Sustainable Dairy Chain: vision, goals and approach

Introduction
Through the Sustainable Dairy Chain, dairy organizations (NZO) and dairy farmers (LTO) work together towards a dairy sector that is future-proof and responsible. This is a sector:

• Where work is satisfying and safe;
• Where one can earn a good living;
• Which produces high-quality food;
• Which respects animals and the environment;
• Which is appreciated.

Goals
Towards a future-proof and responsible dairy sector, the Sustainable Dairy Chain has formulated the goals for 2020 to ensure:

- Development towards climate neutrality
- Continuous improvements in livestock health and welfare
- Preservation of grazing
- Protection of biodiversity and the environment

Performance
Every dairy organization has its own sustainability program to help realize these goals. In these sustainability programs, new knowledge is made available, dairy farmers can compare their own performance against their peers, dairy farmers can receive financial support to address certain performance issues, and if necessary mandatory measures can be taken.

Monitoring
Each year, the LEI publishes a sector report to monitor progress in the realization of the goals. If necessary, this can lead to more refined sustainability programs. Each theme has a program team that makes proposals to maximize the chances of realizing the goals. The Sustainable Dairy Chain’s advisory board provides advice on progress and implementation. The realization of the goals is a cooperative effort between dairy farmers, retailers, advisors, politicians, social organizations, science and education.
Future-proof and responsible dairy sector

General
In 2014, the Sustainable Dairy Chain reassessed its goals. The next reassessment will take place in 2017, at which point the goals post-2020 will be examined. In the meantime, the following new projects will start, which could lead to modified goals in the 2017 reassessment:

• Exploring possible targets and indicators for people and profit;
• Examining the number of accidents in the dairy sector;
• Developing a monitoring system in order to realize continuous improvement in the animal welfare score;
• Supporting research into alternative protein sources in feed;
• Developing a monitoring system to identify the pressure points around biodiversity;
• Increasing knowledge of grassland birds on dairy farms and piloting a program for improving the management of these birds;
• Improving knowledge on reducing pesticide use.

Development towards climate neutrality

Theme, topic and goal

**Greenhouse gasses**

**Goal:**
20% reduction of greenhouse gases from the dairy chain by 2020 compared to 1990, and climate-neutral growth compared to 2011.

Indicator and calculation principles

**Indicator:**
Dairy chain’s Mton CO$_2$ eq.
Supporting indicator: Milk’s CO$_2$ eq. per kg.

**Calculation principles:**

• Dairy farming incl. raw material production and sustainable energy consumption, excl. changes in land use (e.g. deforestation).
• Milk processing incl. transport from farm to production locations and between production locations, incl. sustainable energy consumption, excl. production of other raw materials and packaging, excl. retail and consumer.
• Interpretation: total dairy chain greenhouse gas emissions stays at or below the 2011 level. As such, the 20% reduction by 2020 compared to 1990 will be reached.

Sources: BIN, Life Cycle Tool (dairy farm) and others.
**Theme, topic and goal**

**Sustainable energy**

**Goal:**
16% sustainable energy production in the dairy chain by 2020.

**Indicator and calculation principles**

**Indicator:**
Sustainable energy production (%).

Supporting indicator: Share of sustainable energy in energy consumption (%).

**Calculation principles:**
- Production: Energy generated (produced) by the dairy chain (dairy farming and dairy processing) as measured in PJ (regardless of destination), divided by the final energy consumption in the dairy chain.
- Consumption: Consumption (production + purchasing - sales) of sustainable energy by the dairy chain (dairy farming, transport and processing), divided by final end-use.

Sources: Life Cycle Tool and others.

**Energy efficiency**

**Goal:**
Energy efficiency in the dairy chain improves an average 2% per year in the period 2005-2020.

**Indicator:**
Primary fuel consumption per kg of milk (kJ).

**Calculation principles:**
Energy consumption (electricity, gas, diesel) by dairy farming (incl. subcontracting), dairy transport (from farm to production locations and between production locations), and milk processing (production locations). Expressed as primary fuel (fossil fuel) consumption per kg of milk delivered.

Sources: Life Cycle Tool and others.
Continuous improvements in livestock health and welfare

**Theme, topic and goal**

**Antibiotics**

**Goal:** Lowering antibiotic resistance through responsible antibiotic use at the dairy farm, in line with the Netherlands Veterinary Medicines Authority (SDa) standards.

**Indicators:**
- Share of dairy companies conforming to SDa standards, targeting >90%.
- Share of third-choice agents in total antibiotic use (%).

**Calculation principles:**
Antibiotic use as defined by the SDa.

**Sources:** Annual SDa reports

**Lifespan**

**Goal:** Prolonged average lifespan of cows by 6 months by 2020 compared to 2011, by improving hoof health, udder health and fertility.

**Indicator:**
Average lifespan of dairy cows at the time of removal from herd (years and months).

**Calculation principles:**
Only dairy cows slaughtered or which die on the farm.

**Sources:** CRV’s annual statistics.

**Livestock welfare**

**Goal:** Continuous improvement in the animal welfare score; by 2017 at the latest, a monitoring system is developed and a concrete goal set.

**Indicator:**
Still in development. In the meantime, manual and comprehensive monitoring of sustainable barns/farming systems (incl. management).

**Sources:** n/a
Preservation of grazing

**Theme, topic and goal**

**Grazing**

**Goal:**
Maintaining grazing at least at its 2012 level (81.2% of farms practicing some form of grazing); keeping as close as possible to the 2012 distribution (73.6% of farms practicing full grazing, 7.6% practicing another form of grazing).

**Indicator and calculation principles**

**Indicator:**
Share of farms practicing some form of grazing (% 120/6 and other forms).

**Calculation principles:**
Clear definitions will be drawn up.

**Sources:** Grazing figures from dairy organizations. The program team is working to secure uniform agreements.

Protection of biodiversity and the environment

**Theme, topic and goal**

**Responsible soy**

**Goal:**
100% use of responsible soy as of 2015 (RTRS or similar).

**Indicator and calculation principles**

**Indicator:**
Share of responsibly purchased soy feed (%).

**Calculation principles:**
Concerns soy which meets RTRS or similar standards. Ultimate target is mass balance, but certificates will also be accepted through 2020 via a phasing plan.

**Sources:** Based on Chain Transition Foundation through 2014, and monitoring of dairy organizations’ supply conditions thereafter.
Protection of biodiversity and the environment

Theme, topic and goal

**Nutrients**

**Goals:**
- Total farming phosphorous production stays below the European limit (173 million kg); target to keep dairy farming phosphorous production at the 2002 level (84.9 million kg).
- 5 kton reduction in ammonia emissions compared to 2011.

**Biodiversity**

**Goal:**
No net reduction of biodiversity; development of indicators and implementation. By 2017 at the latest, a monitoring system is developed and a concrete goal set.

Indicator and calculation principles

**Indicators:**
- Phosphorous separation in manure from Dutch farming and Dutch dairy herds (million kg $P_2O_5$).
- Amount of ammonia from animal manure from Dutch dairy herds (million kg $NH_3$).

**Calculation principles:**
In the Dutch farming sector, all farm animals are counted in the agricultural census. The Dutch dairy herd includes all dairy cows, calves, heifers and bulls.
The ammonia emissions indicator is a calculation of emissions from barns, manure storage facilities, grazing and administration.

Sources: Phosphorous: CBS-WUM; ammonia: NEMA emissions data, and eventually via the Life Cycle Tool.

**Indicators:**
- Share of farms that apply environmental management and/or are a member of the ANV (%).

**Calculation principles:**
The proposal is to draw a clear picture of biodiversity by monitoring the pressures on it; this will be developed in a project. In the short term: manual calculation using current sector reports.

Sources: BIN and RVO in the short term.