a challenge on the scale of neighbourhoods and cities: residential areas and industrial estates.

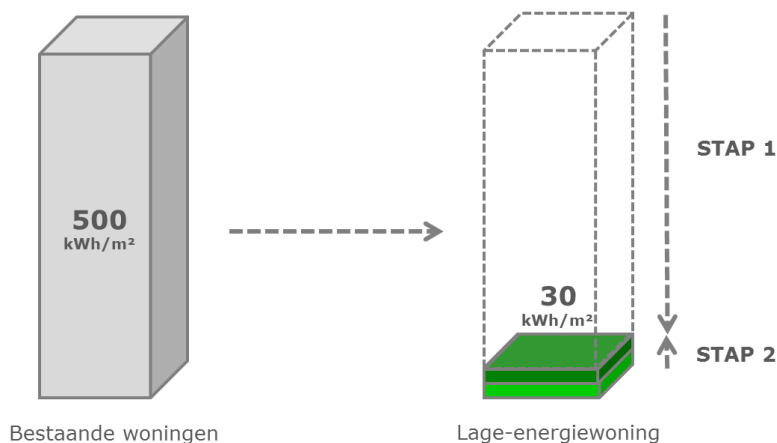


Illustration: old buildings use 500 kWh per square meter surface, low-energy buildings 30 kWh. The first step is to reduce energy consumption by better insulation. then it is feasible (and cheaper) to produce 100% renewable energy (step 2).

2. Five times more renewable energy in 2020

In the Kortrijk Region it is impossible to produce as much renewable energy as energy is consumed now. We would need 1,487 large wind turbines. Now 1.1% of the total energy consumption comes from local renewables.

By 2020, 5.5% is the target. It can be realized through small and medium-sized installations: 20 large wind turbines, 6,000 heat pumps, 20,000 solar water heaters, 25,000 roofs of houses with solar panels, 500 roofs of businesses or large buildings and biomass combined with heating networks to convert local waste into energy.

Renewable energy is thus only a part of the solution. Furthermore, more energy efficiency is easier and cheaper and therefore is the preferred solution until roughly 2020. In the meantime, the deployment of renewable energy and local heating networks must be prepared, for example through (spatial) planning.

Finally consumers can also get much better support, for example through group purchases of solar panels or green power.

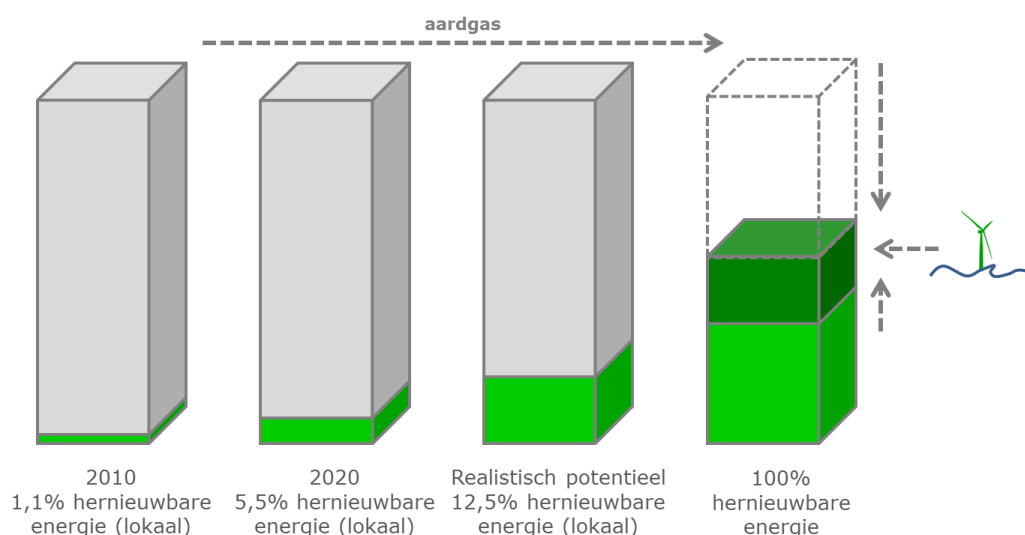


Illustration: in 2010 1,1% of all energy consumption is provided by local renewables. It is feasible to raise it to 5,5% in 2020. It is realistic to raise until about 12,5%. If we want to be 100% energy neutral, we need to (1) lower the energy consumption, (2) to import green energy, and (3) to increase the realistic potential for green energy.

3. Sustainable mobility

The densely urbanized area between the Cities of Menen - Kortrijk - Waregem should be spatially condensed and equipped with alternatives to the energy-intensive car. A regional public transport network of buses, trams and / or light rail is needed to connect all nodes (business parks, stations, shopping paths, centres,).

A bicycle network with bike highways and shortcuts is also important, together with adequate facilities such as bicycle parking at apartments or charging stations for electric bicycles. New developments (residential, industrial, shopping ...) should be grafted onto these structures. The electric car is preferred to a conventional wagon, and is thus a part of the solution.

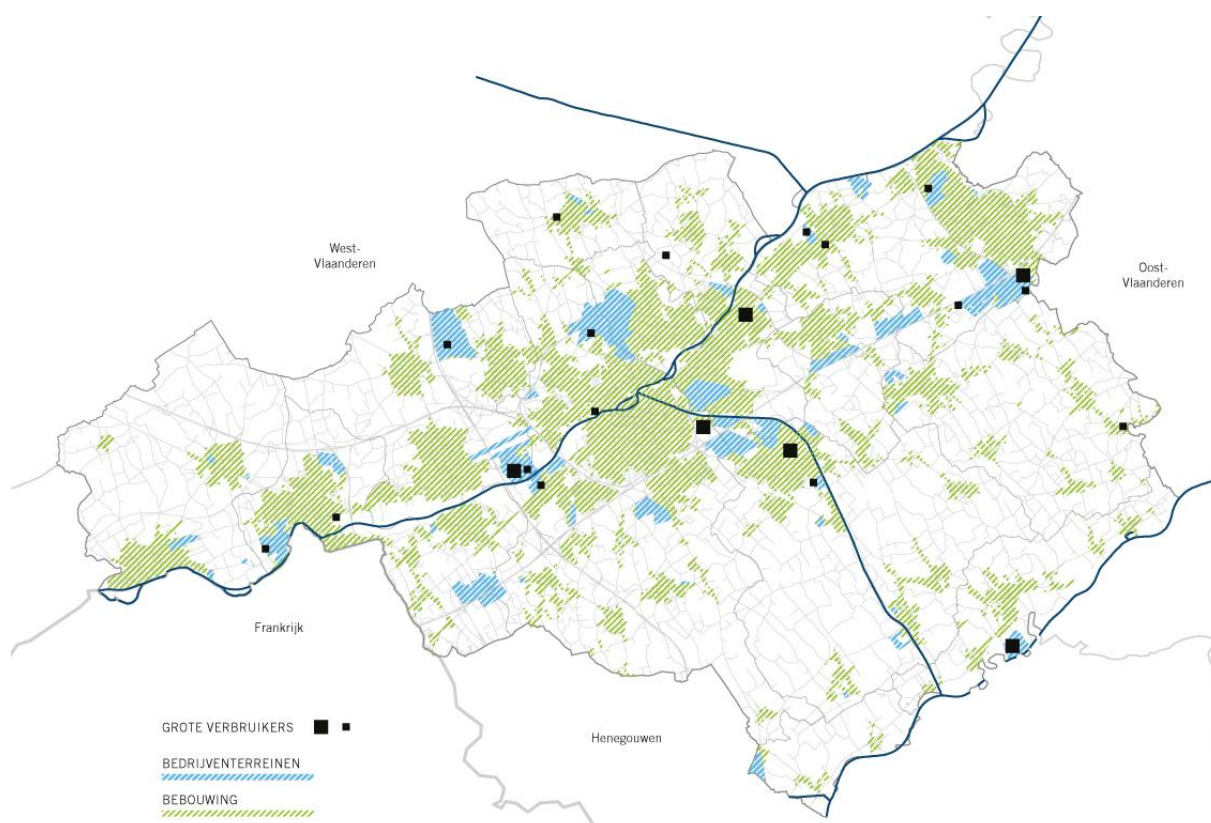


Illustration: the urbanisation is high in the belt from southwest (city of Menen) to the northeast (city of Waregem), along the river Leie. there is a mix of housing areas and industrial estates, with a dense pattern of roads.

4. Energy efficient companies

There should be more accessible tools offered to SMEs, so the potential for energy efficient commercial and office buildings and renewable energy is used.

Small companies show still too little interest in here because this is not their core business. Initiatives such as free audits or group purchases can "relieve" SMEs.

There are energy concepts for industrial estates needed to ensure that companies can be energy neutral, the potential of renewable energy is utilized and to deliver energy cheaper. A biomass power plant coupled to a heat cogeneration is an option. This energy concept can be implemented in a new industrial estate or redevelopment (brownfield development).



Illustration: the Evolis business park in Kortrijk is a good example of a carbon neutral development. It houses 4 wind turbines, plus it is planned to develop a biomass power plant and a district heating system.

5. Public administrations energy neutral within 25 years

Besides the fact that public authorities are relatively large consumers, they also have a role as an example.

Credible local and regional energy policies towards citizens and businesses cannot without public engagements for the municipality. The Covenant of Mayors, to endorse to build only energy neutral public buildings, or showcase projects in renewable energy.

Public authorities can start with a proper energy accounting and an action plan to transform their buildings into energy neutral buildings. They can seek external funds to invest (e.g. through third party financing). They must also ensure that at least 30% of journeys to and from public buildings are sustainable. Actions on public lighting have high efficiency and visible sensitizing effect.

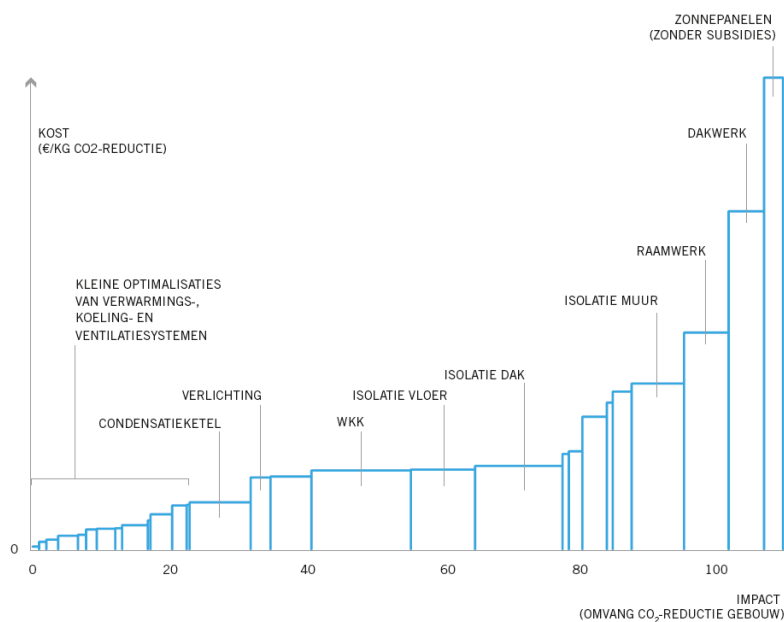


Illustration: the carbon emission potential of several measurements in public buildings, linked with the investment cost. Small optimisations to the HVAC-system are very profitable (quickwins). Insulation plays an important role, but the investment will not be triggered alone by energy related motives but also by the age of the building.

6. No energy-poverty, a maximum energy cost of 10% of income

Local authorities, social services and other local actors have to cooperate to develop preventive policies aimed at families at risk of energy poverty and low income tenants.

Now social services are expected to solve problems, and a curative policy has been installed. A preventive policy focuses on improving the energy efficiency of housing (especially social and private rental), with the model of “Sociale Verhuurkantoren” (a type of social rental on the private market) should be extended.

There must also be developed guidance trajectories to relief the energy bill of households at risk of energy poverty: advice on changing energy suppliers, installation of small measurements, arranging financing and works...

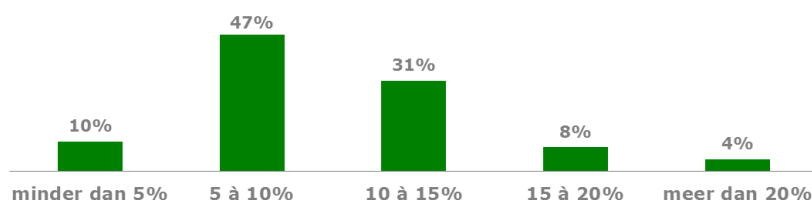


Illustration: The energy cost for households. 31% of the households who invested in energy saving, had to spend 10-15% of their income to energy. 12% spends even more than 15% of the income to the energy bill.

7. Energy prices that are comparable to surrounding regions

In the Kortrijk region, the cost of energy is considerably higher than elsewhere in Flanders. In Flanders the energy cost is anyway higher than the neighbouring countries.

Lower energy costs is possible by focusing on renewable energy (as locally anchored e.g. by local ownership of solar panels, wind turbines, biomass plants), by maximizing the benefits of the liberalized energy market (e.g. through group purchases of energy) and lobby to ensure that the region is not disadvantaged relative to other Flemish regions (e.g. through advocacy at higher levels).

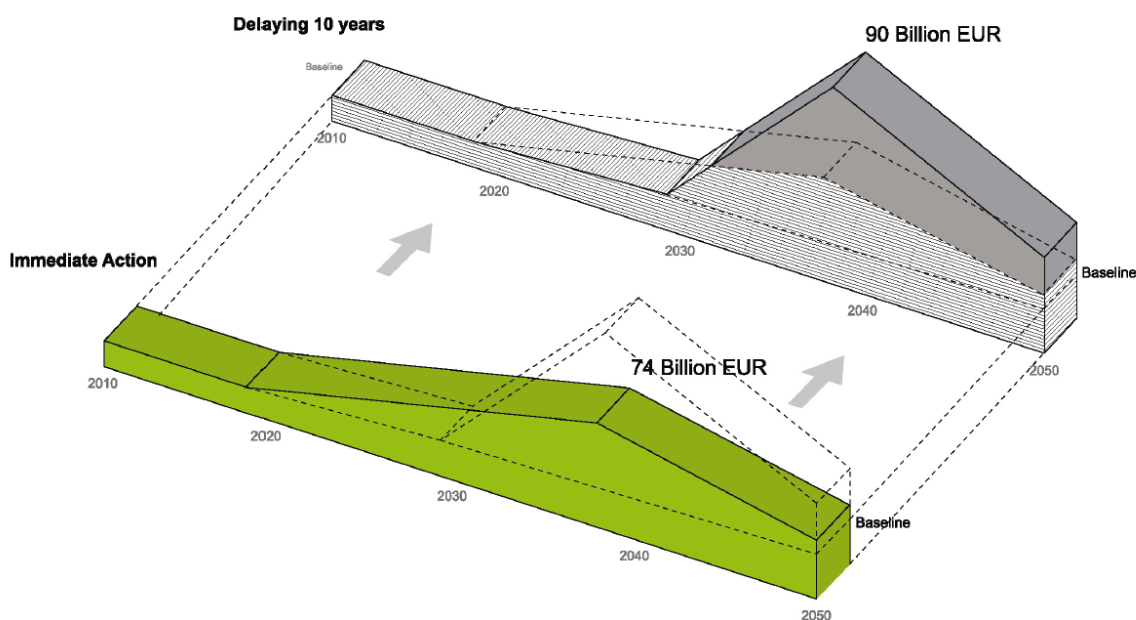


Illustration: the cost of energy will rise in future. doing notheing will eventually cost more than immediate action to start the energy transition towards a sustainable energy system.

Furthermore

This booklet is a first milestone in an energy transition. It formulates the shared challenge for local governments, local players, businesses and residents: the Kortrijk region energy neutral by 2050. Now there is a need to:

- Summarize key lessons for actions of each actor, stakeholder, local government, citizen, association or company.
- anchor the vision in the policy (of municipalities, RESOC, regional organizations ...), by acceding to the Covenant of Mayors ...
- create a strong regional network of local actors, e.g. in a Regional Energy Council which initiates collaborations between actors such as municipalities, schools ...
- Communicate about the mission, showcases and the successful initiatives in the region, including the development of a "strong branding" of the region in the field of energy.