

# CLIMATE STRATEGY FOR ORGANIC FARMING

The goals, focus areas and means needed for a better protection of the climate through organic farming



# WE CAN DO BETTER

Today, organic farming contains significant advantages in relation to the climate. There are, however, still many issues that need to be dealt with. Organic Denmark's climate strategy will boost organic farmers' contribution to the solving of problems caused by climate changes while also moving organic farming in a positive direction in relation to nature, energy, healthier foods and fertile soil.



Research shows:

- that there is a massive potential in organic farming to sequester the air's carbon dioxide (CO<sub>2</sub>) in the soil while also improving and enhancing the soil's fertility and biodiversity,
  - that organic farms have a lower emission of greenhouse gases per hectare than conventional farms,
  - that organic food production integrates considerations for the environment, nature, animal welfare and climate, and
  - that improved methods make organic farming an obvious tool to reduce the negative, climatic impact of farming.
- a better nitrogen management and therefore less impact on the environment,
  - a more fertile soil with a larger storage of carbon,
  - more room for nature and a more hardy production that is resistant to extreme weather and erosion, and
  - a smaller consumption of fossil fuels, including energy used for producing chemical fertiliser and pesticides.

Regarding climate changes, farming has a great responsibility to make significant changes in order to become a part of the solution instead of being a part of the problem. Organic farming has already made a head start and makes an effort to find and develop solutions. However, there are still challenges on which we are focused and which we are working intensely to solve. When measuring the output, organic farmers still have a lower yield per hectare than conventional farmers, but hopefully we are able to change this fact by applying this climate strategy.

The serious changes to our climate demand that we take action now. We do so by uniting and integrating our focus areas into one strong climate strategy. It is a strategy that will enhance the positive impact of organic farming on climate changes. Hence this strategy puts ecology in the lead in the fight for a better climate.

In this brochure, you can read about the relevant projects of Organic Denmark and see which of the projects that have already started. Furthermore, you can read about the political initiatives we find necessary in order to increase organic farmers' contribution to solve the climate problems and to move farming in a more climate friendly direction.

The practice and focus areas of organic farming match the demands of climate friendly farming in various ways. Organic farms have:



THE SERIOUS CHANGES TO OUR CLIMATE DEMAND THAT WE UNITE AND INTEGRATE OUR FOCUS AREAS INTO ONE STRONG CLIMATE STRATEGY.

# ORGANIC FARMERS WANT TO

1

phase out the use of fossil fuels by 2025

→ GOODBYE TO FOSSIL FUELS

2

decrease the energy consumption significantly by means of energy accounts and action plans

→ DECREASE ENERGY CONSUMPTION

3

increase the production of renewable energy - and produce a surplus of renewable energy

→ PRODUCE RENEWABLE ENERGY

4

sequester carbon in the soil and thereby reduce the amount of CO<sub>2</sub> in the atmosphere whilst enhancing the fertility of the soil and the biological diversity.

→ CARBON SEQUESTRATION

5

more shelterbelts and wildlife refuges to retain more CO<sub>2</sub> and to provide habitats for wildlife and plants. We want to ensure that the natural balance in the agricultural ecosystem continues despite changes in the climate

→ MORE NATURE

6

improve the handling and utilisation of manure, green manure and cover crops, e.g. by means of biogas technology, so that the emission of greenhouse gases is reduced and a higher yield is obtained

→ FROM MANURE TO BIOGAS

7

improve the balance between livestock production and plant production and promote a diet with more vegetables and fruit than meat

→ EAT GREEN

8

reduce the loss of carbon to protect the environment from nitrate and the climate from laughing gas

→ LESS NITRATE

9

use the latest technology and treat the soil with caution by adding organic material and applying a healthy crop rotation so that the soil emits less of the greenhouse gases damaging to the climate

→ CARE FOR THE SOIL

# HOW TO REDUCE THE EMISSION OF CARBON DIOXIDE (CO<sub>2</sub>)

FOCUS AREAS	MEANS	GOALS
Energy consumption	<p>Organic farmers want to phase out the use of fossil fuels (oil, coal and natural gas) both in their productions and in their houses. Organic farmers want to:</p> <ul style="list-style-type: none"> <li>• buy green electricity produced by renewable energy, for example from organic farmers,</li> <li>• use vehicles and machinery powered by electricity or biofuel,</li> <li>• use renewable energy to dry corn and hay etc., and</li> <li>• use wood chips, wood pellets and heat pumps as alternatives to fossil fuels.</li> </ul>	Organic farmers will phase out the use of fossil fuels by 2025.
Minimise energy consumption	<p>The production of food is energy consuming, but organic farmers want to be in the lead in regard to minimising energy consumption. Organic farmers want to:</p> <ul style="list-style-type: none"> <li>• make energy accounts and action plans on how to become more energy efficient,</li> <li>• invest in energy efficient systems through new investments and reinvestments, and</li> <li>• develop strategies for minimising consumption of diesel, oil, electricity and other forms of energy.</li> </ul>	Organic farmers will reduce their energy consumption significantly through energy accounts and action plans for energy efficiency.
Energy production	<p>Organic farmers want to use the opportunities on their farms for producing renewable energy. These opportunities may lie in large roof surfaces or land areas. Therefore, we want to encourage investments in:</p> <ul style="list-style-type: none"> <li>• solar heat, solar cells and windmills, including small windmills,</li> <li>• biogas plants that make use of manure, green manure, cover crops and surplus grass. Also grass from nature conservation areas and secure biomass from the organic food industry and consumers can be used in biogas plants, and</li> <li>• the production of energy crops in a sustainable cooperation with the production of foods. For example, willows in chicken yards and in outdoor pens for pigs.</li> <li>• In cooperation with energy companies, organic farmers want to develop and sell green electricity and further the investment and production of renewable energy on their farms.</li> </ul>	Organic farmers will produce significantly more renewable energy - more than they can use.
Carbon storage	<p>The agricultural sector has a large unused potential to sequester CO<sub>2</sub> from the atmosphere in the soil. Organic farmers want to increase the amount of carbon in the soil to further the fertility and the biological diversity in the topsoil layer. Therefore we want to:</p> <ul style="list-style-type: none"> <li>• enable all organic farmers to have a crop rotation that retain carbon in the soil and develop tools to measure this,</li> <li>• further an increased use of cover crops and green manure, including perennial energy crops,</li> <li>• stop processing and draining carbon-rich wetland soils and instead use these areas for grazing, bioenergy or nature,</li> <li>• ensure that the largest amount possible of straw return should be ploughed into the fields to add carbon to the soil,</li> <li>• refrain from burning manure fibre. The manure should instead be used for the production of biogas and compost in order to lead the surplus amount of carbon back in to the soil,</li> <li>• ensure that imported feed does not come from deforested or newly cultivated areas in other countries, and</li> <li>• develop methods to reduce the number of times the soil has to be processed.</li> </ul>	Organic farmers will retain carbon in the soil and improve the fertility and biological diversity of the soil.

**Nature**

Organic farming is dependent on nature cooperating with the production of farm goods, e.g. in the form of natural regulation of pests and diseases in crops. At the same time, nature needs more room to be able to adjust to the climate changes. Therefore, organic farmers want to:

- develop and complete nature plans to make more fences, shelterbelts, wildlife corridors and biotopes (natural habitats for animals and plants) in and around the fields,
- increase planting on our properties, and
- work towards the goal that nature will get more room in Denmark and that the ecosystem's free gifts are valued and appreciated in both political and economic decisions.

Organic farmers will develop and complete nature plans in order to acquire more fences, shelterbelts and habitats for wildlife and plants. We want to ensure that the natural balance in the ecosystem of farming can continue despite climate changes.



ENERGY CAN BE PRODUCED AT THE FARM, FOR INSTANCE BY USING SOLAR CELLS

# THIS IS HOW WE REDUCE THE EMISSION OF METHANE (CH<sub>4</sub>)

FOCUS AREAS	MEANS	GOALS
The handling of manure	Organic farmers want to use the latest technology to limit the emission of methane from manure. Therefore, we want to: <ul style="list-style-type: none"> <li>• ensure that all slurry tanks are covered and that solid manure storage systems are airtight to avoid the emission of greenhouse gases,</li> <li>• ensure that the manure in short-term storage systems under stables often is led to the manure pits,</li> <li>• cool the manure with heat pumps when relevant, and</li> <li>• convert slurry and solid manure in biogas plants.</li> </ul>	Organic farmers will improve the handling and utilisation of manure, for instance with biogas technology, in order to reduce the emission of greenhouse gases.
The size of the animal production	Organic farmers recommend a healthy diet with less meat and more vegetables and fruit in order to reduce the emission of methane from livestock. Therefore, organic farmers want to: <ul style="list-style-type: none"> <li>• continue to have a large area per animal,</li> <li>• keep the animal production climate friendly by always retaining carbon in the soil with grass in the crop rotation,</li> <li>• make better use of the feed for organic livestock, for instance by introducing more and new crops with a better composition of protein (amino acid), and</li> <li>• develop new organic production systems with plant manure (green manure and biogas manure etc.).</li> </ul>	Organic farmers will improve the balance between animal production and plant production and will promote a healthy diet consisting of more vegetables and fruit and less meat.

# THIS IS HOW WE REDUCE THE EMISSION OF LAUGHING GAS (N<sub>2</sub>O)

FOCUS AREAS	MEANS	GOALS
Generally	<p>The main reason for farming affecting the climate is the decomposition of nitrogen into laughing gas. Therefore, organic farmers want to:</p> <ul style="list-style-type: none"> <li>• reduce the loss of nitrogen on the farms,</li> <li>• make use of green accounts and make action plans to reduce the loss of nitrogen and take measures to increase exploitation of nitrogen.</li> </ul>	Organic farmers will reduce the loss of nitrogen in order to protect the environment from nitrate and to protect the climate from laughing gas.
The handling of manure	<ul style="list-style-type: none"> <li>• ensure airtight storage of solid manure and slurry,</li> <li>• convert slurry and solid manure in biogas plants as soon as this is possible both practically and financially,</li> <li>• ensure that the conversion of compost is done with a technology that emits the lowest possible amount of ammonia and laughing gas,</li> </ul>	Organic farmers will improve the handling and utilisation of manure, green manure and crop residue, among others e.g. through biogas technology. Thereby, the emission of greenhouse gases will be reduced and the yield will become higher.
The handling of crop residue	<ul style="list-style-type: none"> <li>• make better use of crop residue, including cover crops and green manure, by turning it into biogas and</li> </ul>	
Soil texture	<ul style="list-style-type: none"> <li>• improve the soil texture to obtain a more porous soil which emits less laughing gas. This can be done by applying the latest technology in order to have only one common wheel track and thus reduce the use of heavy machinery, among others by using in-field treatment systems for slurry and by developing methods to minimize the number of times the soil has to be processed.</li> </ul>	Organic farmers will ensure that the latest technology is used when treating the soil and that the soil is treated with caution by adding organic material and applying healthy crop rotations.



BIOGAS PLANTS RUN ON MANURE, GREEN MANURE, CROP RESIDUE AND GRASS RESIDUE

# WHAT IS ORGANIC DENMARK DOING?

We are already in the process of making organic farming more climate friendly. Take a look at our climate projects.

## A BETTER CROP YIELD TO MINIMIZE CLIMATE CHANGES

When organic farmers increase their crop yield, the emission of greenhouse gases per kilo of harvested crop will fall. In this project, analyses, focus groups and evaluations will focus on organic farmers' possibilities to improve their crop yield.

*The project will be started in 2010.*



## TAKING CARE OF NATURE - BECAUSE WE DEPEND ON IT

Climate changes have a brutal effect on nature, while ecology treats nature with caution. The goal of this project is to have more nature and a larger sequestering of carbon in the organic plant production. Through active and focused initiatives, there will be more biotopes (habitats) for the wildlife living in and around organic farmland by establishing more refuges for wildlife with limited cropping and embankments for insects etc. The project will provide better conditions for certain animal species whose numbers are fast declining - among others larks, partridges, hares, papilionoides and bees.

*The project will be started in 2010.*



## BIOMASS AND RECIRCULATION EQUAL MORE CO<sub>2</sub>-NEUTRAL ENERGY

This project promotes the use of organic biogas as a tool that combines a reduction in the emission of greenhouse gases and a better protection of the environment with improved organic production, a larger self-sufficiency regarding nutrients and more production of renewable energy. We want to examine several organic farms to see if it is feasible both financially and ecologically to produce biogas and organic fertiliser. Furthermore, we also want to examine whether green kitchen waste and other forms of biomass from public institutions and companies can be included in the production of organic biogas and organic fertiliser.

*The project was started in 2009.*



## THE CARBON SCHOOL

This project promotes climate neutral organic farming by providing farmers with specific instructions on how to use renewable energy and save energy. In this project, we have developed a prototype of a simple and user-friendly tool that can calculate the CO<sub>2</sub>-emission of a farm. The tool is now being tested on 10 organic farms. Through this project, we want to improve the carbon sequestration on organic farms by communicating knowledge on how different changes of farming methods affect both the storage and loss of carbon in the soil.

*The project was started in 2009.*



## REDUCING THE EMISSION OF GREENHOUSE GASES

On four different farms, we are demonstrating the possibilities available to an organic farmer to reduce the emission of greenhouse gases. We especially want to identify the initiatives that are most compatible with running a successful organic farm.

We focus on this project in order to motivate organic farmers to reduce the emission of greenhouse gases on their farms. Furthermore, this project should also provide us with the means to evaluate the effect on the climate of an organic farm compared to that of a conventional farm.

*The project was started in 2009.*



### **FARROWING PENS WITH ENERGY CROPS AND A BETTER CROP ROTATION**

In this project we are testing the growing of willows for renewable energy in a new concept that includes pig production. The goal is to combine the production of willows for energy in groups of organic sows in a system that is well-functioning both work-related and in connection with the environment and animal welfare. In this project, a new crop rotation is included in which the nutrients are exploited better and thereby burden the environment less. More precisely, the excess of nutrients will be reduced through a higher yield, thus reducing the buying of feed. *The project was started in 2009.*



### **SEE DENMARK'S FIRST ORGANIC BIOGAS PLANT IN THE VILLAGE OF BORDING**

With this project, we want to demonstrate the synergy between the production of organic foods and biogas in the first biogas plant in Denmark which is run on the basis of biomass from organically grown crops. We want to demonstrate how the transformation of biomass takes place, the energy yield and the manure yield etc. The project will deliver the documentation on how much the biogas plant reduces the evaporation of ammonia, the washing out of nitrogen and the smell nuisance from manure.

Furthermore the project will show that biogas plants make farmers capable of being self-sufficient in organic fertiliser without having livestock. *The project will be started in 2010.*



### **CLIMATE PLANS ON ORGANIC FARMS**

With this project, we want to ensure that organic farming will get a head start in working for a better climate without compromising the aspects of environment and animal welfare. The project will develop and test a concept for counselling which helps the organic farmers to reduce their emission of greenhouse gases from fields and stables, to decrease their energy consumption and to increase the storage of carbon in the soil. The project will be very practically oriented and will be carried out in close cooperation with 15 farmers. *The project will be started in 2010.*



### **THE FOCUS AREA OF ENERGY AND THE PLANET'S CLIMATE**

Organic Denmark wants organic farmers to actively take part in facing all the challenges concerning energy consumption and man-made climate changes. Organic Denmark wants to launch initiatives that contribute to organic farmers and consumers of organic goods sharing the responsibility of limiting man-made climate changes and that the production and the processing on organic farms match the values of Organic Denmark regarding energy.

*This focus area was adopted at the Organic Denmark's annual general meeting in 2008.*





# ORGANIC VISIONS / 1

**THE CARBON VISION:** In organic farming, carbon from the atmosphere is sequestered in the soil and plants and the farmers deliver manure, energy and foods and make room for nature and its positive interaction with farming.



Carbon is the building block of life and organic farming has a great potential of sequestering carbon in the soil and plants, thereby decreasing the content of CO<sub>2</sub> in the atmosphere. Danish calculations show that as organic farmers use organic manure, clover grass and crop residue, there is stored 6-700 kilos more CO<sub>2</sub> per hectare

per year in organic crop rotations than in conventional rotations. According to the Rodale Institute, USA, organic farming methods can store up to 40 percent of the CO<sub>2</sub> that has been emitted into the atmosphere. Organic farming is thus a powerful tool to reduce climate changes while also improving the soil's fertility and ability to produce in a both short-term and long-term perspective.

The extremities of fertility are in one end of the scale desert, while the opposite is potting compost. Organic farming methods will give us a soil like potting compost. We also want to create more space for nature as we are dependent on nature to keep the amount of pests down and keep the natural ecosystem in the soil intact.

A loose and comfortable soil is crucial in organic farming. When the soil is more porous, less laughing gas will form when the farmers fertilise. Perennial crops for feed, energy and manure will improve the structure. We will also apply newer technologies such as common wheel tracks and satellite-controlled autonomous robots.

# ORGANIC VISIONS / 2

**THE ENERGY VISION:** Organic farming will no longer depend on fossil fuels by 2025 and organic farms will produce more energy than they use.

New fuels such as second generation ethanol will replace diesel and petrol. Machines and tractors powered by electricity and biogas are also opportunities that are approaching. Electricity and heat will be the first types of energy to which organic farms will make the transition from conventional to renewable energy at an organic farm.

There is a large potential of producing energy in farming but this should happen without draining the storage of carbon in the soil. Straw is therefore not included in an organic farms' production of energy.

Instead consumption and production of energy on organic farms may look like this in 2025 (in Petajoule):

In total, organic farming will contribute to a surplus of energy and, furthermore, more carbon will be retained in the soil compared to what disappears.



If the area of organic farm land is doubled by 2025, the energy consumption will be: 5,0 PJ

Energy production:

Biogas of all collected manure	1,0 PJ
Biogas of 44,000 hectares green manure and nature preservation areas	2,0 PJ
Small windmills on 25 percent of the organic farms	0,6 PJ
Biomass from fences and plants at pig and poultry productions (10.000 hectares)	1,7 PJ
In total	5,3 PJ
Surplus	0,3 PJ

# ORGANIC VISIONS / 3

**THE NITROGEN VISION: From 2021, organic farms will solely base their production of nitrogen solely on biological nitrogen fixation and recirculated biomass.**

Organic farming gets nitrogen from the air through leguminous plants' symbiosis with the bacteria in tubers, in other words the biological nitrogen fixation. Fertiliser is therefore not necessary in the organic system. Today conventional manure is imported but it can be replaced with biogas slurry which is produced from clover grass. If clover grass makes up 25 percent of a farm's crop rotation, it is enough to make the current import of conventional manure redundant. The yield is still the same but in addition to this there is the energy output in form of biogas.

It is very energy demanding to produce fertiliser and laughing gas is emitted when the fertiliser is used on the fields, whereas biological nitrogen fixation is a product of plants' photosynthesis. Moreover, carbon is also retained in the soil and laughing gas is not formed at the biological nitrogen fixation.

Our vision is that organic farmers will no longer need the nitrogen of the manure from conventional farms where fertiliser is used. This will also create a greater



motivation to exploit our manure resources significantly more than today and thereby we will also decrease the amount of nitrogen in the water environment.

# ORGANIC VISIONS / 4

**THE BIOGAS VISION: Biogas will become a large drive behind a larger transition to organic farming and thereby create a larger storage of carbon in the soil, higher yields, more nature conservation, less negative effect on the climate and a decrease in the loss of nitrogen.**

Biogas technology is a crucial tool for organic farmers to turn organic farming into a climate and environmentally friendly success. But also when we have to transform a large part of the conventional farms to organic farms will biogas play a decisive role.

In the government's plan »Green Growth«, it is expected that 15 percent of the Danish farm land will be organic in the year 2020 which equals an area of 384,000 hectares. A large part of this land will be used for plant

production and many of the farmers producing plants do not have the possibility of being supplied with manure from livestock. They will then have nitrogen delivered from 100-150 biogas farm plants or small common plants. This means that 20 percent of the plant producers' crop rotation will be perennial energy crops to be used at biogas plants and that they should also make use of the biomass from nature conservation areas.

Biomass from 44,000 hectares will be sufficient raw material for the biogas plants to produce energy. At the same time, this biomass will provide us with a mobile manure resource of 7,000 tons of nitrogen. This is almost double the amount of nitrogen which so far has been imported as conventional manure for organic farms. The yearly output of energy will be about 2,0 Petajoule, which equals 40 percent of the organic farms' energy consumption in 2020.

Until now organic farming has been dependent on manure, and therefore would more ecology in Denmark mean that we would need more livestock. But because of biogas, we are now working towards the goal of more organic farming with fewer animals. In conventional farming, biogas is used to increase the number of livestock.



# POLITICAL INITIATIVES

Organic Denmark actively wants to create new means for trading in order for the organic farmers to be in the lead in the development of climate friendly farming and foods.

**BUT we are in need of political action to further this development. We need to look at these initiatives:**

## CLIMATE PLANS SHOULD PLAY A LARGER ROLE

**1** We suggest that from the year 2011 farmers have to complete a climate plan for their farms in order to receive a climate subsidy. A climate plan should contain a complete analysis of a farmer's potential for making improvements which will benefit the climate. The plan should be action oriented and should contain a precise prioritisation of recommendations for the focus areas, e.g. carbon storage, a reduced energy consumption, energy production and preservation of nature. The plan should make it possible for farmers to see which item that will benefit the climate the most. It has to be possible to get a grant in order to make the climate plan. This suggestion will ensure that all organic farmers will get a climate plan made. It should be possible for the farmers who have a climate plan to receive subsidies for the investments that are prioritised in the plan.

## IT HAS TO BE EASIER AND CHEAPER TO BUY GREEN ENERGY

**2** The relations between the different taxes in energy need to be changed so that it will be more expensive to use conventional energy and cheaper to use renewable energy. This can be done by decreasing or removing the taxes when consumers buy green energy. If the market has to help us produce more renewable energy, among others from organic farms, this is the least that you can ask for. Furthermore, there is a need for more information to the citizens on how to act climate friendly when buying energy, both in private and in business.

## MORE CROPS FOR A SUSTAINABLE PRODUCTION OF ENERGY, MANURE AND CARBON STORAGE

**3** Willow is not the only energy crop. The Danish Ministry of Food, Agriculture and Fisheries' subsidy scheme for energy crops needs to advance the use of perennial pesticide-free crops that can retain carbon in the soil, increase fertility, make more room for nature, absorb nitrogen from the air and be used in the energy production. In other words, the growing of perennial mixtures of grass and leguminous plants (clover grass, lucernes etc.) for energy and green manure should be promoted as it unites the battle for a better climate with the efforts made for nature, the fertility of the soil and the quality of the ground water.

## A HIGHER SETTLEMENT PRICE FOR ENERGY FROM SOLAR CELLS AND BIOGAS

**4** The price for electricity and gas from biogas plants is too low to ensure a development of renewable energy which is actually the goal of the Government's »Green Growth« strategy. The guaranteed price for energy from biogas

needs to be raised when the gas comes from the farms' own manure and from sustainable farming of energy crops. In other words perennial crops such as clover grass, lucernes and other crops which are good at retaining carbon in the soil and do not need pesticides. The price for biogas electricity from these sources should be raised to DKK 0,90 per kWh in the Danish Parliament's next energy plan. Furthermore, Organic Denmark suggests that experiments on a higher guaranteed price for electricity from solar cells should be started as this will advance the development of the solar cell industry.

## MONEY FOR REPORTS ON BIOGAS PLANTS

**5** Farmers should be able to get a grant to have a report made that would highlight the influence that investing in biogas has on finances, technology and farming. The conditions for such a project should be that it supports the goals in »Green Growth«. This means that biogas has to come from the farms' own biomass (manure, crops) and from biomass from nature preservation areas.

## MORE NATURE - FOR OUR OWN SAKE

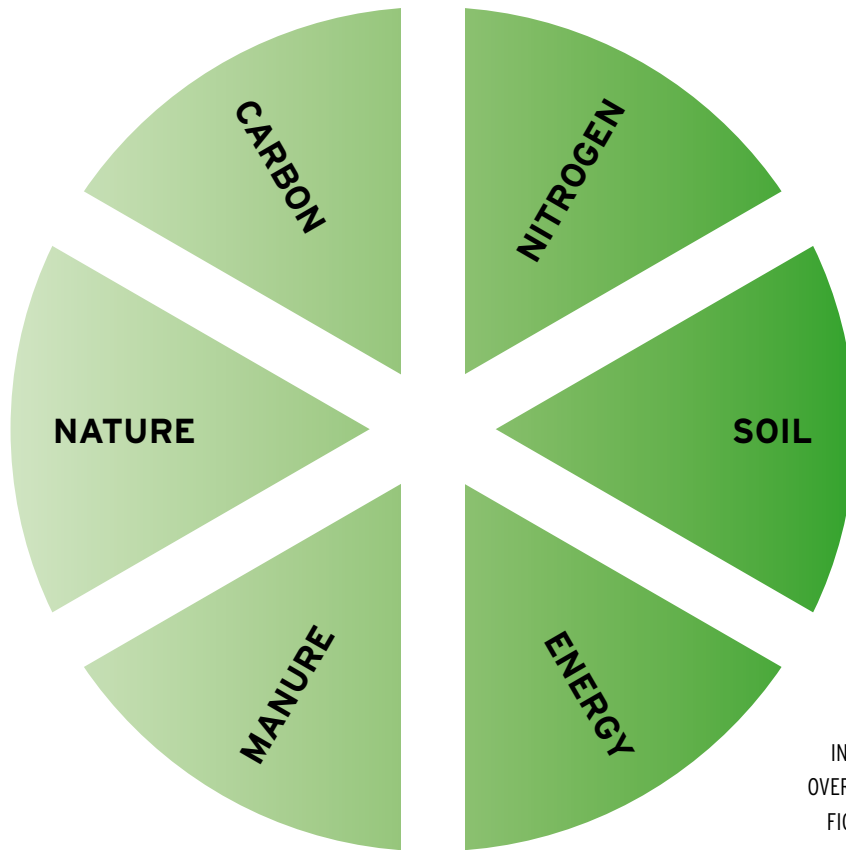
**6** Nature plays an important role in the work for a better climate. There should be significantly more nature areas in Denmark. Organic Denmark suggests that 430,000 hectares of farm land, primarily marginal land, is taken out of production and instead be used for forests, pasturing, hay or perennial energy crops. Agreements under the Rural Development Programme ensure that farmers are paid to preserve nature.

## MORE RECYCLING OF IMPORTANT NUTRIENTS WILL PROTECT THE CLIMATE

**7** Household waste and other green waste should not be burnt in incineration plants but should instead be processed in biogas plants and be turned hygienic so that harmful organisms are neutralised. Thereafter, the biomass and nutrients will be returned to the farms. Compared to burning, this gives a better exploitation of the energy, and it is a sustainable and energy efficient system. Organic Denmark suggests that a plan is made for how more organic biomass from the society can be reused on farm land.

## MAKE WAY FOR MORE RENEWABLE ENERGY ON FARMS

**8** Organic Denmark would like it if organic farms could contribute more to the production of renewable energy, such as windmills, solar cells and biogas. A committee should look at the possibilities and challenges of increasing the production of renewable energy at farms. Including the possibility of improving local ownership of and local support to renewable energy, such as small windmills which we expect will become more widespread.



IN THESE SIX AREAS, WE ACT WITH OVERVIEW AND BALANCE TO WIN THE FIGHT AGAINST CLIMATE CHANGES.

Today, there are significant advantages to organic farming in relation to the climate. There are, however, also many challenges which we are in the process of dealing with. Organic Denmark's climate strategy is to increase organic farming's contribution to help solve the problems of climate changes. We have the right tools for the job and we will work hard to create the world's most climate friendly farmers. This will only be an extra bonus for organic farming's significant efforts for nature, environment, animal welfare, a healthy diet and a more fertile soil that can withstand the changes in the climate.

The climate strategy for organic farming will bring us into a new era where there will be a greater overview of the balance and synergy between nature and climate. Where the soil's fertility and carbon storage will be increased and where manure and nitrogen will be used with efficiency and sustainability in mind.

**MANURE** is necessary for a high and efficient production and out of the blue air we will supply ourselves with NI-

**TROGEN** from nitrogen fixation in leguminous plants. We will phase out the use of conventional manure and in the future use even more biological nitrogen fixation in the leguminous plants to minimise the loss of **NITROGEN** to the environment and the climate.

The **SOIL'S** fertility and active synergy with **NATURE'S** mechanisms and processes are elementary in the organic production and both **SOIL** and **NATURE** play an active role in our climate strategy.

**CARBON** needs to be stored in the **SOIL** to reduce the amount of CO<sub>2</sub> in the atmosphere. If we burn the carbon from the soil's storage, we will have CO<sub>2</sub>-neutral **ENERGY**. We have to balance these two objectives carefully so that we do not burn more **CARBON** than necessary in order for us to still increase the **SOIL'S** carbon storage and fertility for the benefit of future generations.



**READ MORE ABOUT ORGANIC DENMARK AT [WWW.ORGANICDENMARK.DK](http://WWW.ORGANICDENMARK.DK)**

In Organic Denmark, farmers, companies and consumers work together to strengthen ecology. It is good for you, the animals and the environment!

