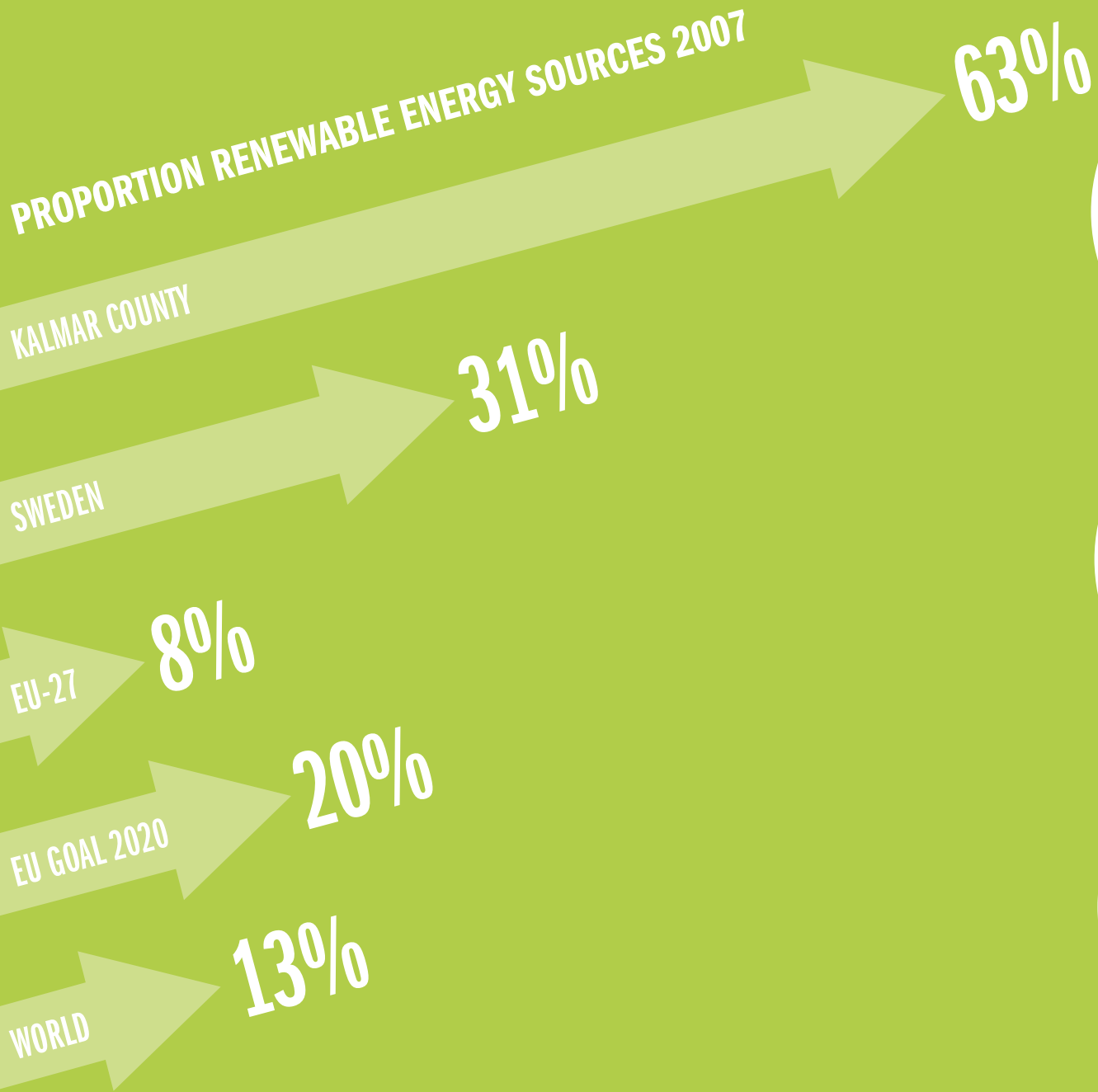


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A FOSSIL FUEL
FREE REGION.





THE KALMAR REGION – A PIONEER IN CLIMATE ISSUES

Since the beginning of the 1900s, the temperature of the earth has increased by more than one-half degree Celsius. During the next 100 years, the temperature is expected to increase even more. Greenhouse gas emissions from human activities affect the climate. This causes changes that can result in environmental, economic and social consequences for the entire planet.

The Kalmar region has all the prerequisites for becoming a pioneer on climate change issues within Sweden and the EU. We also have the prerequisites for becoming a pioneer when it comes to efforts to decrease the usage of fossil fuels. We have abundant forests. Öland, the Kalmar Coast and the Baltic Sea are all excellent candidates for wind power and solar energy. Kalmar County also has a high level of competence within the area of energy. There are already several parties conducting comprehensive work in this area. Many prominent companies and organisations are interested in taking a leading role in energy development issues.



OUR GOALS THROUGH 2030

In Sweden, Kalmar County intends on becoming a pioneer in the work to reduce the negative impact on the climate caused by emissions while simultaneously achieving sustainable growth. By 2030, Kalmar County intends to become a fossil fuel free region. We have therefore assembled various interested parties from within the county to participate in this work. Activities are underway within many different areas, as part of ongoing operations as well as project work. We have three overriding subgoals: energy and the environment as growth factors; becoming a fossil fuel free region by 2030; and decoupling economic growth from increased fossil fuel usage.

SUBGOAL 1: Energy and the environment as growth factors

Developments within various business sectors in Kalmar County regarding energy and the environment shall be better than industry averages for each respective sector. Furthermore, we aim an increasing energy production in the county.

SUBGOAL 2: Fossil Fuel Free by 2030

This goal has been divided into three subgoals: 2010, 2020 and 2030.

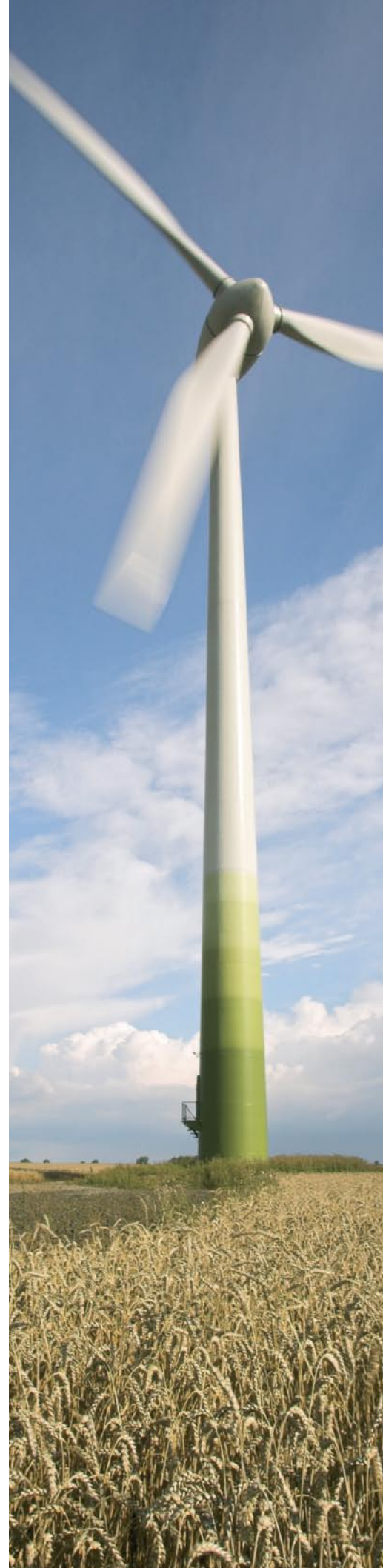
By 2010, the county will decrease its emission of greenhouse gases by 15 percent compared to the amount emitted in 1990. Carbon dioxide emissions attributable to transport shall also decrease by 20 percent compared to the amount emitted in 1995. Furthermore, all automobiles purchased or leased by the public sector shall be eco-cars.

By 2020, all buildings will be heated by renewable energy sources. The county's production of renewable electricity shall equal or exceed its electricity consumption. All transports funded by taxpayer money will be made in eco-cars or using fuel from renewable energy sources.

By 2030, there will no longer be net carbon dioxide emissions from burning fossil fuels in Kalmar County.

SUBGOAL 3: Decouple economic growth from increased fossil fuel usage.

Often, a prerequisite for economic growth is an increased use of both energy and materials that in turn gives rise to environmental pollution caused by emissions and strain on various types of ecosystems. Kalmar County aims at continually diminishing carbon dioxide emissions from burning fossil fuels in relation to gross output for the region.





STRATEGY FOR ACHIEVING THE GOALS

Overall, climate related activities in Kalmar County are aimed at converting from fossil fuels to renewable energy sources. We aim at having more efficient energy usage at each stage and in every sector. We will not only produce renewable energy, but also products and services to facilitate the transition to a fossil fuel free society. These efforts will not only help profile Kalmar County, but also help to portray Sweden as a pioneer when it comes to climate issues and sustainable growth.

THIS WORK IS DIVIDED INTO FIVE MAIN AREAS:

- **ENERGY EFFICIENCY**

All energy consumption shall be optimized.

- **TRANSPORTATION**

Efforts within the area of transportation shall be focused on effective transport logistics, new vehicle technologies, alternative fuel sources, developing rail-bound traffic, improved public transportation options and eco-driving.

- **ELECTRICITY**

Electricity shall be generated from renewable energy sources such as hydroelectric, wind, solar, biofuelled CHP-plants and industrial back pressure power.

- **HEATING**

Heat shall be generated from biomass and solar energy sources, as well as connection to district heating systems, nearby heating and biogas.

- **KNOWLEDGE REFINEMENT**

Value of knowledge and competitive advantages.

Efforts to achieve energy savings, energy efficiency and convert to renewable energy sources in order to generate heat are ongoing. Infrastructure and community planning along with investments in new manufacturing facilities are all long-term changes that only begin to pay off after many years. However, they are all essential to achieving favourable development.

This work requires coordinated efforts regarding those issues that local authorities and county councils themselves control. It also requires increased cooperation with other interested parties from private and public sectors, as well as academia. At both national and EU levels, we offer a full-scale demonstration model.



EXAMPLES OF ONGOING ACTIVITIES

Becoming a fossil fuel-free region requires cooperative efforts by many different parties within the region. Activities are already underway within all of the focus areas as part of our ongoing operations and in project form. For example:

THE CLIMATE COMMISSION FOR KALMAR COUNTY

This commission consists of eleven representatives from the county's business and public sectors. The goals of the commission are to reduce carbon dioxide emissions within the county and, by taking tough action on environmental issues, create new work opportunities within the rapidly growing environmental technology sector. The commission has presented a list of 17 challenges for various parties within Kalmar County and on national level.

ECO-CARS

In Kalmar County, companies, local authorities and others are eligible to receive a subsidy for purchasing eco-cars. The local authorities within the region have completed a joint tender process for the procurement of eco-cars. The goals are to increase the total number of eco-cars in the county, help increase the number of service stations for such vehicles and force down prices. From 2005 to 2008, the number of eco-cars increased from 200 to 3000. The county has now also introduced electric cars – that is, cars run on wind power.

CLIMATE-NEUTRAL PUBLIC TRANSPORTATION

Kalmar County's 12 local authorities, together with the County Council, have completed the procurement process regarding public transportation for the county during the period of 2008-2014. Since August 2008, more than 50% of the county's regular busses are run on renewable energy sources (biogas or RME).

ELECTRICITY FROM RENEWABLE ENERGY SOURCES

There is enormous potential for wind power in Kalmar County. Plans for and the construction of new wind power stations are underway both on land and at sea. Kalmar County organises an annual national conference on wind power and hosts one of the nodes of the national network for wind power usage, namely, the node that is responsible for industry and business

development. During the last few years, Södra Cell, a private company in Mönsterås, has invested in turbines that currently enable the production of approximately 650 GWh of "green electricity" per year. Kalmar Energy is constructing a combined power and heating plant that is expected to be completed in 2010. Today, Kalmar County produces less than 1 TWh of electricity from renewable sources per year. However, it has the potential of producing up to 7 TWh per year, which is the equivalent of the annual household electricity consumption of more than one million average Swedish households.

THE KALMAR COUNTY CLIMATE INVESTMENT PROGRAMME

Kalmar County received a grant of SEK 28 million from the Swedish Environmental Protection Agency in order to execute its Climate Investment Programme during the period 2005-2010. The total investment in such measures amounts to nearly SEK 135 million. This project aims to decrease carbon dioxide emissions by 18,000 tons per year. The programme is also expected to decrease electricity usage by 10 GWh per year, which is the equivalent of the annual electricity consumption of 1,600 average Swedish homes.

THE WORLD'S FIRST BIOGAS TRAIN

The world's first biogas train is in operation on the Tjust line between Västervik and Linköping. Cooperation is ongoing with the aim of building a regional infrastructure and market for biogas cars and a local production of biogas. Manure is seen as one of the most interesting substrates. In the future also substrates from the sea might be used.

INTERNATIONAL COOPERATION

Kalmar County is also involved in international cooperative efforts. For example, we have well-established cooperation in place with Euroregion Baltic in the southern Baltic Sea region, as well as with the Changxing Region of China and Cape Wineland in South Africa. Energy and environmental issues are highly prioritized within all areas and there are a number of activities underway.

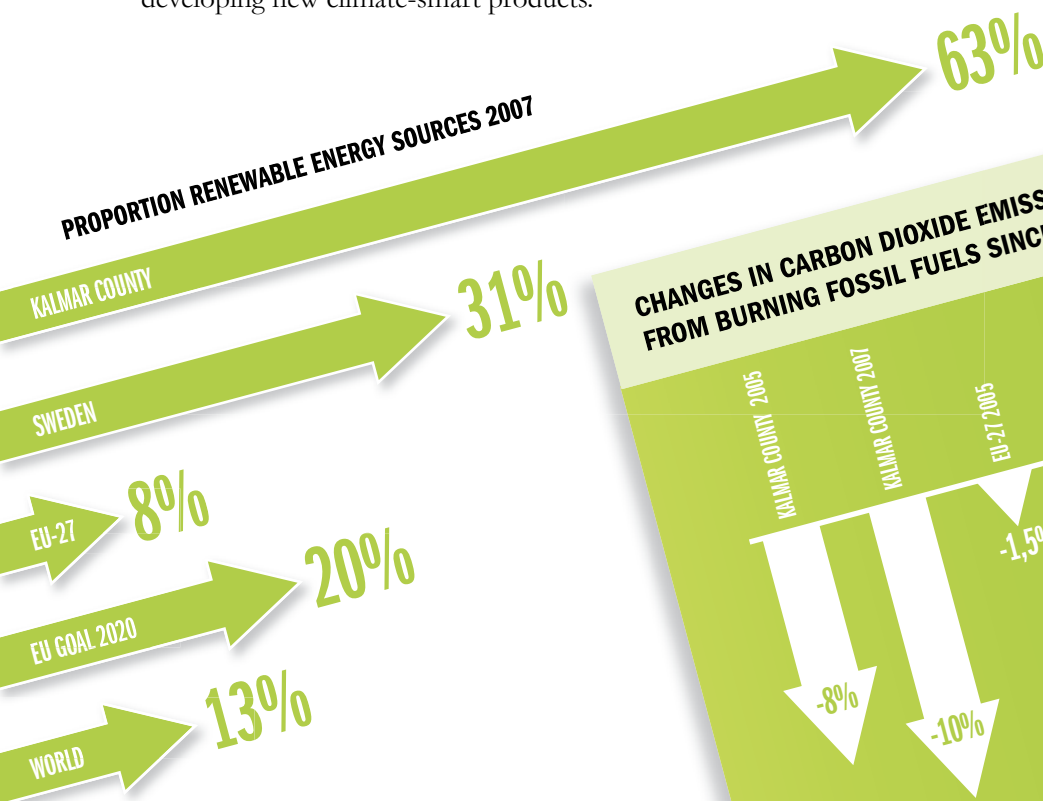


A SUSTAINABLE COUNTY

The Swedish Energy Agency coordinates a national programme called “Uthållig Kommun,” meaning “sustainable municipality”. Participating municipalities are required to conduct a thorough review of their activities and to decrease greenhouse gas emissions while promoting both trade and industry. Less than one fourth of all local authorities in Sweden participate in this programme. However, in Kalmar County, all local authorities are involved. As such, the county has been appointed as a national pilot area and several pilot projects are under implementation.

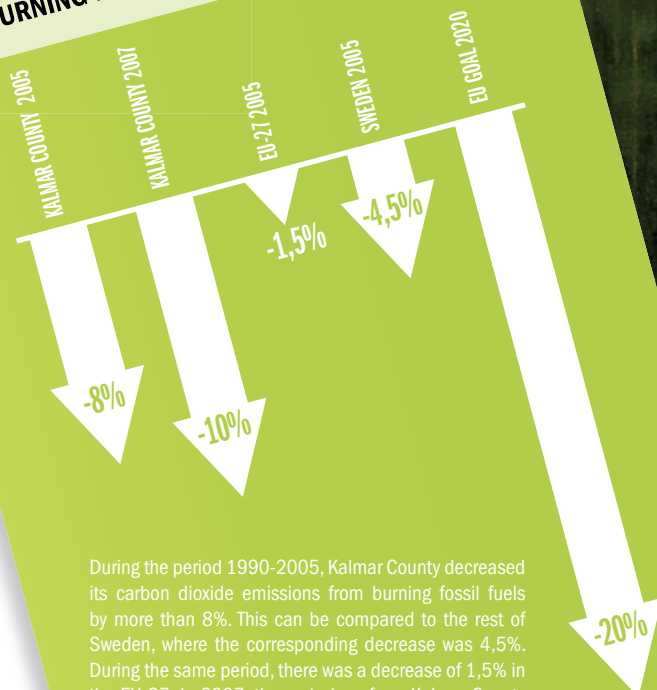
CLIMATE PROMISES AND SMART PRODUCTS

Kalmar City has run a project about climate families – Climate Pilots. In autumn 2009, the experiences from these families are used for a climate campaign where the goal is to get 10 000 inhabitants in the county to sign up for a climate promise and decrease their outlets of greenhouse gases with 20%. At the same time another project involving local companies focus on developing new climate-smart products.



In 2007, 63% of the energy consumption for Kalmar County was from renewable energy sources. During the same period, the proportion of energy consumption from renewable energy sources in Sweden was about 31% and in EU approximately 8%. Globally it was about 13%. The EU goal for 2020 is to have 20% of energy consumption from renewable energy sources - an interesting comparison to the 63% already achieved by Kalmar County in 2007.

CHANGES IN CARBON DIOXIDE EMISSIONS FROM BURNING FOSSIL FUELS SINCE 1990



During the period 1990-2005, Kalmar County decreased its carbon dioxide emissions from burning fossil fuels by more than 8%. This can be compared to the rest of Sweden, where the corresponding decrease was 4,5%. During the same period, there was a decrease of 1,5% in the EU-27. In 2007, the emissions from Kalmar County had decreased with more than 10%





A REGION FREE FROM FOSSIL FUELS

Kalmar region has highlighted reduced climate impact as an important objective for the future. The region wants to be a forerunner in the work for decreased outlets of greenhouse gases and for sustainable growth. By 2030, Kalmar County intends to be a fossil fuel free region.

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THE REGIONAL COUNCIL
IN KALMAR COUNTY

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