

Product social impact assessment

Discovering customer benefits and supporting value propositions

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DSM's Sustainability Agenda

Brighter Living Solutions

Driving Sustainable Markets

- Nutrition
- Climate change and renewable energy
- Circular and bio-based economy

Sustainable Growth Platforms

Sustainability as Business Growth Driver

Eco+

People+

Brighter Living Solutions

- Profitable solutions better for people and planet
- 65% of DSM Products by 2020

Securing Sustainable Operations

GHG efficiency
Renewable energy

Health & Safety
Engagement
Diversity

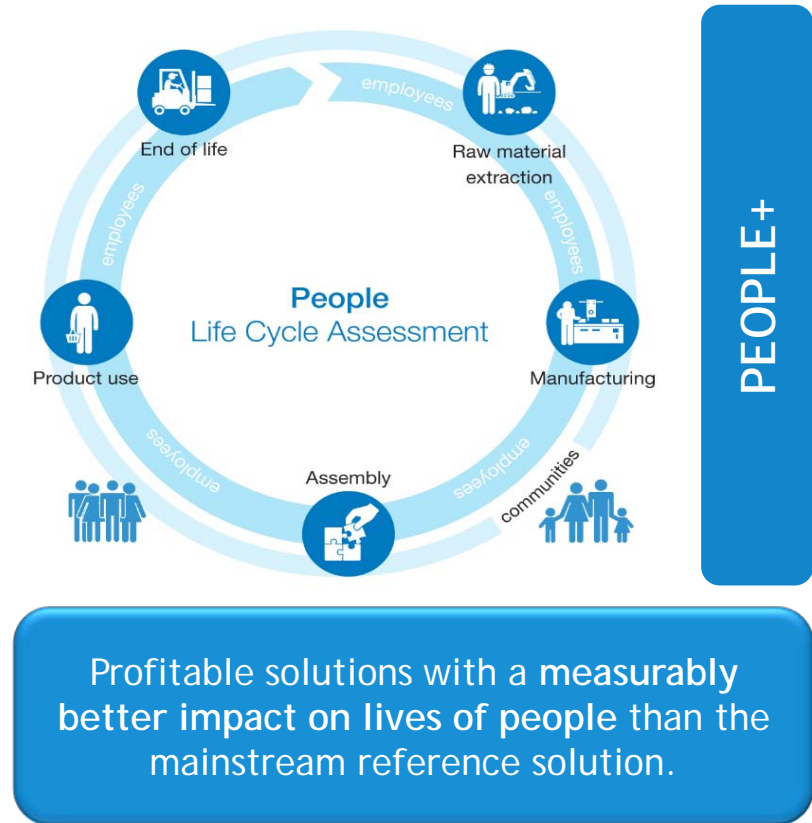
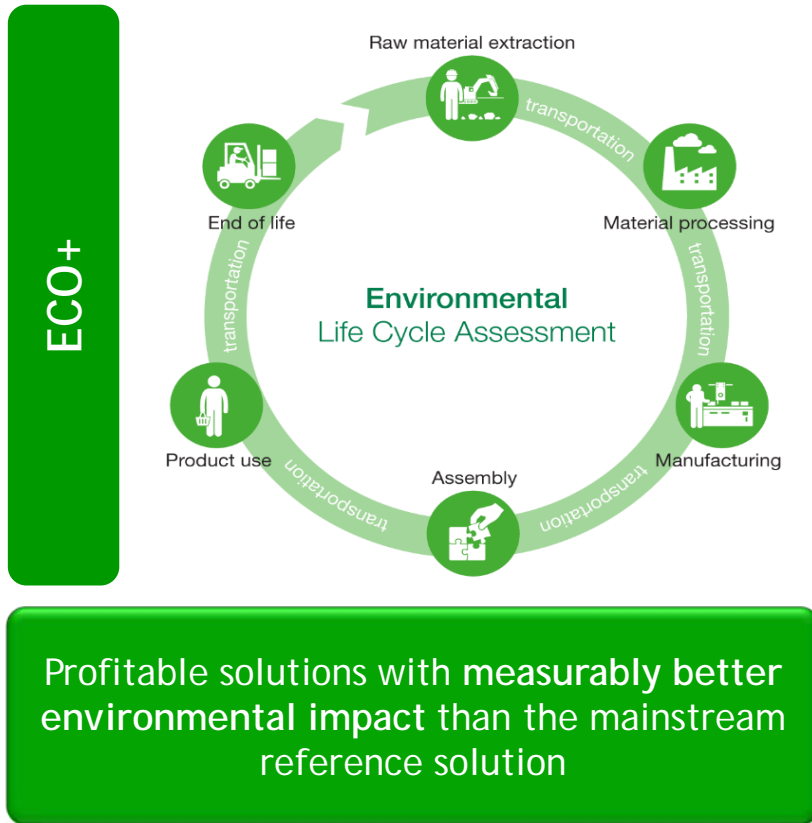
Sustainable Operations

- GHG efficiency improvements 45% by 2025 (1)
- Renewable electricity 50% by 2025
- Employee engagement favorable score 75% by 2020
- Safety: Frequency recordable index 0,25 by 2020
- Leading in reporting benchmarks Gold class DJSI

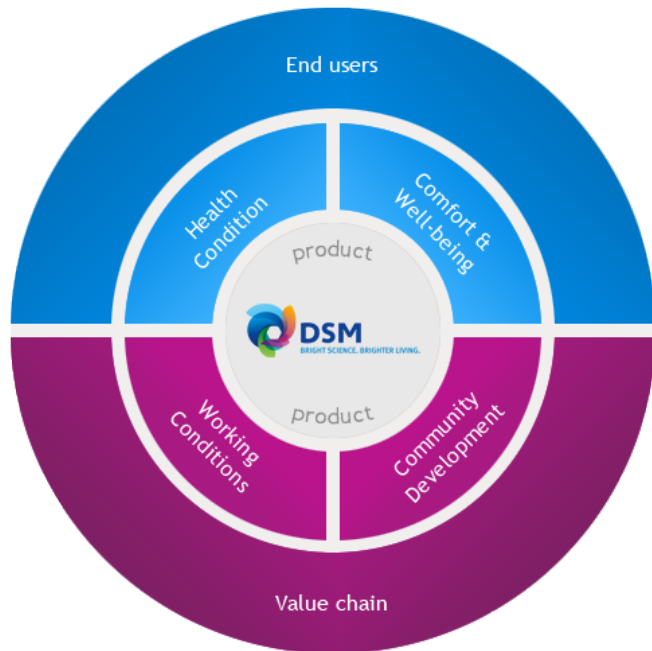
(1) Relative improvement as compared to baseline 2008

Brighter Living Solutions

Innovations and products that are better for the planet (Eco+) and people (People+) based on a product life cycle approach



People+: DSM's framework to measure social impact



Focus on 3 stakeholder groups:

- Employee Working Conditions
- Community Development
- End user: Health & Comfort & Well-being

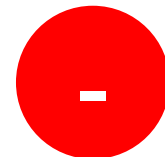
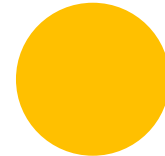
Scales based approach:

Positive and negative impacts identify improvement potential and support comparison

All differentiators must be substantiated

People+ program is aligned with:

- Handbook for Product Social Impact Assessment
- Social life cycle metrics for chemical products guidance from the WBCSD Chemical Sector Group



People+ examples



DRF:
Discovery bio-based
paint resins, water
borne with low odor

RESOURCES:
renewable sources

HEALTH:
replacing hazardous
solvents by waterborne

**COMFORT &
WELL-BEING**
Low odor



DFS:
Maxarome yeast extract
used in soups and
sauces, replacing salt

HEALTH:
Reducing risk of
diseases: reducing blood
pressure, reducing risk
of cardiovascular
disease.



DNP:
OatWell: Oat based
Ingredient for cereals
and biscuits

HEALTH :
Improving digestive
health, reducing risk of
cardiovascular disease



DNP:
Alpaflor® Edelweiss
ingredient for personal
care products

HEALTH:
Improved skin health

**COMFORT &
WELL-BEING:**
Better skin comfort

WORKING CONDITIONS:
Fair wages

Synthetic chains with Dyneema®

Customer insights

- Market research highlights key concerns with the use of steel chains
 - ↳ Ergonomics - lifting injuries
 - ↳ Impact injuries
 - ↳ Fatigue
 - ↳ Noise affecting communication and safety
 - ↳ Noise discomfort



Synthetic chains with Dyneema[®]

People+ outcomes for users health & safety and experienced wellbeing



- Reduced likelihood of lower back disorders
- Supported by peer reviewed medical evidence



- Human noise disturbance is 67 times lower with Dyneema[®] chains
- Independently measured noise levels, customer testimonials



- Recommendation to investigate potential for other work place accident reductions e.g. recoiling of chains



- Recommendation to investigate the influence of fatigue on accident levels

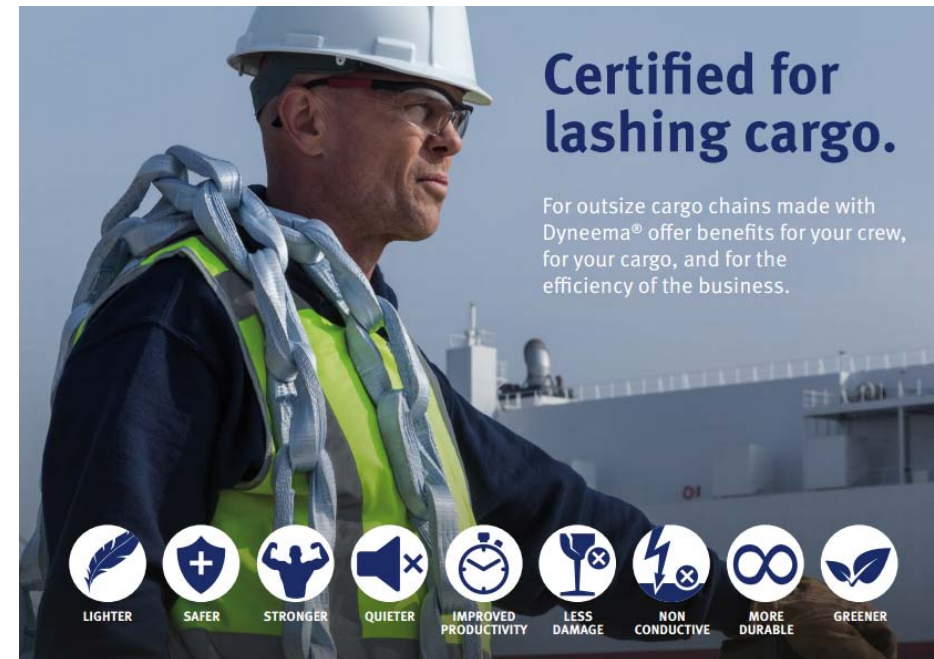


- Recommendation to investigate the influence of noise on accident levels

Synthetic chains with Dyneema®

Customer benefits and value proposition developments

- Results show benefits for the customer in key areas while assuring compliance in upstream activities
 - ↳ Ergonomics - lifting injuries
 - ↳ Impact injuries
 - ↳ Fatigue
 - ↳ Noise affecting communication and safety
 - ↳ Noise discomfort
- Provides foundation for further investigation
- Serves as input into value propositions and marketing materials



Social impact assessment

Hurdles and benefits

Hurdles

- Challenging to get supplier information, even more so for competing solution
- Considerable effort required to substantiate differentiation

Benefits

- Thorough framework to ensure all life cycle stages are considered
- Ensures minimum compliance levels are achieved in all social topics for all stakeholders
- Robust approach to ensure credibility when discussing benefits with customers - increases willingness to use sustainability in VP's
- Highlight new areas for value proposition development



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