

# The Swedish Energy Agency works for a smarter energy use

*A presentation of the  
Swedish Energy Agency*





## Mission

The Swedish Energy Agency is the national authority for energy policy issues. The Agency's headquarters are in Eskilstuna and it has around 230 employees (in January 2008). Our mission is to promote the development of Sweden's energy system so that it will become ecologically and economically sustainable. This means that energy must be available at competitive prices and that energy generation must make the least possible impact on people and the environment. In simple words, a smarter use of energy.

A handwritten signature in black ink, reading "Tomas Kåberger". The signature is written in a cursive style with a long horizontal line above the first name.

**Tomas Kåberger**

*Director-General Swedish Energy Agency*





## Strategic objectives

1. The Agency works to ensure that energy matters are automatically taken into account in relevant social sectors.
2. The Agency supports the achievement of the national climate targets.
3. The Agency promotes an energy system that is economical on resources and energy efficient, and that uses an increasing proportion of renewable energy sources.
4. The Agency works to ensure that there is a safe and reliable energy supply.
5. The Agency works for efficient energy markets in which customers have a strong position.
6. The Agency is a modern and efficient public authority in all respects.
7. The Agency is an attractive employer whose employees are given good development opportunities in a sound working environment.



## THE SYSTEM ANALYSIS DEPARTMENT

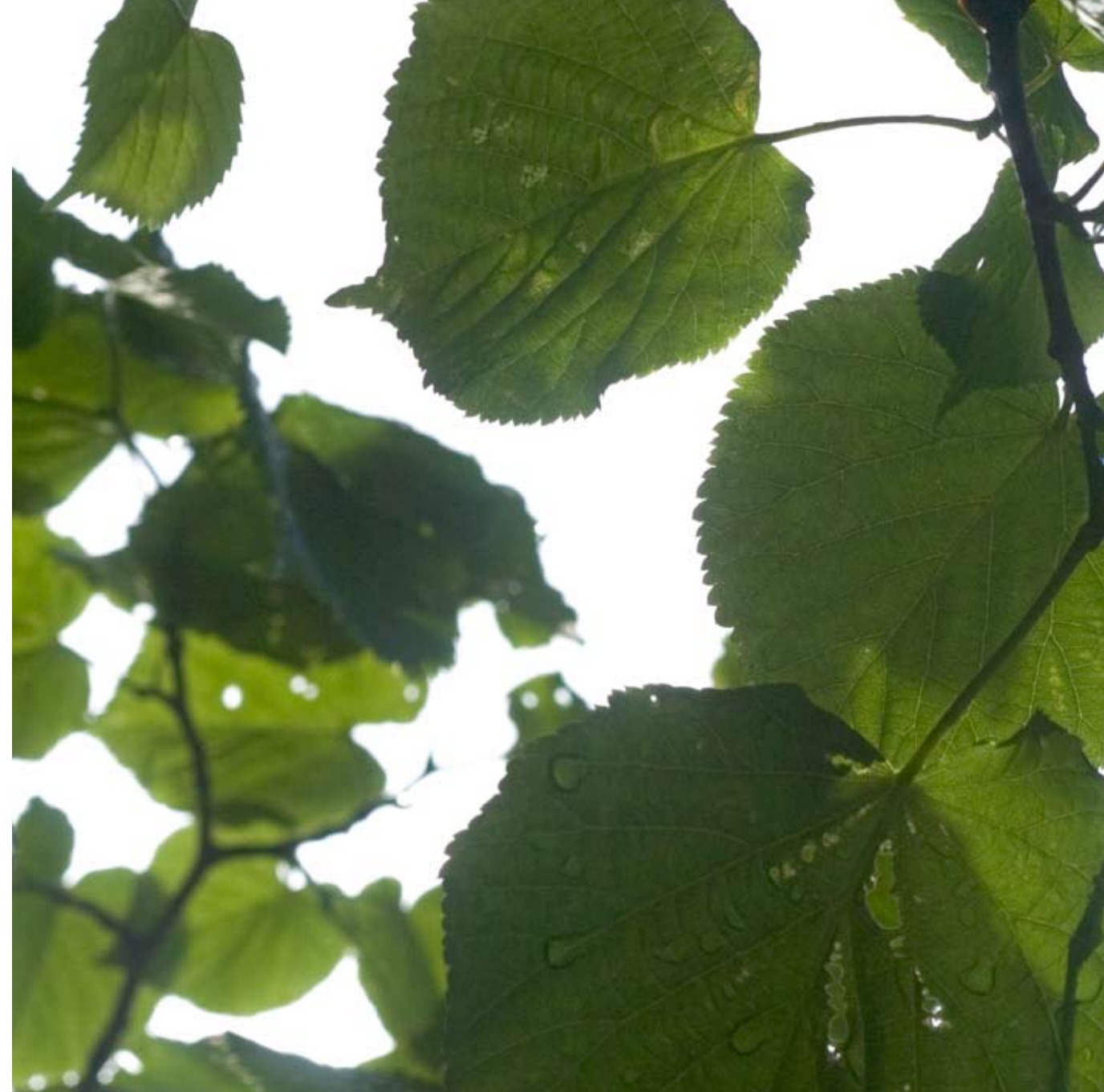
The overall objective of the System Analysis Department is to increase knowledge about the energy system and the relationships between the national economy and other sectors, in order to provide the foundation for an appropriate energy and climate policy. The department consists of five units:

- The Electricity Certificates and Emission Trading Unit is responsible for the management of the electricity certificate system (supervision) and the emission trading system for carbon dioxide (establish and keep registers).
- The Energy Markets and Supply Unit is responsible for the analysis of the energy system and the energy markets, the monitoring of the global situation, the General energy system studies research programme as well as the development of energy statistics concerning price development and energy balances.
- The Energy Demand Unit is responsible for analyses, forecasts and scenarios of energy use in the housing, service, transport and industry sectors. The unit also has the overall responsibility for statistics.
- The Climate Policy Unit takes part in international climate negotiations, works with the Kyoto Protocol's project-based mechanisms and is responsible for research on the international climate policy.
- The Policy Analysis Unit analyses objectives within the energy and environmental policy and works with procedures and regulatory measures within the fields of energy and climate.

## For a better climate

Sweden has ratified the UN Climate Convention which aims to reduce the emission of greenhouse gases into the atmosphere and also the subsequent Kyoto Protocol with its implementation rules and guidelines. The countries have several tools for reaching the emission objectives cost-effectively. The project-based mechanisms and trading emission rights constitute the Kyoto Protocol's flexible mechanisms. The Swedish Energy Agency works to develop the Kyoto Protocol's project-based mechanisms, i.e. Joint Implementation (JI) and Clean Development Mechanism (CDM), through Sweden's International Climate Investment Programme, SICLIP. The mechanisms also promote sustainable development in developing countries.

In the role as Designated Focal Point for JI and Designated National Authority for CDM, the Swedish Energy Agency assists companies with support and competence prior to project investments in the acquisition of emission rights. The Agency is also the official Swedish point of contact for JI and CDM with regards to the Climate Convention. This means that, on behalf of Sweden, it approves projects and authorises companies to participate in the flexible mechanisms. The Swedish Energy Agency also offers support to the Swedish Government Offices in climate negotiations during meetings of member nations at the Climate Convention and participates in EU expert groups.







## Trading emission rights

Emissions trading makes it possible to reduce carbon dioxide emissions in a cost-effective way and is governed by a special directive that is common to the entire EU. According to this trading directive, each member country is responsible for establishing and keeping a national register that records emission rights transactions within the system of trade. This is done in the Swedish Emission Trading Registry (SUS), which is managed by the Swedish Energy Agency. The Swedish Energy Agency also reviews the performance of the emissions trading system and how it should be developed in the future.

## Facts and information

As the authority responsible for energy statistics, the System Analysis Department compiles facts and basic information about the development of the energy system. Alongside business intelligence and analysis work, the energy statistics are fundamental to the expert role of the Swedish Energy Agency in the work with forecasting energy use and supply, the evaluation and development of regulatory measures and following-up developments on the energy markets. The Swedish Energy Agency has a special responsibility for issues relating to environmental objectives. In this role, the Agency is responsible for actively promoting sustainable development in the energy sector.



## Electricity certificates provide more renewable electricity

Sweden has introduced an electricity certificate system, which is a market-based support system for boosting electricity production, based on renewable energy sources such as hydro power, wind power, solar energy and biofuels. The Swedish Energy Agency and the Swedish National Grid (Svenska Kraftnät) are the two authorities responsible for operating the electricity certificate system. The Swedish Energy Agency's tasks involve approving facilities that are eligible for electricity certificates, processing declarations from those having quota obligation, exercising supervision and informing about the electricity certificate system.

## THE ENERGY TECHNOLOGY DEPARTMENT

The Energy Technology Department runs the Swedish Energy Research Programme. Various undertakings are financed within the programme, including energy-focused basic and applied research and the technical development and the demonstration of new technology in the energy sector as well as the commercialisation and utilisation of the results. The undertakings often take place in cooperation with universities, colleges and industry and trade.

The work is conducted within six theme areas: Fuels, Building Sector, Industry, Power Systems, Energy Systems and Transport. For every theme area there is a unit known as a development platform. This consists of about 15-20 people and brings together both external expertise and experts from the Swedish Energy Agency. The development platforms identify the needs of end users and ensure that the work has the full support and understanding of the clients concerned. They also provide business intelligence analysis in order to achieve better cooperation between research and other regulatory measures.

The department consists of three units: the Biorefinery and Transport Unit, the Power Production Unit and the Biomass and Energy Efficiency Unit. Their main tasks consist of ordering, funding and evaluating research, development and the demonstration of new energy technology.

## Research funding

The Swedish Energy Agency channels practically all state funds into energy research, amounting to more than 800 million Swedish kronor annually. More than half of this goes to universities and technical colleges. The Chalmers University in Gothenburg, Lund University and The Royal Institute of Technology in Stockholm receive most of the funds. Trade organisations and companies also receive support for research, development or the demonstration of new technology. The Energy Research Programme covers everything from new fuels, more efficient engines, better electricity transmission methods, improved wood firing and the impact of wind power on the environment to energy consumption in housing and the performance of the energy system in general.

The research support provided by the Swedish Energy Agency is designed to promote the development of the energy system and growth in Sweden. The pictures show some research areas.



An exciting area of research at the moment is alternative fuels that generate less emissions.

Wind power technology must be developed and the environmental impact carefully studied.



Research on energy systems can improve the traffic environment in our cities.



New solar cells are being developed by researchers at The Ångström Laboratory in Uppsala.

A pilot project in Värnamo aims to provide new knowledge on the gasification of biofuels.



Homes without heating systems have been built in Lindås outside Gothenburg.

New technology can improve the efficiency of paper mill processes.





## THE ENERGY MANAGEMENT DEPARTMENT

The Energy Management Department is organised into three units.

- The Technology and Market Unit works with issues relating to energy efficiency improvements and climate in housing, commercial premises and industry, where the Programme for improving energy efficiency in energy-intensive industries, PFE, is an important element.
- The Energy and Society Unit works with developing and monitoring the municipal energy and climate advisory service, with the regional energy offices and with the Sustainable Municipality programme. Measures concerning the reliability of supply in the field of energy constitute another important element.
- The third unit is Testlab, which is located in Stockholm and is responsible for testing and running trials on energy-consuming products.

## Improving energy efficiency

Established climate changes and increasing energy prices make it even more important to use energy more efficiently. The Swedish Energy Agency provides subsidies to the municipal energy and climate advisory service that can be found in every municipality and supports the regional energy offices' work. The Agency also encourages companies to manufacture products that use less energy. The work also comprises many projects that aim to improve the efficiency of energy consumption in housing, commercial premises and industry. In addition to this, the Swedish Energy Agency works actively with the Sustainable Municipality programme in which the undertakings for improving energy efficiency are important and are being applied.





## The programme for improving energy efficiency in industry (PFE)

More efficient energy use in industry leads to a reduction in environmentally-harmful emissions and strengthened competitiveness. The state is offering companies that use a lot of electricity during production a five year programme for improving energy efficiency (PFE). The Swedish Energy Agency is the supervisory authority and is responsible for issuing regulations, distributing information on the programme, dealing with applications, deciding on participation and following-up the results of the programme. Companies that participate are exempt from paying energy tax on electricity (0.5 Swedish öre/kWh). One condition for tax exemption is that companies implement energy efficiency improvement measures in accordance with the programme. Other conditions are introduced by energy management systems and purchasing routines.





## Reliability of supply

The Swedish Energy Agency is responsible for measures aimed at ensuring the reliable supply of oil, gas, heat and electricity in the energy sector. In the event of an oil crisis, the Agency acts on the instructions of the government. Establishing crisis preparedness cooperation between the public and private sectors is an important part of this work. The Swedish Energy Agency monitors various international energy markets and performs safety policy analyses concerning energy supply. Measures taken to promote the reliability of supply in the field of oil safeguard the undertakings that Sweden has made within the framework of the IEP Agreement (a joint energy programme for the 26 member countries of the International Energy Agency, IEA). The Swedish Energy Agency also participates in the EU's various programmes on the reliability of supply.

## Improving product energy efficiency through tests and labelling

The Swedish Energy Agency's Testlab tests many different products such as domestic appliances, heating equipment and home electronics. The focus of the tests is on energy consumption, but other features such as function, manageability, environment and noise are also taken into account.

Testlab's tests are impartial and take place according to standardised methods. The test results are published on the Swedish Energy Agency's website and can be found at the municipal energy and climate advisory services. The tests help the manufacturers' product development and guide consumers in making long-term decisions, both in buying new products and in using them. Some tests are carried out on behalf of manufacturers and are financed by the industry.

The unit is responsible for the work concerning the EU directives on energy labelling and ecodesign. Testlab conducts spot checks in order to make sure that the information on the energy labels provided by the manufacturers is correct and are responsible for carrying out inspections in stores that sell these products. Ecodesign covers both energy efficiency and environmental impact and aims to set common EU minimum requirements on products that use energy. The information for companies and other parties that are affected by the directives is important, as is cooperation with other authorities on a national, Nordic and European scale.



**THE BUSINESS DEVELOPMENT  
AND COMMERCIALISATION  
DEPARTMENT**

The Business Development and Commercialisation department is focused on making business from Swedish research by bringing together researchers and business developers, contractors, customers and capital.

## Business development and local projects

In order for new and efficient energy technology to be used in society, it must be competitive, i.e. able to be offered at the right price and in the right “packaging”. The objective of the Business Development and Commercialisation department is to create products and services from the research and development that the Swedish Energy Agency supports, but also from individual innovators and spin-offs from existing companies. We are working to create conditions for a natural ecosystem surrounding companies in growth. The support offered by the Swedish Energy Agency will help develop the areas where the companies will be able to grow. We inform investors about newly-started energy technology companies and about the potential to invest in them.

The Swedish Energy Agency supports the ripening of ideas that can be commercialised, in order to drive on the work with developing the Swedish energy system. We utilise the creativity of researchers, innovators and companies in order to then support and steer the process that leads to ideas becoming reality. The support can be summed up in three points: Capital, Knowledge and Contact network.

Capital, in that we offer conditional loans. They are given to companies that we think have a good business concept and that fulfil a series of criteria in the form of technical uniqueness, high energy-relevance and as well as a strong team behind the concept. Knowledge, in that we understand the energy industry as well as the innovation system. We are experts in energy-related business development, which can be a decisive factor for the development of new CleanTech companies. We have a large national and international contact network, including trade organisations, other players within the innovation system, existing companies in the field of energy and private companies that can invest in your idea.





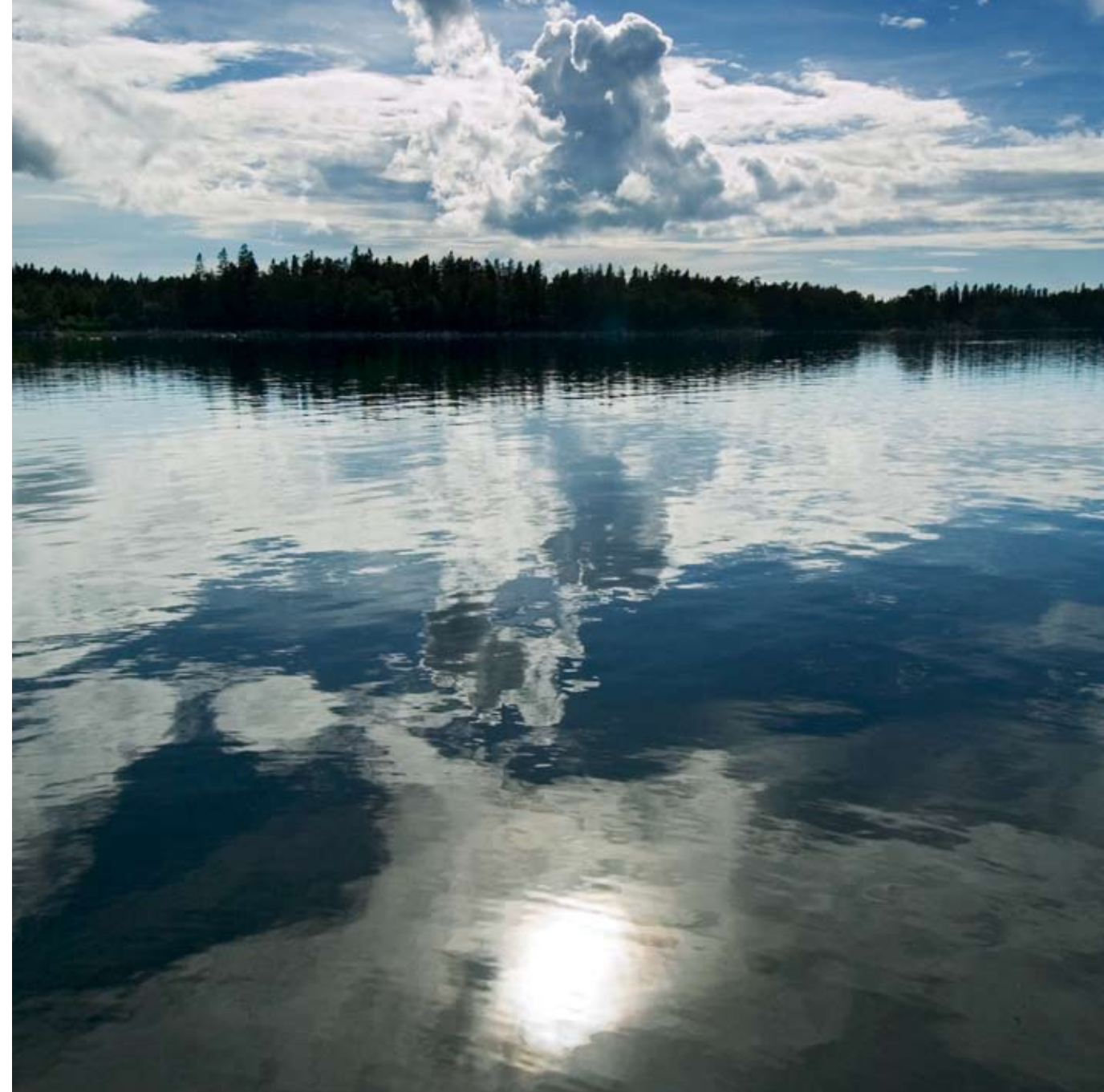
## THE INTERNATIONAL SECRETARIAT

The International Secretariat is the department that coordinates and supports the work of the Swedish Energy Agency on various issues in the IEA, the EU, the Nordic Countries, bilateral agreements and other forms of international cooperation. The Secretariat also participates actively in international activities. Furthermore, its task is to support the Government Offices in their coordination of Sweden's international undertakings in the field of energy and promote Swedish growth on international markets.

## International cooperation is important

International cooperation has long been strategic for the development of the Swedish energy system, notably through cooperation within the framework of the IEA (International Energy Agency). This has been further strengthened through EU membership and increasing globalisation. In recent times, China's interest in cooperation has increased. Bilateral agreements on cooperation regarding research have been signed between Sweden and China, USA and Brazil. The Swedish Energy Agency also works with development projects where the energy issue is important for the Poverty Reduction Strategy.

The keywords on the EU agenda are sustainable development and reliability of supply, combating climate change, creating new job opportunities, economic growth, increased competitiveness and rural area development. These aspects are regarded as fundamental conditions for enabling the EU to become a society that is sustainable in the long-term and that meets its international undertakings. According to the Treaty of Lisbon, energy is becoming its own policy area. The aim is to achieve an effective energy market, more reliable energy supply, improved energy efficiency as well as the development of new and renewable energy sources. This should take place with due regard to the requirement on protecting and improving the environment. In addition to these core areas, the European Commission intends to develop external EU energy relations and improve the links between energy policy and the environmental and research policies.



# Staff functions

## THE ADMINISTRATION DEPARTMENT

The department's task is to supply the Agency's management with relevant decision bases, handle and develop the administrative work, coordinate the Agency's common resources and contribute qualified support and service to the work. The Administration Department consists of four units: Finance, IT, Human Resources and Service.

The Finance Unit is responsible for financial administration and accounting, time recording, financial management as well as developing methods and tools for financial monitoring. The IT Unit is responsible for securing and developing a well-functioning IT environment in the form of computer software, support and computers. The Human Resources Unit is responsible for support and development in the field of human resources, contract interpretation and competency issues as well as managing salaries, recruitment and training administration. The Service Unit is responsible for person registries, internal service, procurement and purchasing, the library and the publications service.

## THE PLANNING DEPARTMENT

The Planning Department consists of two units:

The Office of the Director-General is the support function for the Director General. The Office has overall planning and coordination responsibility and performs certain

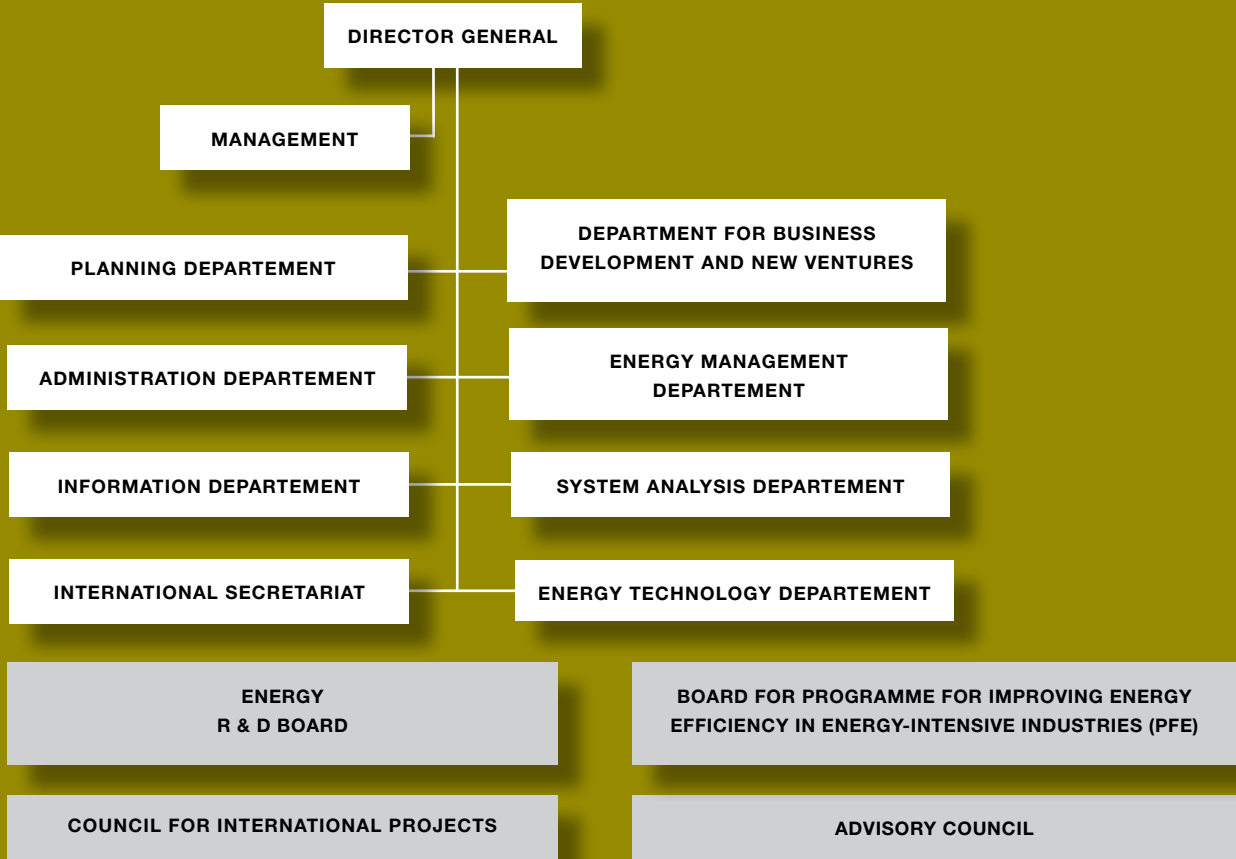
investigations. The Office also coordinates the Agency's contacts with the regions through having contact with the county administrative boards and the regional bodies with responsibility for development. There are specialist functions within the Office, such as controller, chief lawyer, public relations officer, press secretary and safety officer.

The Wind Energy Unit has the main responsibility for promoting wind power. The unit primarily works with creating physical and other planning conditions, information and the distribution of knowledge, support for market introduction and is responsible for the network for wind use.

## THE INFORMATION DEPARTMENT

The Information Department is the Agency's strategic function for external communications. The Department performs an advisory function and is a support function in the implementation of communication activities. Other tasks involve being responsible for the website and the "Energivärlden" magazine. The Department is responsible for ensuring that the communications work is in line with the prioritised objectives for the financial year and for developing and following-up the communication channels and the communications work carried out.

# Organization of the Swedish Energy Agency





## Our objectives – smarter energy use

The Swedish Energy Agency is a state authority working to achieve a secure, environmentally-friendly and efficient energy system.

We can help achieve the climate objectives through international cooperation and involvement.

The Agency finances the research and development of new energy technology. We actively support business concepts and innovations that can lead to the establishment of new companies.

We also show Swedish households and companies the way to accomplishing smarter energy use.



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