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D4.3 Netherlands – National Stakeholder Meeting Report

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Authors:

Chris de Visser & Herman Schoorlemmer — Wageningen UR

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1. Participants

The participants of the workshop were invited by three researchers representing the involved agricultural sub sectors. Due to some last minute cancellations not all groups of stakeholders were represented. Represented were farmers and farmers' organisations, Suppliers (non-durable), food processing, research and education, national governments and NGO's. The names and the employers of the participants are listed below and the status of their employers is given.

Table 1: Participants

Name	Employer	Status of the employer
Albert Jan Olijve	Stichting Veldleeuwerik	Farmers network on sustainable cultivation
Martijn Buijsse	AgrifirmCehave	Farmers cooperation on buying and selling agricultural products
Marian Blom	BioNext	Chain organisation for organic agriculture and Food
Peter van Marion	Powerhouse	Energy services primarily in agriculture
Mark de Hartog	NEPLUVI	Chain organisation of poultry processing industry
Ton van Korven	LTO Nederland	Dutch Farmers organisation
Martijn Root	Ministry of Economic Affairs	Government
Hilko Ellen	Wageningen UR	Research and education
Chris de Visser	Wageningen UR	Project leader
Herman Schoorlemmer	Wageningen UR	Workshop facilitator
Marcel van der Voort	Wageningen UR	Secretary and organisation

2. Progression of the workshop

The next paragraphs describe the approach and results of the workshop in chronological order. The approach of the workshop was conform the appointments in the Agree project team (see deliverable 4.2).

2.1. Opening

Goal of the meeting was to draw up a national agenda for energy efficiency in agriculture. The national agenda will be used as input for the transnational agenda on energy efficiency in agriculture. In five other EU member states similar stakeholder meetings have been organised.

2.2. Project AGREE and preliminary results

Chris de Visser gave a short presentation about AGREE. The AGREE project is initiated by the European Commission. The project is financed out of the Seventh Framework Programme (FP7) as 'Coordination and Support Action'.

The definition of energy efficiency is the amount of energy needed to produce one unit of product. This does not always means a lower energy use of the company, but in that case more production. Energy efficiency is limited to farm level. Everything till the product level the farm (farm gate) is included in the project (including supply of fertilizers, feed, etc.).

Energy efficiency can be considered in different ways for example on operational, company and supply chain level.

The goal of the workshop is to develop a strategy for future international cooperation within the European Union. The goal of the strategy will be to lift energy efficiency to a higher level.
The AGREE project has already executed the following:

- A benchmark research is carried out to give insight into the direct en indirect energy use of a number of products of the six participating countries. The benchmark gave a good picture of differences between products and countries.
- An exploration into the potential measures to increase energy efficiency
- For a number of products per country a set of calculations are carried out. Based on modelled companies a number of different measures are calculated on energy efficiency, greenhouse gas emissions and economics. The calculations give insight in the potential per measure and potential trade-off between energy efficiency, greenhouse gas emissions and economics.

The AGREE project showed that the energy use in agricultural sectors, based on official statistics, is relatively limited with an exception for greenhouse horticulture. Many of the indirect energy use is attributed to the other sectors. E.g. the diesel use in transportation is attributed to the transportation sector. This is why energy use in agricultural sectors looks relatively low. In the AGREE project the indirect energy use is attributed to the agricultural sectors.
The calculations on the modelled companies show that irrigation and post-harvest processing are important sources for the direct energy use. The greenhouse horticulture is the exception with an significant use of direct energy.

Discussion:

- Question: Are trade-offs with other sustainability goals incorporated sufficiently in the AGREE project? E.g. animal welfare? Answer: The minimal levels on animal welfare are a prerequisite in the project and the modelled farms.
- What will the results of this projects be for farmers? Answer: For The Netherlands two reports are ready. The can be found on the AGREE project website. The attention for energy use could benefit efficiency improvements in practice. The improvements can also benefit the economics of a company. Especially if the increasing price risk of energy is taken into consideration.

2.3. The process

2.3.1. Step1: Definition of words or short phrases describing energy efficient agriculture in 2040

The participants define, in keywords or short phrases, energy efficient agriculture in 2040. The following keywords are collected during the meeting.

Words or phrases describing energy efficient agriculture 2040:

- Self-sufficient (produce more energy as you use)
- Local networks / smart combinations (use surplus heat of other parties, agricultural or industrial)
- Increase in scale / optimisation
- 'Farm' system approach (create more guidelines to adapt the system)
- Supply chain approach (use effects in the whole supply chain, not passing on the problem)
- Balancing (trade-off between different aspects)
- Eco-intensifying (keep yield at normal levels even in bad years)
- Resource efficiency (use everything as efficient as possible, recycling, re-use, etc.)

- Improve use of organic rest products (reduce limiting legislation and create potential inorganic fertilizer replacements)
- Carry out production where its most efficient (e.g. soybeans in South America)
- A worldwide check on production locations (not transport commodities, but final products)

2.3.2. Step 2: Opportunities to realize energy efficient agriculture

All participants were asked to think for a few minutes to determine the most significant opportunities to realize energy efficiency in agriculture. The goal was to determine at least 25 opportunities. Below the 27 opportunities that were mentioned during the meeting.

A long list of opportunities, the number of votes given is in the parenthesis:

- Standard check per company on energy need and surplus (and of neighbouring companies)
- Worldwide ban on shale gas (price driver)/ price increase of fossil fuels
- Transparency and big-data quality management (big datasets lead to one single uniform indicator (number) on performance)
- Sustainable soil management (4)
- Stringent energy policy (strong support/legislation and a ban on inorganic fertilizer)
- Training in vocational education (4)
- Stimulate financially (1)
- Consistency in governmental policies
- Electric transportation on farms (1)
- Correspond to the actual situation on farms; Dissemination of current best practices, e.g. in network and education (4)
- Seed money for good ideas (1)
- Self-efficacy/motivated entrepreneurs needed, use own creativity
- Making technology cheaper (1)
- ICT and precision agriculture technologies (4)
- Fine-tuning within the supply chain (2)
- Highlight the costs and benefits for 2040 (3)
- Search for win-win situations where there is a positive spin-off for energy efficiency (3)
- Stimulation in the realisation of local energy networks (3)
- Increase in scale of production leads to replacement of old stables, greenhouses, etc. (1)
- Efficient phosphate recycling (1)
- Re-use of waste products (1)
- CO_2 emission rights / economy (1)
- Efficient feed management (2)
- Licence to produce
- Genetics (1)
- Adapt the national diet, e.g. less meat consumption
- Local for local production

2.3.3. Step 2: Barriers on the way to energy efficient agriculture in 2040

Similar to the opportunities, the second task was to determine the barriers in realizing energy efficiency in agriculture. During the meeting the following 24 barriers were mentioned.

A long list of the barriers, the number of votes given is in the parenthesis:

- Limited investment opportunities for entrepreneurs (2)
- Individualism, no focus on opportunities outside the farm
- Low fossil energy prices (7)
- Withdrawal of governmental efforts
- Containment of entrepreneurial freedom (legislation)
- Ignorant consumers
- To many other issues to tackle
- Farmers have a lack of knowledge about energy efficiency measures (4)
- No market demand / stimulus (2)
- There is no joint supply chain wide vision about energy efficiency (4)
- Energy efficiency is not task of EU
- Lack of international cooperation
- Inconsistent government
- Payback time of technological innovations is too high / takes too long (4)
- Increased risks in primary production
- Waste generation by consumers is 10-20%
- Limiting scale of production
- Stay locked in planning, research and meetings instead of action (2)
- Modesty, within agricultural sectors, in communicating successes
- Promises which are not realised and communicated intensively, e.g. energy consumption of cars and life-expectancy of LED-light (4)
- Lack of knowledge, including installation companies and lack of technical staff (4)
- CSR of the agricultural sector
- Lack of ambition by the entrepreneurs (primary production)
- Entrepreneurs already pleased with the current measures (2)

2.3.4. Step 4: Prioritizing

The opportunities and barriers were prioritized by giving five stickers for voting on opportunities and five stickers for voting on barriers. By doing the participants prioritized the opportunities and barriers. The prioritizing can be found as number in the parenthesis per opportunity or barrier above.

3. Explanation of the opportunities and barriers

3.1. Opportunities

Sustainable soil management

There are a number of bottlenecks on soil fertility in The Netherlands. During recent years it became more and more visible to farmers, especially on sandy soils with a high crop rotation, that there are problems with soil fertility. The problems in practice were less plant growth, an increase in fertilizer and pesticides use. The attention to soil fertility could result in an increase of energy use. It could also result in a decrease of energy use.

Training in vocational education

The current farmers received their education in a time that energy efficiency was not an issue yet. Focussing on the training on energy efficiency during the education of future farmers could improve the focus of farmers on this theme.

Dissemination of best practices in farmer networks

There are already good examples and initiatives on energy efficiency in practice. The dissemination of best practices in farmer-to-farmer networks could serve two goals. First; single farmer initiatives could have a snowball effect, with other farmers following the example. Second; the dissemination could lead to more awareness and increasing knowledge of farmers on energy efficiency.

ICT and precision agriculture

The use of ICT and precision agriculture techniques is expected to improve energy efficiency. The techniques hold promises of reducing e.g. fuel consumption, fertilizers and pesticides.

3.2. Barriers

Low fossil energy prices

The stakeholders expect that an increase in price of fossil energy leads to two effects. An increase in awareness of farmers. Second it will make a number of techniques more economically viable.

Lack of knowledge entrepreneurs

Related to the training in vocational education is the lack of knowledge of entrepreneurs about energy efficiency. All agricultural sectors, except greenhouse horticulture, show a limited attention for energy efficiency. One of the reasons for a lack of knowledge on energy efficiency is a lack of incentives, since it has not been a theme in the past.

Lack of supply chain wide vision and/or mission

Every link in the supply chain is primarily focus on its own business. Potential benefits within the supply chain are therefore not utilized.

Payback time of technological innovations

The technological innovations needed are expected to take increase the cost of production more than e.g. the benefits of the energy saved. The penetration of the new technology also determines the price of the technology.

Not realised promises (labels, etc.)

There is a standardized testing for cars on fuel efficiency (energy label). In practice the fuel consumption is, in most cases, significantly higher as projected. Therefore the value of these ‘promises’ is undermined. Consumers and farmers are expected to distrust the energy efficiency claims.

Lack of knowledge and technical staff

Installation companies, e.g. for stables or storage technique, face the same bottleneck as farmers. They receive a technical education without attention to energy efficiency. In the Netherlands there is a lack of technical staff able to work in installation and other technique related companies.

4. Continuation of the project

This was one of the last stakeholder meetings of the six within the AGREE project. In June 2013 a transnational stakeholder meeting is held in Athens. The goal is to develop a transnational agenda for energy efficiency in Agriculture. The next step is to present and discuss the transnational agenda for the EU commissions and working groups in Brussels. The goal is to identify energy efficiency themes that could benefit from cooperation within the EU.

5. Closing

The participants were satisfied with the results of the meeting. All participants, including a number of absentees, would like to be informed on the progress of the project and will be invited for the follow-up meeting in October 2013