SMEs Going Circular
DECARBONISATION OF FOOD SUPPLY CHAINS

Background Paper

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1. Context
2. Eight ASEM Emissions
3. Four Mitigation Strategies
4. SME Archetypes
5. Role of SMEs
The Food System in ASEM represents the full farm to fork value chain.
The system generates 37% of overall anthropogenic emissions, 35% are from Asia, and 9% from Europe.
The system not only drives, but is threatened by climate change.
Livestock is dominant in Europe, while rice is the most significant to Asia.
Farms in Asia are smaller than in Europe.
SMEs have a critical role across ASEM’s food system.
ASEM Emissions - Europe

- Soils: 600kg
- Waste: 530kg
- Animals: 390kg
- Manure: 350kg
- Transport: 310kg
- On Farm Energy: 290kg

2019 Per Capita Emissions - Europe (FAOSTAT)
ASEM Emissions – Regional Comparison

Europe
2,510kg pc
1,884Gt
10% of global

Soils
600kg

Waste
530kg

Animals
390kg

Transport
310kg

On Farm Energy
290kg

Asia
1,640kg pc
7,316Gt
38% of global

Waste
410kg

Soils
310kg

Animals
240kg

Manure
130kg

Rice
140kg

Burning
210kg
ASEM Emissions – Major Sources

- Soils: 600kg
- Waste: 530kg
- Animal Manure: 350kg
- On Farm Energy: 290kg
- Waste: 410kg
- Soils: 310kg
- Animals: 390kg
- Transport: 310kg
- Rice: 140kg
- Burning: 210kg
- Animals: 240kg
- Manure: 130kg
ASEM Emissions - On-Farm Emissions

Europe: 65% on farm
- Soils: 600kg
- Waste: 530kg
- Animals: 390kg
- Manure: 350kg
- Transport: 310kg
- On Farm Energy: 290kg

Asia: 69% on farm
- Soils: 310kg
- Waste: 410kg
- Animals: 240kg
- Manure: 130kg
- Burning: 210kg
- Rice: 140kg
ASEM Emissions – Animal Proteins/Consumer Driven

Europe
- Soils: 600kg
- Waste: 530kg
- Manure: 350kg
- Transport: 310kg
- On Farm Energy: 290kg

Asia
- Waste: 410kg
- Soils: 310kg
- Animals: 240kg
- Manure: 130kg
- Burning: 210kg
- Rice: 140kg

Total Emissions:
- Europe: 740kg
- Asia: 370kg
ASEM Emissions – Role of On-Farm Decisions

Europe
290kg Gt

- Soils: 600kg
- Waste: 530kg
- Manure: 350kg
- Animals: 390kg
- Transport: 310kg

On Farm Energy: 290kg

Asia
350kg Gt

- Soils: 310kg
- Waste: 410kg
- Animals: 240kg
- Manure: 130kg
- Burning: 210kg
- Rice: 140kg
ASEM Emissions – Which strategies are economic?

- Soils: 600kg
- Waste: 530kg
- Animals: 390kg
- Transport: 310kg
- On Farm Energy: 290kg
- Soils: 310kg
- Animals: 240kg
- Manure: 130kg
- Burning: 210kg
- Rice: 140kg
Mitigation Pathways
Mitigation Pathways

• Mitigation requires systems change - producers, business, consumers, policies
• Europe emits 50% more than Asia per capita, driven in large part by animal proteins. But, Asia is fast catching up
• Need and demand for reduced meat consumption, shift to meat alternatives
• Regenerative agriculture, digitalisation, service-based business models
• While soils are a major cause, mitigation is more challenging
• SMEs are the ideal ground for testing solutions and showcasing best practices and innovations to scale-up
Mitigation Pathways

- Reduce Food Loss
- Reduce Animal Protein Consumption
- Increase Soil Carbon
- Shift Farm Practices
SME Archetypes
Traditional Service Innovator
• Some content in bullets
▪ More bullet content

Traditional Service
Innovator
Traditional Service Innovator
Event Primers
Event Primers

● Waste, Animal Proteins, Soil Carbon and Farm Practice represent the most promising mitigation opportunities in ASEM

● SMEs, and particularly Service and Innovation SMEs are critical to reducing emissions from the sector

● Offsets are projected to increase by a factor of 15 by 2030.

● SMEs are not only well positioned to tap into the exploding offsets market, but channel much needed cash into rural Asia

● Finance is critical to ensure SMEs have the resources to rise to the challenge