

# United Nations Conference on Trade and Development

## **Workshop on Industrial Hemp**

**18 January 2023, Palais des Nations, Geneva**

### **Experience from an industrial hemp farmer and fibre decorticator**

By

Mark Reinders, CEO HempFlax Group

The views expressed are those of the author and do not necessarily reflect the views of UNCTAD.

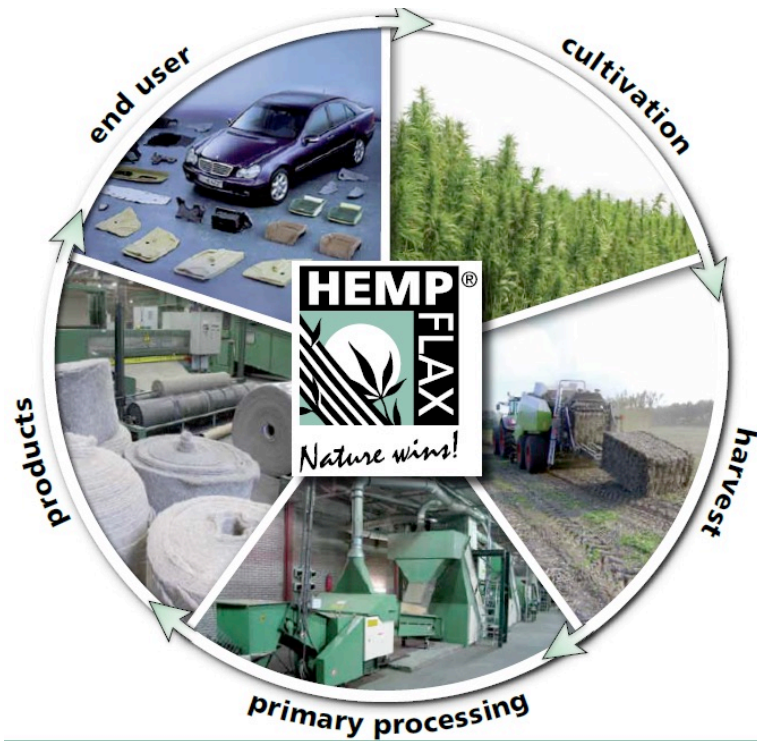


*Nature wins!*

# *Hemp whole plant approach*

Hempflax experience  
in the hemp value chain

Mark Reinders  
CEO HempFlax Group



*We want to serve mankind  
and the environment  
worldwide by providing  
affordable, modern,  
natural hemp products for  
a sustainable future!*



# About us

- ▶ HempFlax founded in 1994
- ▶ Pioneering in growing and processing
- ▶ 50 years lack of technological development
- ▶ Development of
  - ▶ Harvesting technology
  - ▶ Processing technology
  - ▶ Markets
- ▶ Bottom up development
- ▶ 3 Factories
  - ▶ Netherlands (Oude Pekela)
  - ▶ Romania (Sebes)
  - ▶ Nördlingen (Germany)

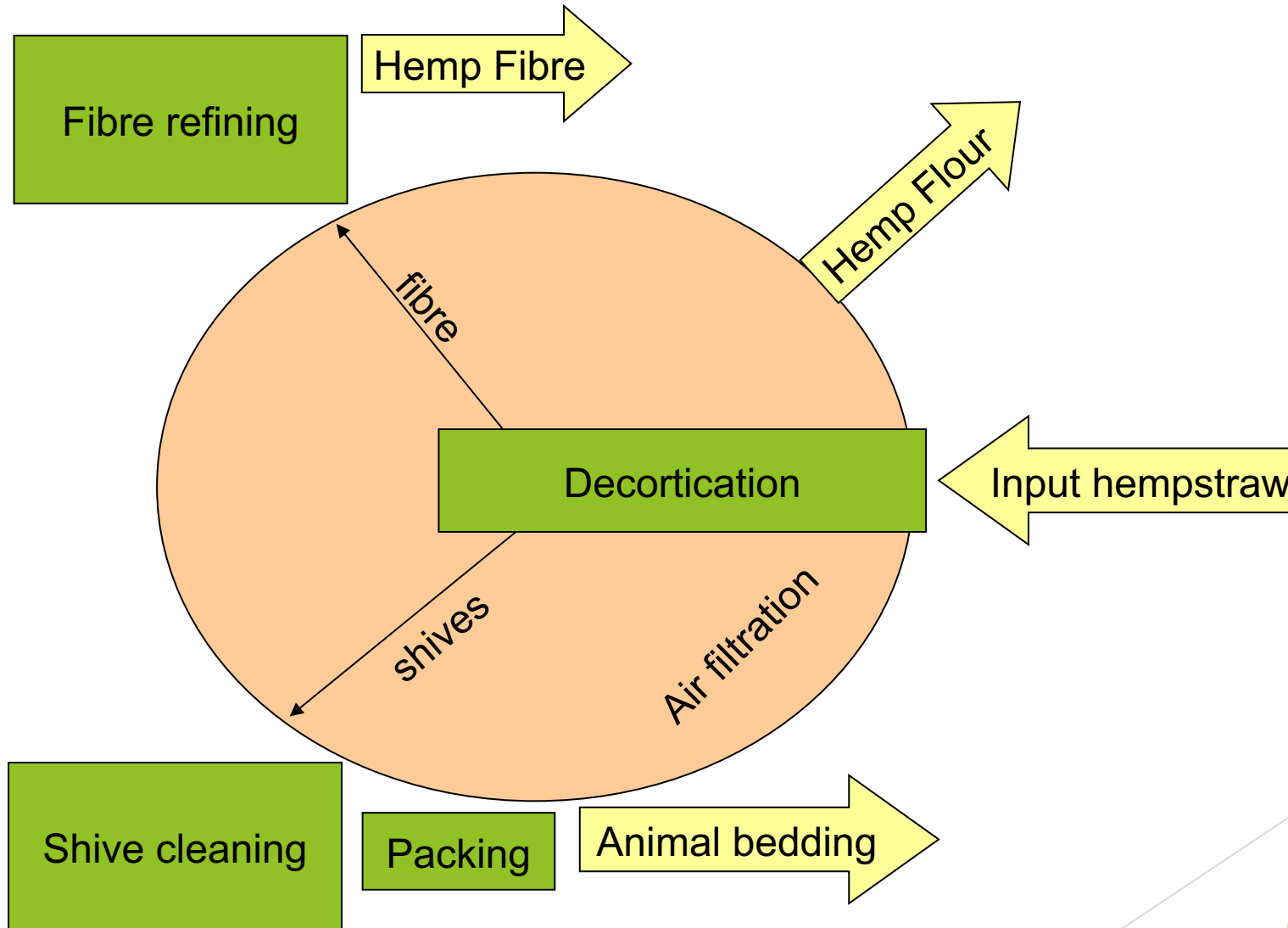




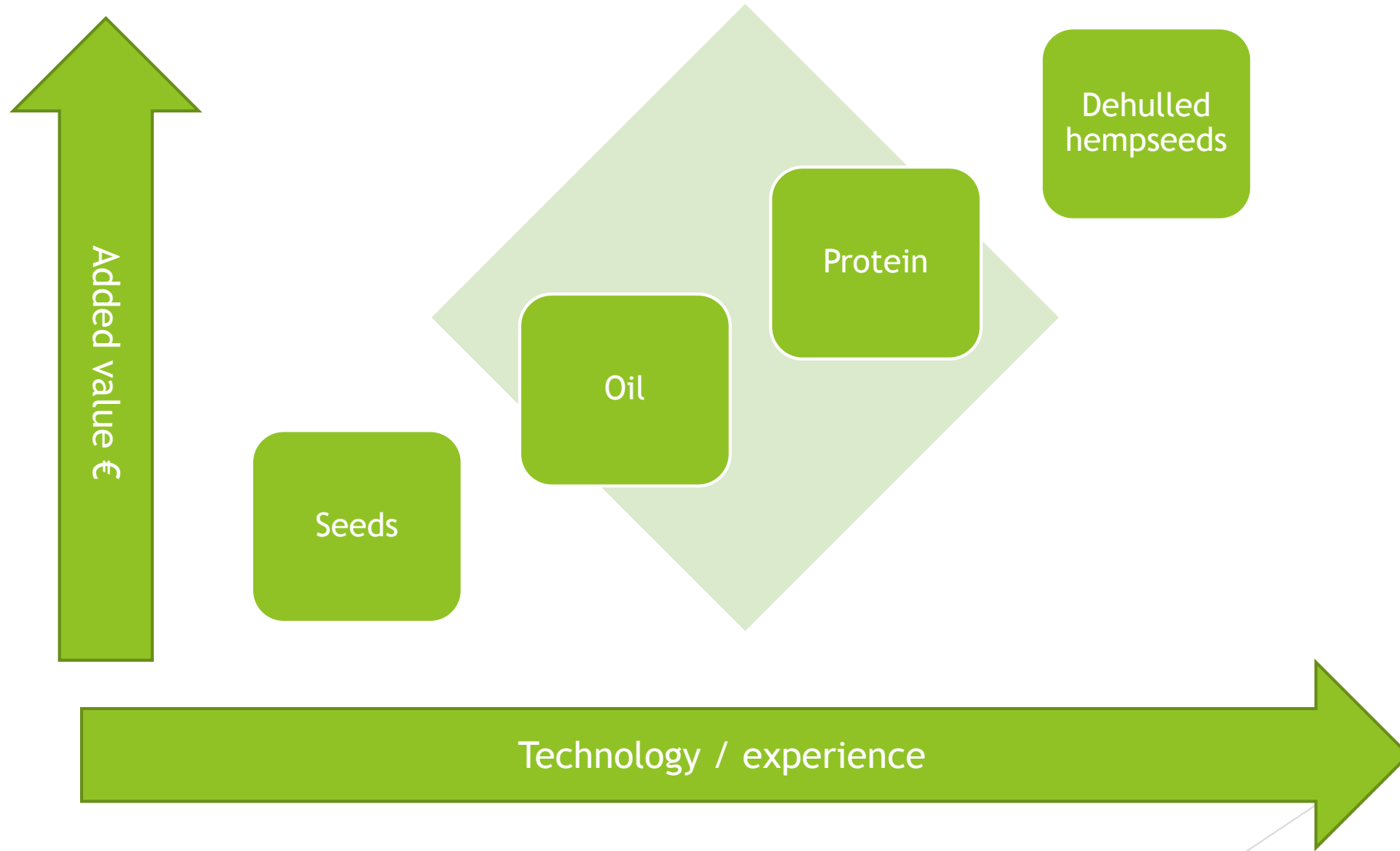
# About us

- ▶ 2,355 ha of hemp production
  - ▶ 1,680 ha in Netherlands/Germany
  - ▶ 675 ha in Romania
  - ▶ 17,000 metric ton Hemp straw
- ▶ 1500- 2,000 metric ton Flax straw
- ▶ 100,000 sqm Needle punch Non wovens
- ▶ 85,000 m3 Natural fibre insulation material
- ▶ Access to genetics collection with +800 varieties
- ▶ 68 employees
- ▶ Worldwide customer base
- ▶ ISO 9001 and ISCC plus certified
- ▶ Total +50,000 metric ton of production capacity available

# Hemp straw processing



# Food value chain



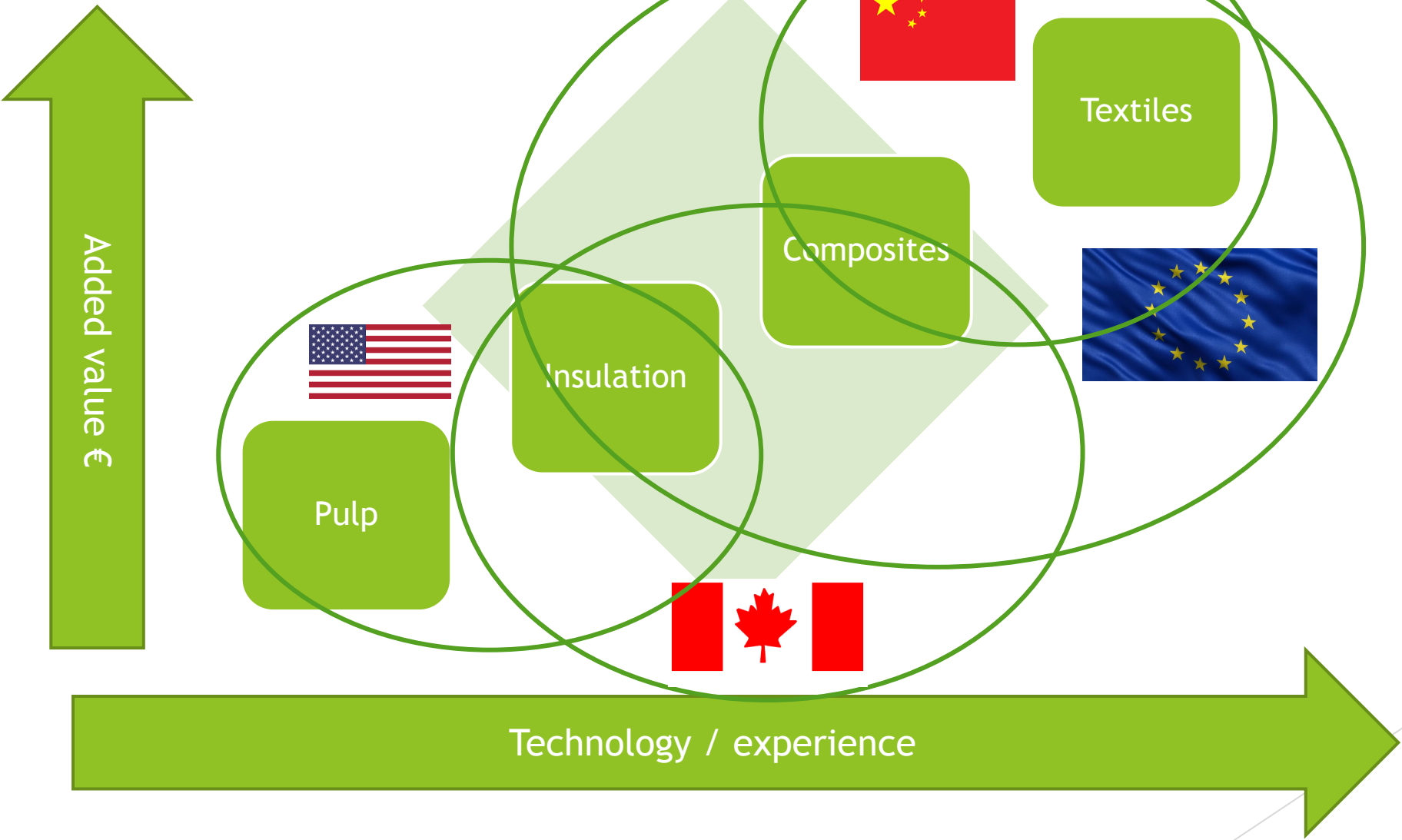
# Food products and animal feed

- ▶ Hempseeds & Protein Powder
  - ▶ 30% Protein content
  - ▶ full of essential fatty acids (Omega 3,6,9)
  - ▶ Contain 28 essential amino acids
  - ▶ superfood
- ▶ Hempseed oil (extremely healthy)
- ▶ CBD food supplements
- ▶ Future product: Protein from Leaves (17%)





# Fibre value chain



# Industrial applications

- ▶ Bulk fibers
  - ▶ Hemp
  - ▶ Flax
- ▶ Non wovens
  - ▶ 100% Natural fiber
  - ▶ Blends with synthetic fiber
- ▶ Pelletized hemp fiber (NEW)
  - ▶ 100% Natural fiber for compounding
  - ▶ Blends for direct injection moulding
  - ▶ Granulates for injection moulding





# Customer base

- ▶ End users of HempFlax Products:
  - ▶ First Tier suppliers of:
    - ▶ Mercedes Benz S, C and A type
    - ▶ VW Touran
    - ▶ BMW 5 series
    - ▶ Jaguar
    - ▶ Maybach
    - ▶ Bentley
    - ▶ Bugatti Veyron
  - ▶ Be.e electrical scooter





# Construction

- ▶ Non woven underflooring
- ▶ Hempcrete (Shives + Lime)
  - ▶ On site application
  - ▶ Prefabricated blocks
  - ▶ Prefabricated panels
- ▶ Insulation material
  - ▶ Breathable
  - ▶ CO<sub>2</sub> saving and storage
  - ▶ Up to 50 kg/m<sup>3</sup> nett CO<sub>2</sub> storage

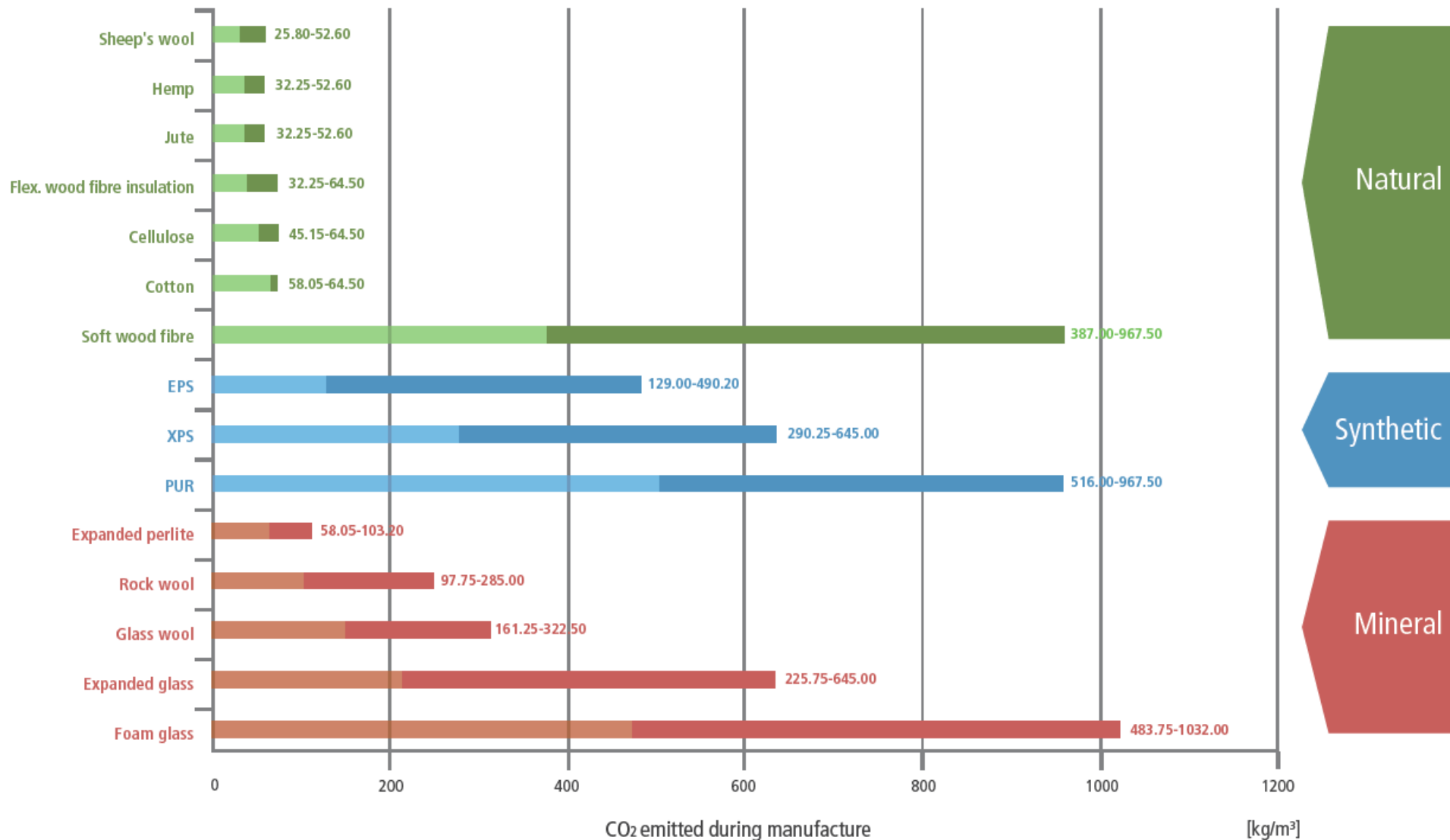




## CO<sub>2</sub> emitted during manufacture per m<sup>3</sup> of insulating material

(minimum and maximum emissions)

0.645 kg of CO<sub>2</sub> is emitted in the production of 1 kWh on average in Germany (Source: German Federal Environmental Agency, "Climate Change Report 8/08", CO<sub>2</sub> emitted per kWh produced in the energy mix in Germany). The CO<sub>2</sub> emissions shown here in the manufacturing of insulating material are derived from the energy consumption in kWh/m<sup>3</sup> multiplied with this value.



CO<sub>2</sub> emitted during manufacture

Source: [www.waermedaemmstoffe.com](http://www.waermedaemmstoffe.com)

[kg/m<sup>3</sup>]

Natural

Synthetic

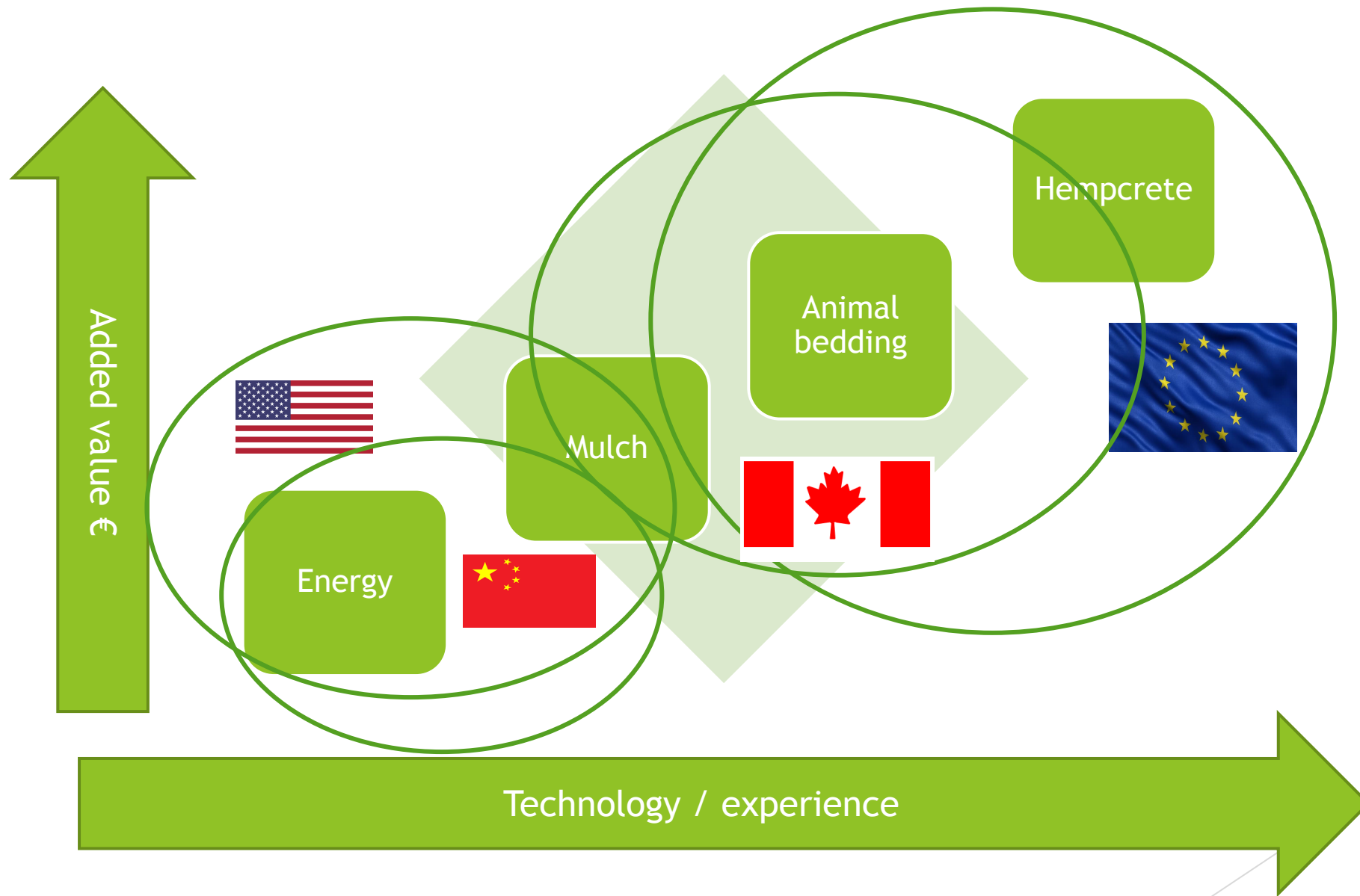
Mineral



Nature wins!



# Shives value chain

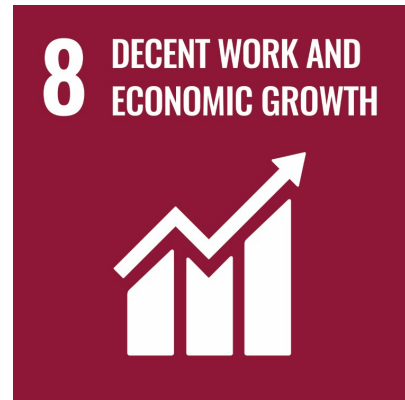


# Animal care

- ▶ Animal bedding
  - ▶ 1 kg/3 kg/10 kg/14 kg/20 kg
- ▶ Animal mattress
  - ▶ 20\*40 cm
  - ▶ 40\*100 cm
  - ▶ 50 gr nest material
- ▶ Activity pads
  - ▶ 4x4 cm pads for cage activity



# Hempflax Group: a proud supporter of SDGs



# Carbon Capture

- Hemp stores carbon in the plant **stem** and in the **soil**.
- The carbon capture varies from **15-70 tons per ha**, depending on variety, farming methods and location.
- Using more hemp in **manufactured goods** (and construction in particular) means storing more carbon and replacing CO<sup>2</sup> intensive products.
- Moreover, hemp products can qualify for CO<sup>2</sup> removal **certificates** which have a much higher price than regular carbon credits.
- Factory in Oude Pekela **Energy Neutral!**





# Sustainability in hemp means applying a whole plant approach...

to ensure:

- The highest **profitability** for the farmer
- Grow a **carbon negative raw material** usable for 1,000s of applications
- **zero waste**
- **Less volatile** to market trends as a result of diversified markets



## Expectations...

- ▶ **Strong increase** of demand for **fibre**
- ▶ **Strong increase** demand **biobased building materials**
- ▶ **Carbon capture** and storage future revenue stream for industry and farmer

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for your  
attention

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