

Our journey towards sustainable palm

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 **BASF**

We create chemistry

Agenda

- 1 | About BASF**
- 2 | The palm dilemma**
- 3 | RSPO and certification**
- 4 | BASF and Palm kernel oil**
- 5 | Find out more**

BASF

We create chemistry

- Our chemistry is used in almost all industries
- We combine economic success, social responsibility and environmental protection
- 6 Verbund sites and 352 other production sites

Sales

64,457

Million €

EBIT

8,552

Million €

Employees

115,490*



*as of December 31, 2017

Time for Change

■ BASF
We create chemistry

Care Chemicals offers a broad range of ingredients for hygiene, personal care, home care, I&I and technical applications



Home care and I&I Solutions



Hygiene



Personal care



Industrial Solutions



AgChem additives

Enabling Choices:
The offer encompasses petro-based surfactants as well as surfactants based on palm kernel oil.

We offer innovative and sustainable solutions – from surfactants, polymers, chelating agents to biocides, enzymes, optical effect products, stabilizers and methane sulfonic acid.

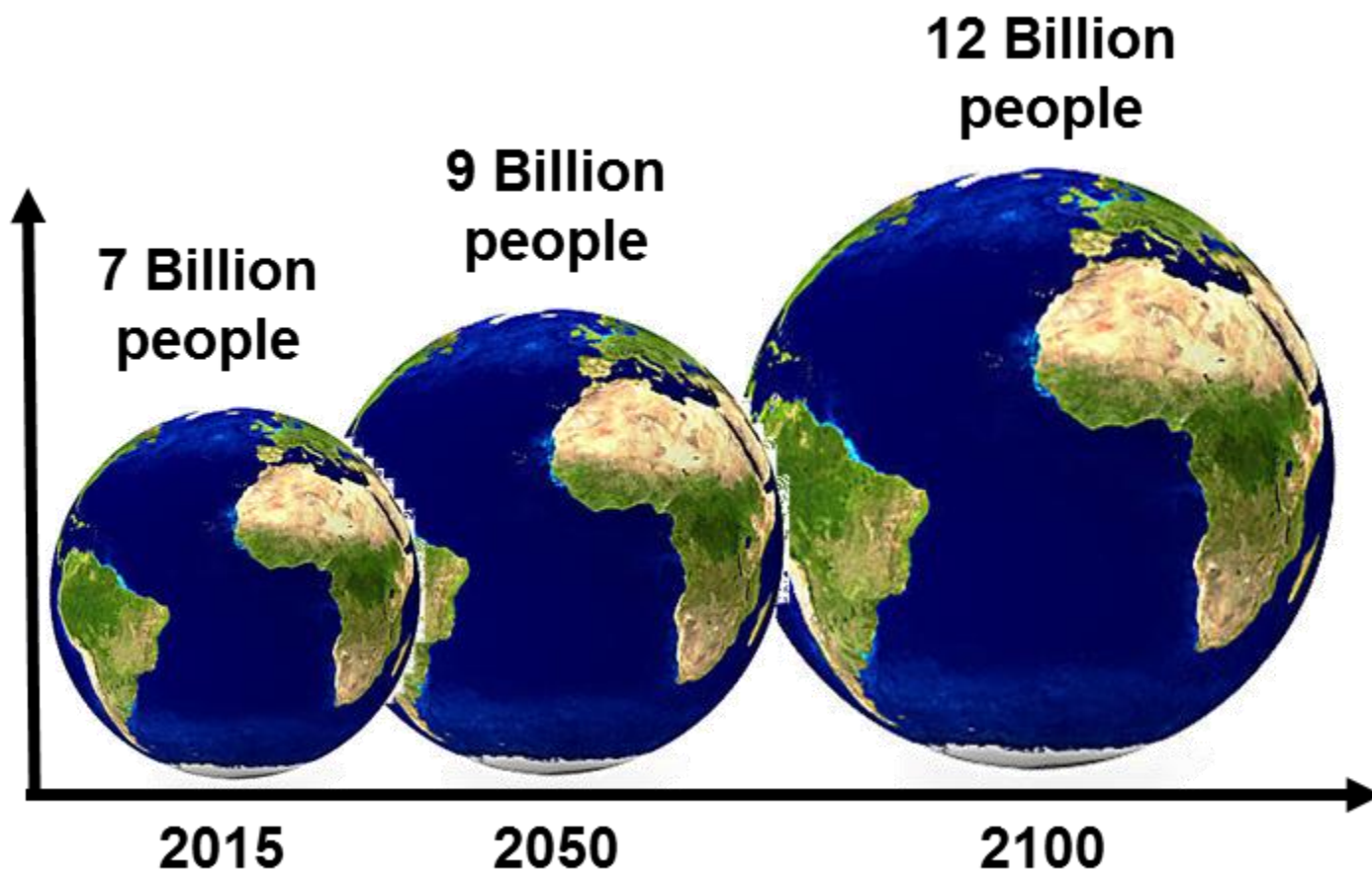
With an annual superabsorbent production capacity of more than 500.000 metric tons, our product portfolio is built on innovative and sustainable superabsorbent polymers.

Inspired by Life:
A significant share of our portfolio is renewable-based with palm kernel oil as the most important raw material.

Along with consumer insights we offer a broad range of ingredients – from surfactants, emollients and emulsifiers to UV-filters and actives.

New solutions for chemical formulators in multiple applications such as agro chemicals, additives for concrete, textiles, metal surface treatment, emulsion polymerization and a great variety of chemical processes.

Increasing demand for vegetable oils



Demand is growing, but renewable raw materials are not intrinsically sustainable



Palm



Sugar



Grain



Wood

Community and labor conflicts

Land use change **Child labor** Loss of biodiversity

Competition with food Deforestation

Agricultural Commodity Culture Land Ownership Conflicts

Palm and palm kernel oil stand for the sustainability dilemma of renewables



Use in personal care and food applications leads to high **visibility**



Unique chemical properties make **substitution** unfeasible to date



Supply chain complexity challenges **traceability**



Plantations cause **deforestation** and related issues of concern

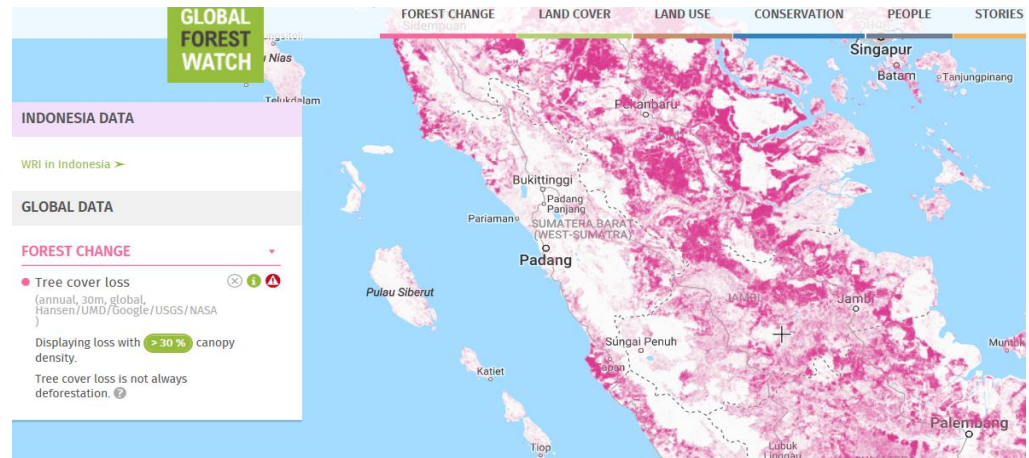
Palm oil and deforestation

Indonesia and Malaysia dominate global palm oil production with 85% of world supply.



Indonesia/Malaysia

Indonesia – Sumatra tree cover loss 2001 – 2015



20 soccer fields per hour: At this rate, Indonesia's tropical rainforest is extinguished since 1995.

NGOs put industry under pressure and demand:



Greenpeace campaigns since 2007

2007	2013	2014	2015	2016	2017	2018
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“
We’re asking the **commodity markets** to change and start to care about where things come from, and it’s changing how companies do business.

Marco Albani, Director Tropical forest alliance 2020 (Moment of Truth, 2018)

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Why we need the Roundtable on Sustainable Palm Oil (RSPO) to get to sustainable palm

- Palm was **the 1st industrial agricultural crop** addressing sustainability.
- RSPO is a strong **global multistakeholder forum** founded in 2004.
- BASF joined the RSPO in 2004.
- NGO consider RSPO certification as a starting point, but say more needs to be done



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RSPO certification helps to protect forests

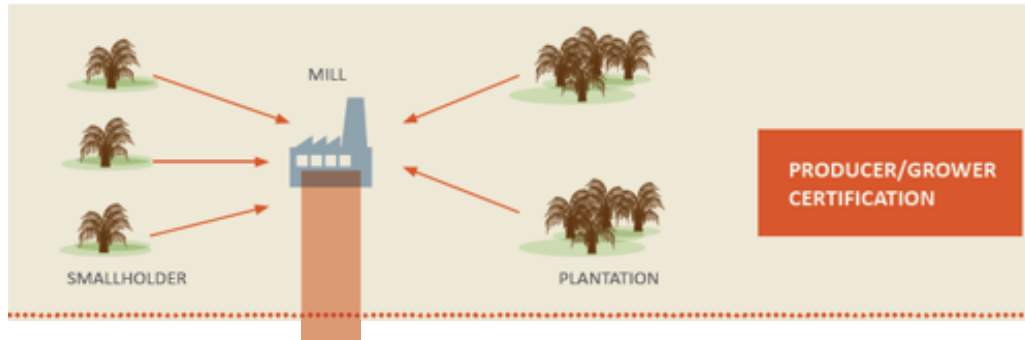


The significant impact of certification on deforestation indicates that higher levels of certification could generate greater forest protection.

Carlson et.al 2018. Effect of palm sustainability certification on deforestation and fire in Indonesia. Proceedings of the National Academy of Sciences 115.

RSPO certification builds on two systems – grower and supply chain certification

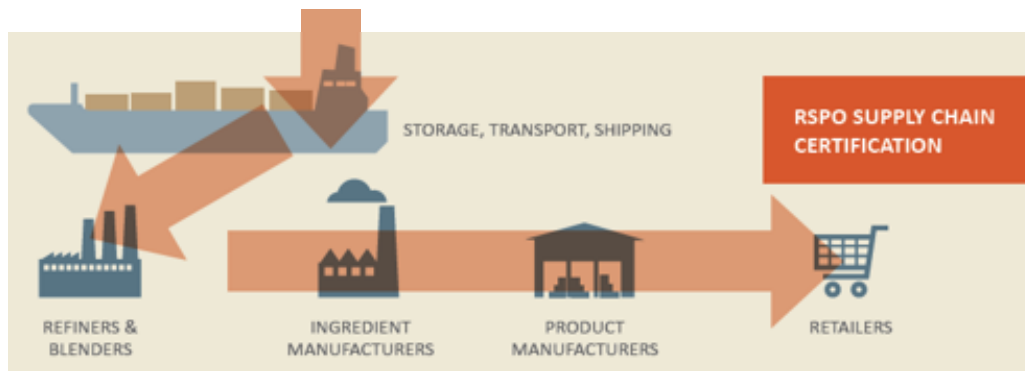
Verification of sustainable oil palm production



Producer/Grower certification

→ To ensure sustainable palm oil **production** on plantation level

Verification of the supply chain



Supply Chain Certification (SCC)

→ To ensure the **integrity of the trade** in sustainable palm oil

Different certification models lead to physical market transformation

RSPO Supply Chain Certification Standard

- **Identity preserved (IP)**
traceability to single plantation
- **Segregation (SG)**
100% physical RSPO material
- **Mass Balance (MB)**
administratively balancing supply chain

Physical market transformation

RSPO Producer / Grower Certification

- **Book & Claim (B&C)**
Certificate trading

Specifics of the oleoderivative industry – from palm kernel oil to the final product

Oils and oil fractions →



Crude and refined palm kernel oil

Primary oleochemicals →

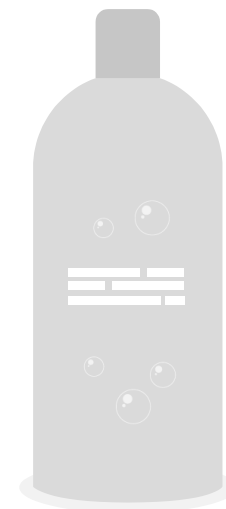
Fatty Acids (FAC)	FAC 8-10
	FAC 12-18
Fatty Alcohols (FOH)	FOH 8-10
	FOH 12-14
	FOH 16-18
Fatty Acid Methyl Esters (FAME)	FAME 8-10
	FAME 12-14
	FAME 16-18
Glycerine	

HPC Ingredients / Secondary oleoderivatives →

Exampels:

Sodium Laureth-2 Sulfate
 Betaines
 Cocamide DEA
 IPP, IPM
 Sorbitan Triglycerides
 Alkylpolyglucoside
 Laureth-7
 MCT
 Polyglycerol Esters
 Fatty Amines
 Soap

Final product →



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BASF's palm footprint



~ 515,000

BASF oil palm exposure in metric tons in 2017



~ 785,000

equivalent area in ha required for BASF's palm-based raw materials



> 800

BASF raw materials are palm based



21

BASF RSPO certified sites globally

How does BASF contribute to the journey toward sustainable palm?



Collaborate

Industry experts join **BASF's Palm Dialog** since 2016. BASF is a member of the **RSPO since 2004**, of the High Carbon Stock Approach Steering Group (**HCSA, 2016**) and joined **FONAP** as "Supporter" member in 2017.



Drive physical transformation

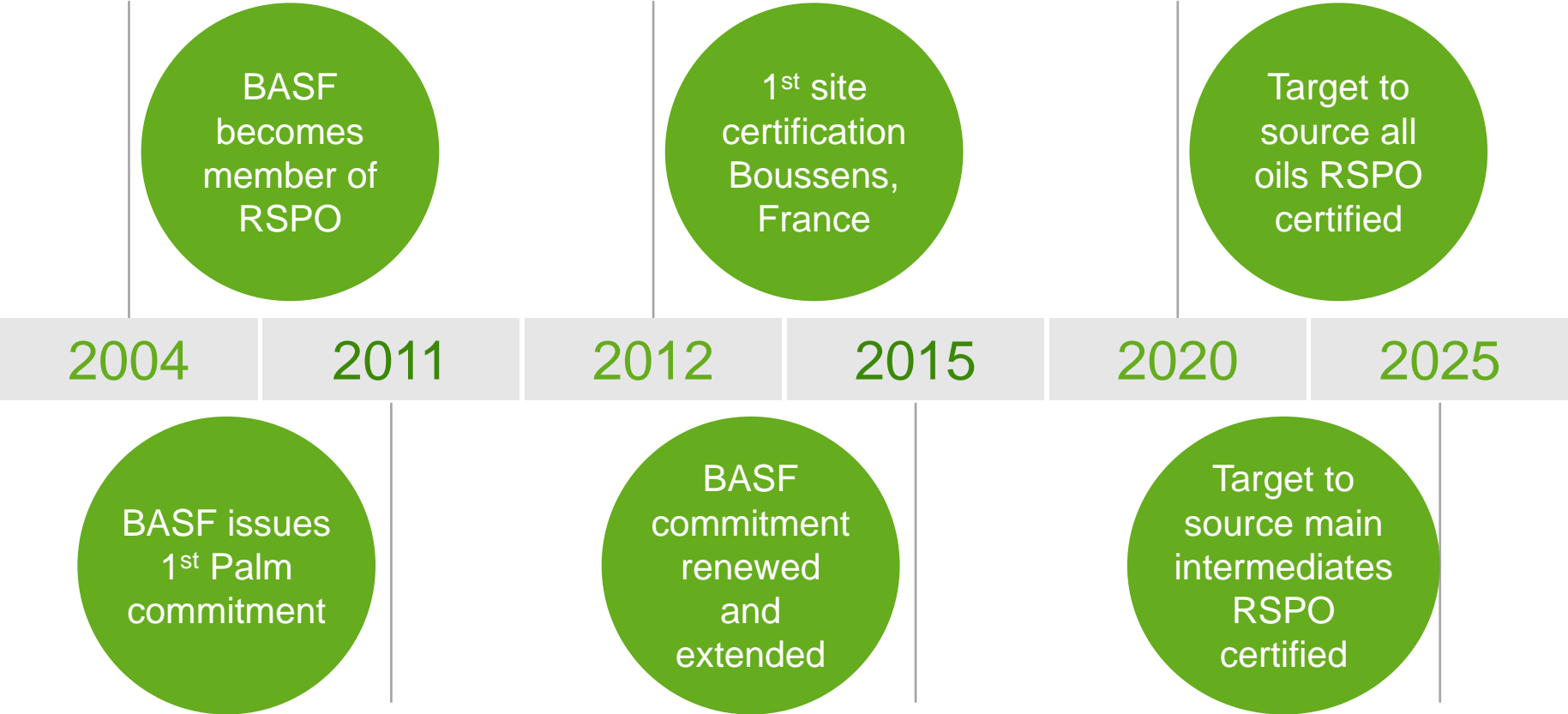
BASF **shifts its Personal Care portfolio** in 2018 and will offer palm-based specialties for the cosmetics industry exclusively as certified sustainable. We are continuously expanding the network of **RSPO-certified sites globally** and have stepped up **traceability**.



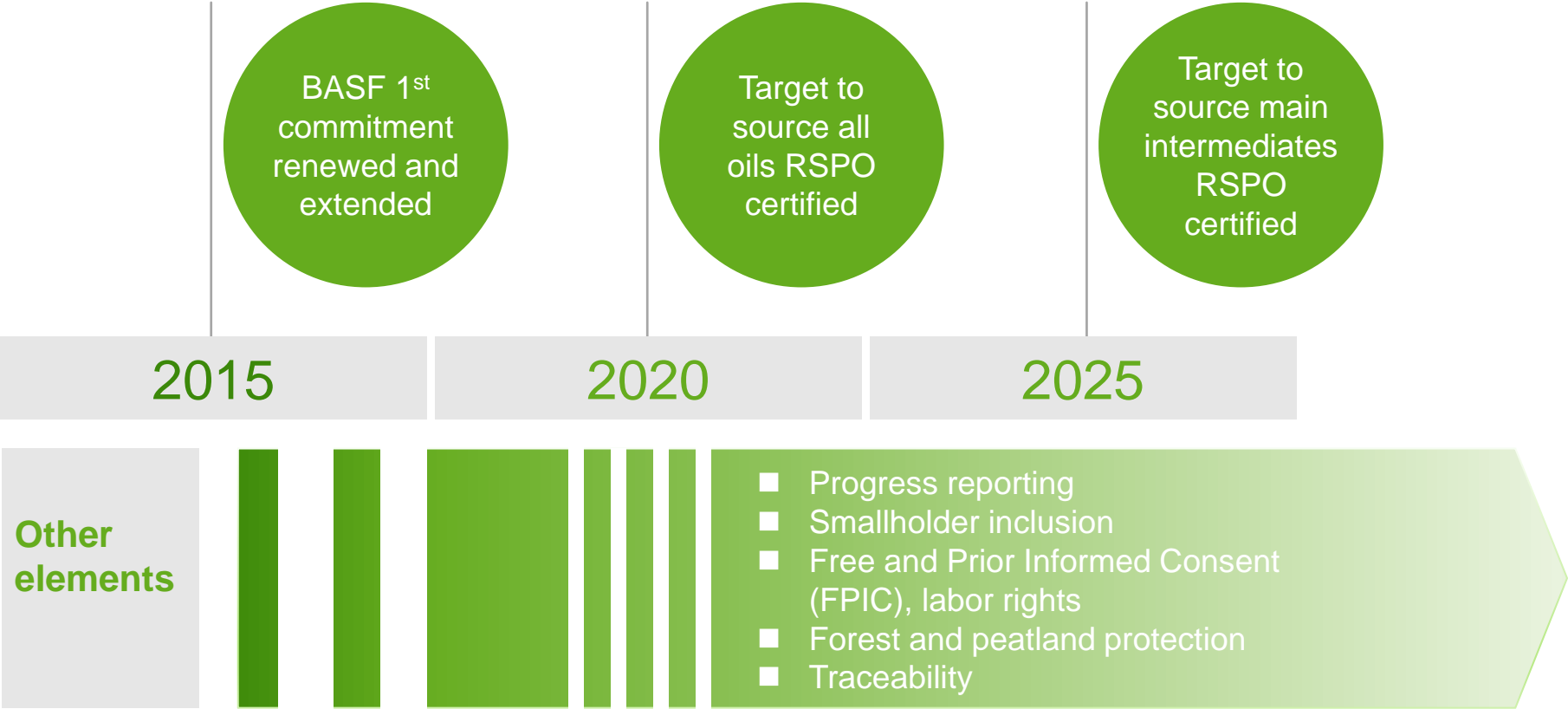
Smallholder inclusion

BASF advocates for smallholder inclusion and works together with several partners in smallholder projects.

BASF sets the course for sustainable certified oil palm products



BASF sets the course for sustainable certified oil palm products beyond time bound plans



BASF's Palm Sourcing Policy is based on our Supplier Code of Conduct (public since 2016)



Forest Conservation:

New plantings in accordance with the HCS Approach Toolkit. Promotion of the dialogue toward a landscaping approach.

Peat Conservation:

Abstain from development of peatland and maintaining of palm plantations on peatland in accordance with the RSPO Manual of Best Management Practices.



Transparency and Upstream Traceability:

Support of upstream traceability to oil mill level and ultimately to plantation level for certified products.



Physical Transformation to Certified Products:

Promotion of certification toward credible standards and promotion of physical transformation.



FPIC; Social Impact Assessment; Human and Labor Rights:

Supporting the implementation of a FPIC process and social impact assessments with regard to the development of plantings.

Smallholder Inclusion:

Promotion of smallholder inclusion into certified supply.



Conflict resolution:

Engagement in a consultative and transparent process for conflict resolution.

BASF has RSPO certification of its production sites in all regions.



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Europe

1. Antwerp (Belgium)
2. Ballerup (Denmark)
3. Boussens (France)
4. Pulnoy (France)
5. Düsseldorf (Germany)
6. Fino Mornasco (Italy)
7. Gebze (Turkey)
8. Illertissen (Germany)
9. Ludwigshafen (Germany)
10. Meaux (France)
11. Moscow (Russia)
12. Castellbisbal (Spain)
13. Zona Franca (Spain)

AsiaPacific

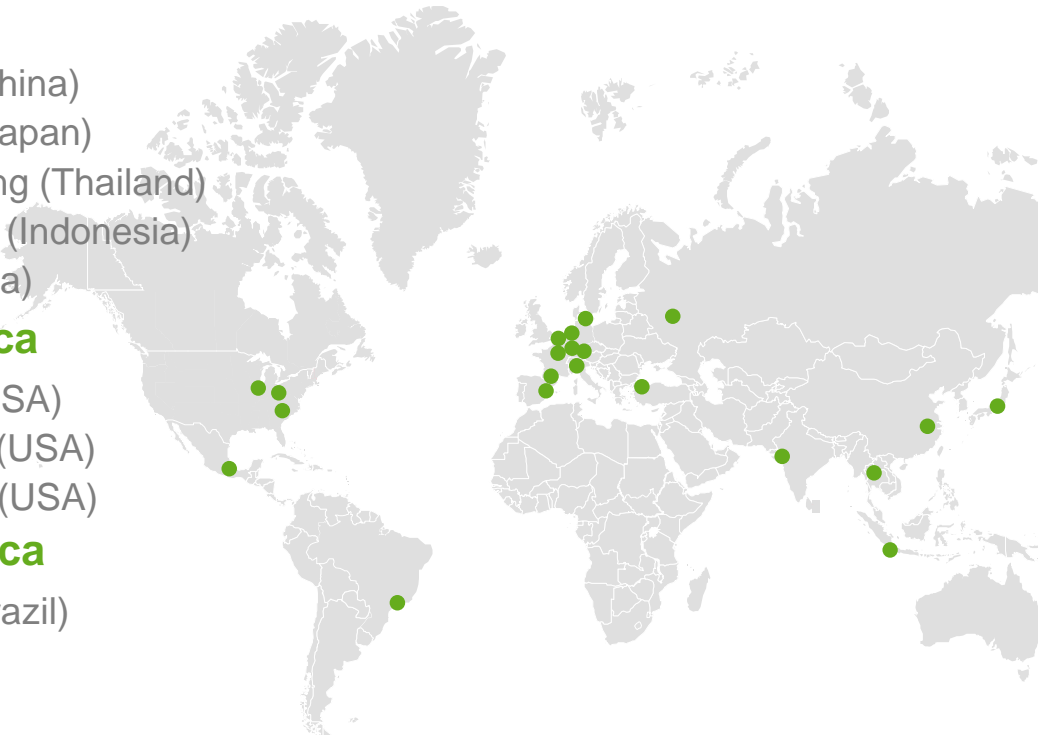
14. Jinshan (China)
15. Kitatone (Japan)
16. Bangpakong (Thailand)
17. Cimanggis (Indonesia)
18. Dahej (India)

North America

19. Mauldin (USA)
20. Cincinnati (USA)
21. Kankakee (USA)

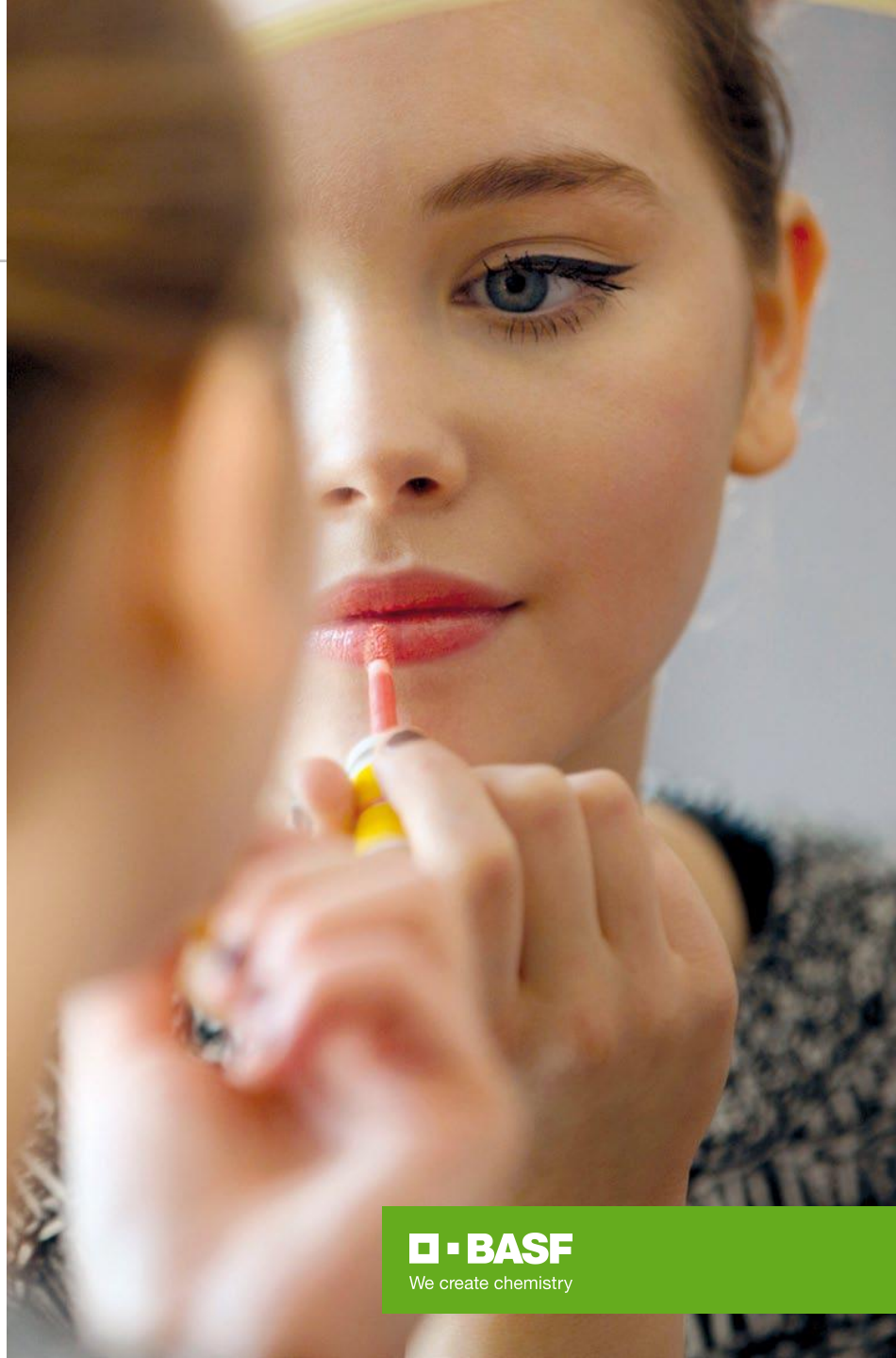
South America

22. Jacarei (Brazil)



We are determined to achieve sustainable palm

- **Sustainable Consumption** demands commitment from the various stakeholders in the value chain to make **sustainable palm the norm**.
- In 2018, we have initiated a **major shift of our specialty portfolio** and will exclusively offer palm-based specialty ingredients for the personal care market that are certified as sustainable.
- This is an **important milestone for the cosmetics industry** – and some of our customers already made the step together with us.



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Time for change: let's get faster to Sustainable Palm

BASF Palm Progress Report



Social dialog

← Twittern



Markus Kamieth
@MarkusKamieth

Walking the talk when it comes to [#sustainability](#) ... that's what [@BASF_palm](#) is all about. We are working with all our customers to move as swiftly as possible. Keep going!

BASF @BASF

BASF announced @ 3rd @BASF_palm dialogue to shift its Personal Care portfolio + to offer palm-based specialties for the cosmetics industry



Public communication



Creating Chemistry, BASF's annual magazine; 2018

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Contact

- Contact our BASF Experts Team via Palm-dialog@basf.com
- Visit our Palm Dialog Website at on.basf.com/palmdialog
- Our MB certified product portfolio carecreations.basf.com/landingpage-time-for-change
- follow us on Twitter via @BASF_palm



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