



**SUSTAINABILITY  
NOT NEW BUT BECOMING  
MORE NECESSARY**

***THE WORLD  
IS CHANGING.***



# 800M

## *HUNGER VS. OBESITY:*

Around 800m people are undernourished while 650m suffer from obesity.

# 140M

## *CLIMATE CATASTROPHE:*

140 million people in developing regions could be forced to migrate within their countries' borders by 2050 due to climate change.

# 400%

## *RESOURCE CONSUMPTION:*

Our demand for resources is expected to reach 130 billion tons by 2050, up from 50 billion in 2014: this is an overuse of the earth's total capacity by more than 400%



© REUTERS



## Income Poverty

**295,000  
NZ KIDS  
LIVE IN  
HOUSEHOLDS WITH LOW INCOMES\***

**28%**  
OF KIWI KIDS



\*Income less than 60% of the median contemporary income

# Global Goals for positive social and environmental impact

## NUTRITION IS ESSENTIAL FOR THE SUCCESS OF ALL THE SDGS

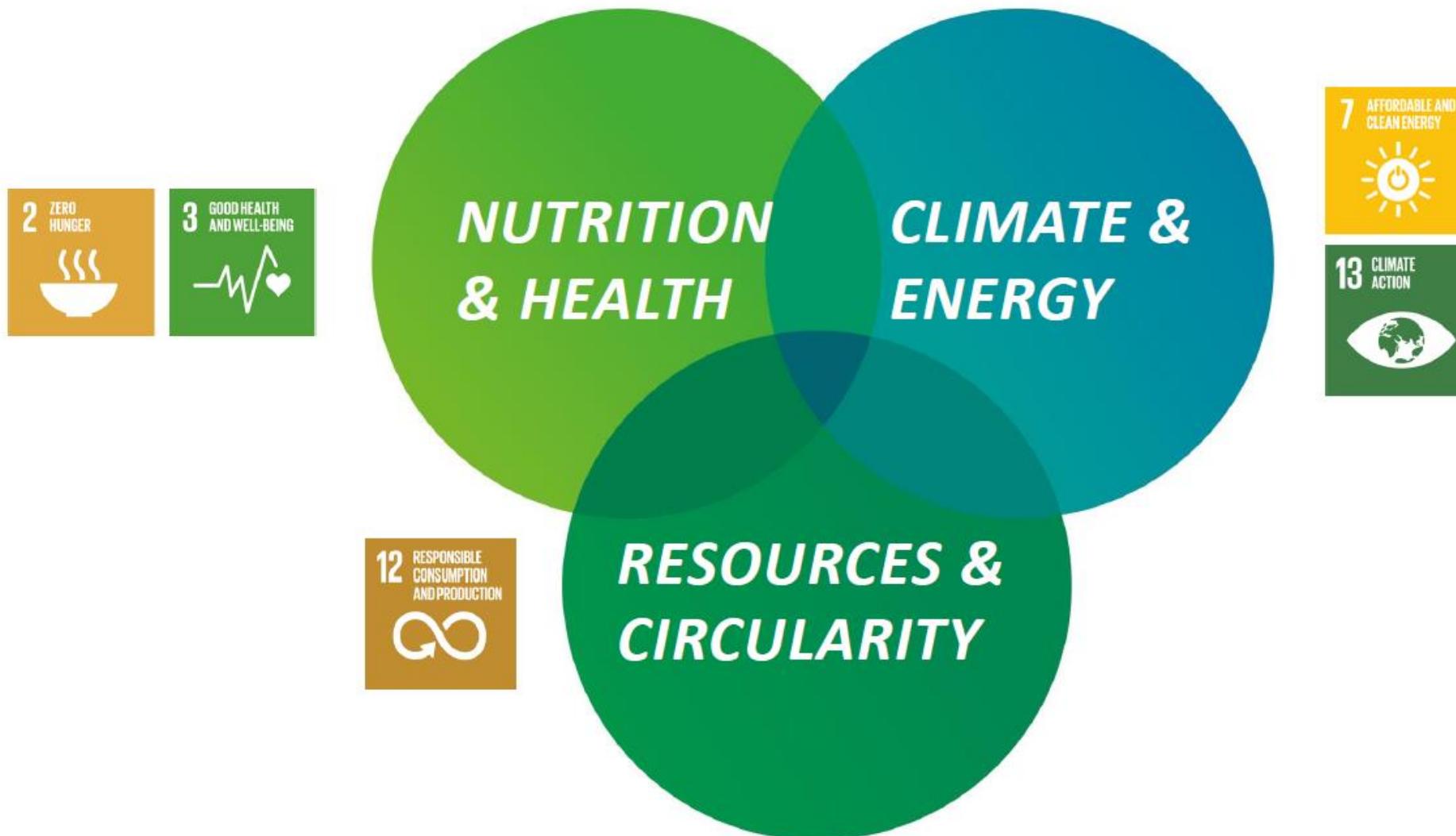
Optimal nutrition is essential for achieving several of the Sustainable Development Goals, and many SDGs impact nutrition security. Nutrition is hence linked to goals and indicators beyond Goal 2 which addresses hunger. A multisectoral nutrition security approach is necessary for success.



“ Nutrition is both a maker and a marker of development. Improved nutrition is the platform for progress in health, education, employment, empowerment of women and the reduction of poverty and inequality, and can lay the foundation for peaceful, secure and stable societies.”

Ban Ki-moon, United Nations 8th Secretary General, [a message for the SUN Movement Strategy and Roadmap \(2016-2020\)](#).

REACHING ~2.5BN PEOPLE WORLDWIDE.



# DSM's Sustainability Journey

## Dutch State Mines



# DSM's Innovations have a positive impact on the Environment and People



**Eco+:** Solutions measurably better for the planet

Resources



Land Use



Water



Energy



Emissions



Health Condition



Comfort Wellbeing



Working Conditions



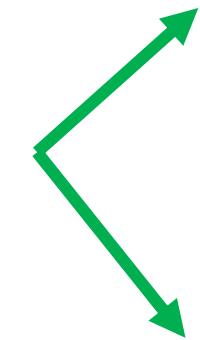
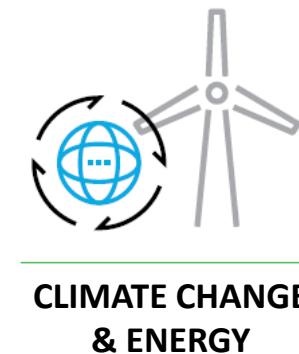
Community Development

**People+:** Solutions measurably better impact for people

# Key Projects Relating to Sustainable Development Goals



## Nutritional Improvement



## Clean Cow



## Niaga Carpet



## Veramaris Project



# Nutritional Improvement

## Societal challenge

1/3 of the world's population suffers from hidden hunger in terms of deficiency in micronutrients mostly in developing countries. A balanced diet is the foundation to a healthy life and societal development.

## DSM solution

Food fortification and use of dietary supplementation are two of the main ways to address global hunger and malnutrition. Through engaging Charities and NGO's DSM has created solutions which can help the developing world.

## Impact

### *Impact on people:*

It is the greatest investment that can be made in global health and economic development. Investing in nutrition will help maintain productivity in the developing world and \$1 spent can help return \$30 to the economy.



# Clean Cow Feed Additive

## Societal challenge

Livestock are responsible for methane emission, a fast moving green house gas that causes global warming. 1 cow can product around 3 tons of CO<sub>2</sub>e (carbon dioxide equivalent) per year. With the global meat and Dairy appetite growing this problem is going to get more prevalent in the future. In New Zealand methane is responsible for 40% of total greenhouse gas emissions vs global average of 10%.

## DSM solution

Clean Cow is a feed additive solution under development for reducing the environmental impact of milk and beef production and with the potential to improve performance, like increased milk yield, increased body weight gain or better feed efficiency.

## Impact

### *Impact on the environment:*

Reduces methane emissions by at least 25-30% in vivo.



# Niaga® Sustainable Carpet Technology

## Societal challenge

Traditional carpet manufacturing technologies use multiple materials that cannot be effectively separated and recycled at the end of their useful life. All carpets end up in landfills and incinerators which are both unsustainable means of getting rid of carpet.

## DSM solution

Niaga® Technology develops technologies and designs products by using pure materials only. Materials that can simply be reused over and over again. Endlessly. So they will never turn into waste, but live again and again.

## Impact

### Impact on environment:

Niaga® Technology uses up to 95 % less energy than conventional technologies.

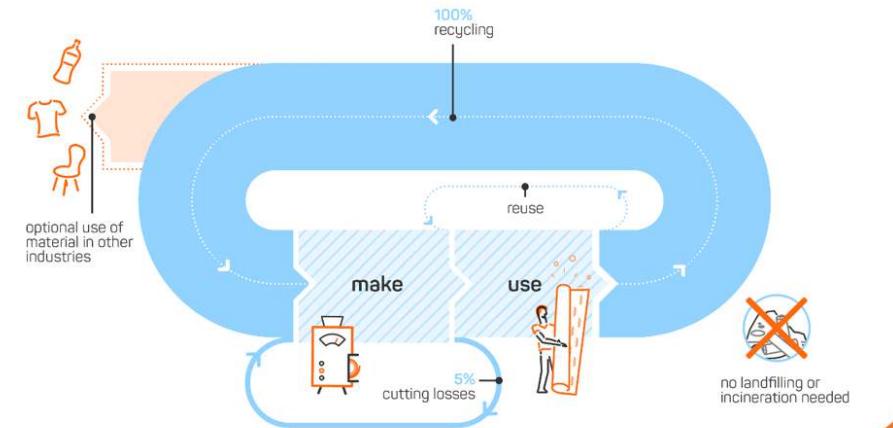
### Impact on people:

Niaga® Technology makes carpets intrinsically flame retardant without the need for potentially harmful flame retardants.

35 million m<sup>3</sup> of  
carpet waste  
worldwide per year



### Carpet material flow with Niaga®



infographics- barend@opzienbarend.nl

# Veramaris Project

## Societal challenge

Omega 3s must be added to feed for both farmed and domestic animals to ensure animals have sufficient nutrition in their diets. This equates to 16 million metric tons of wild caught fish being used for the feed industry. With 37.5% of the global fish oil used to feed farmed salmon.

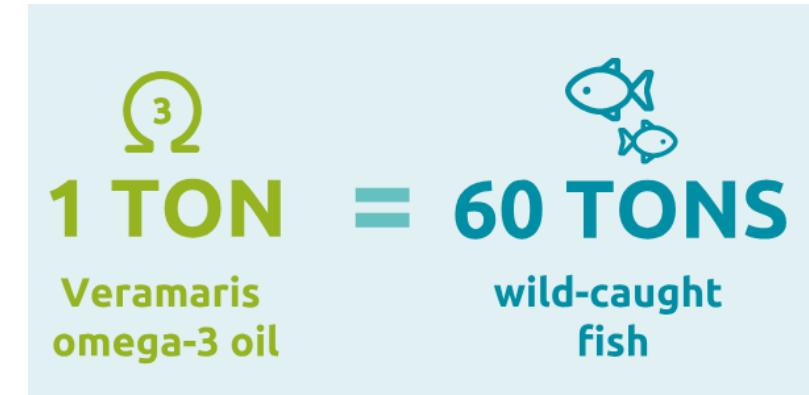
## DSM solution

Veramaris sources essential Omega-3 fatty acids EPA & DHA from algal based oil exceeding a concentration of 50%. This is added to the farmed and domestic animals feed instead of wild salmon whilst still delivering all the nutrients that the animal needs.

## Impact

### *Impact on the environment:*

Through using Algal based fish oil for the feed industry we will help protect marine habitats and conserve the biodiversity of our oceans.



# Sustainability Recognition

Leader main indices:  
Sustainalytics & Dow Jones Sustainability

2<sup>nd</sup> on Fortune's  
Change the World list



# How to Benefit from partnering with DSM?



# DSM's Quality for Life™ promise

**Quality**  
**Reliability**  
**Traceability**  
and...**Sustainability!**



**Peace of mind!**

