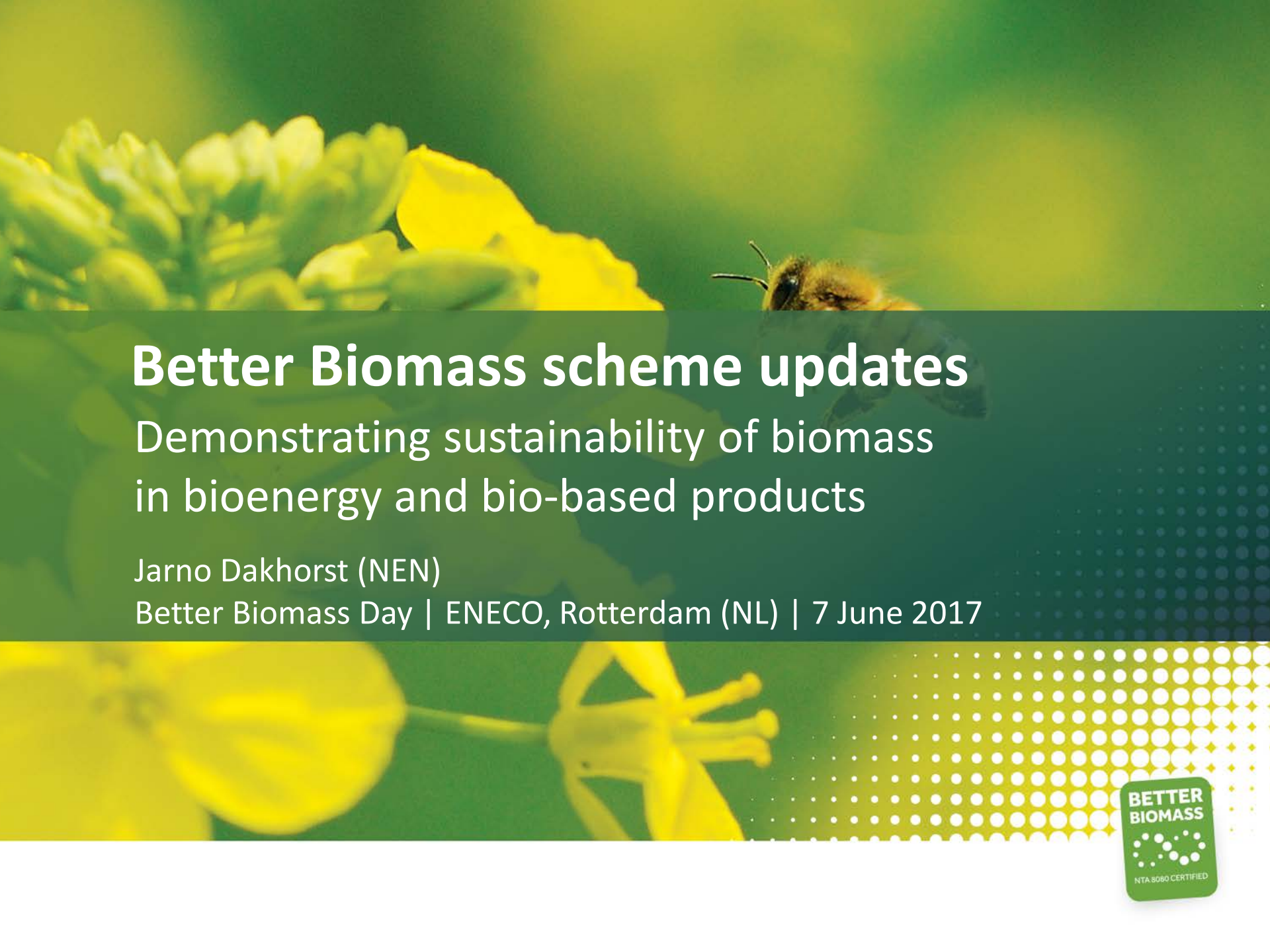

Better Biomass scheme updates

Demonstrating sustainability of biomass in bioenergy and bio-based products

Jarno Dakhorst (NEN)

Better Biomass Day | ENECO, Rotterdam (NL) | 7 June 2017

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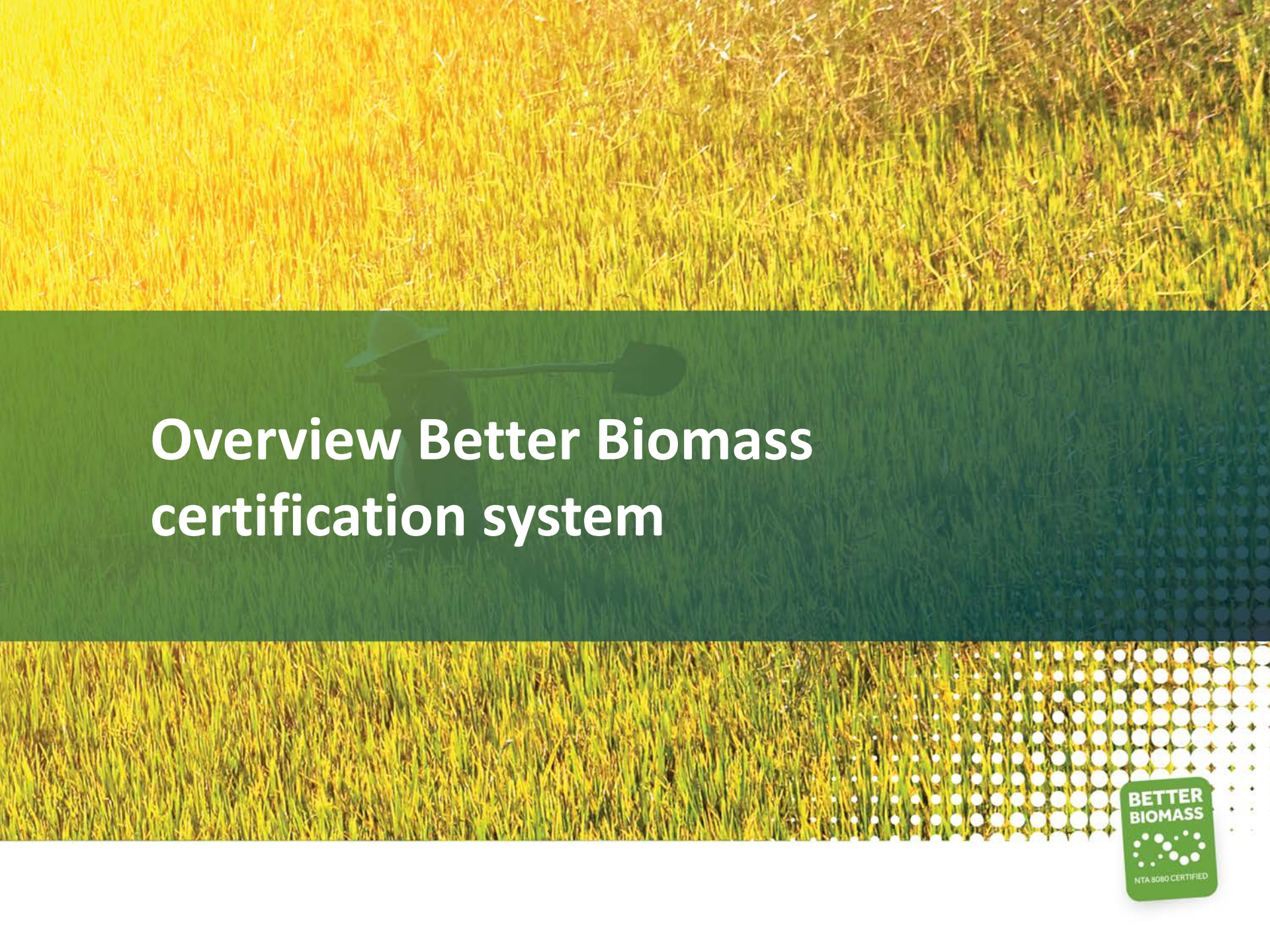
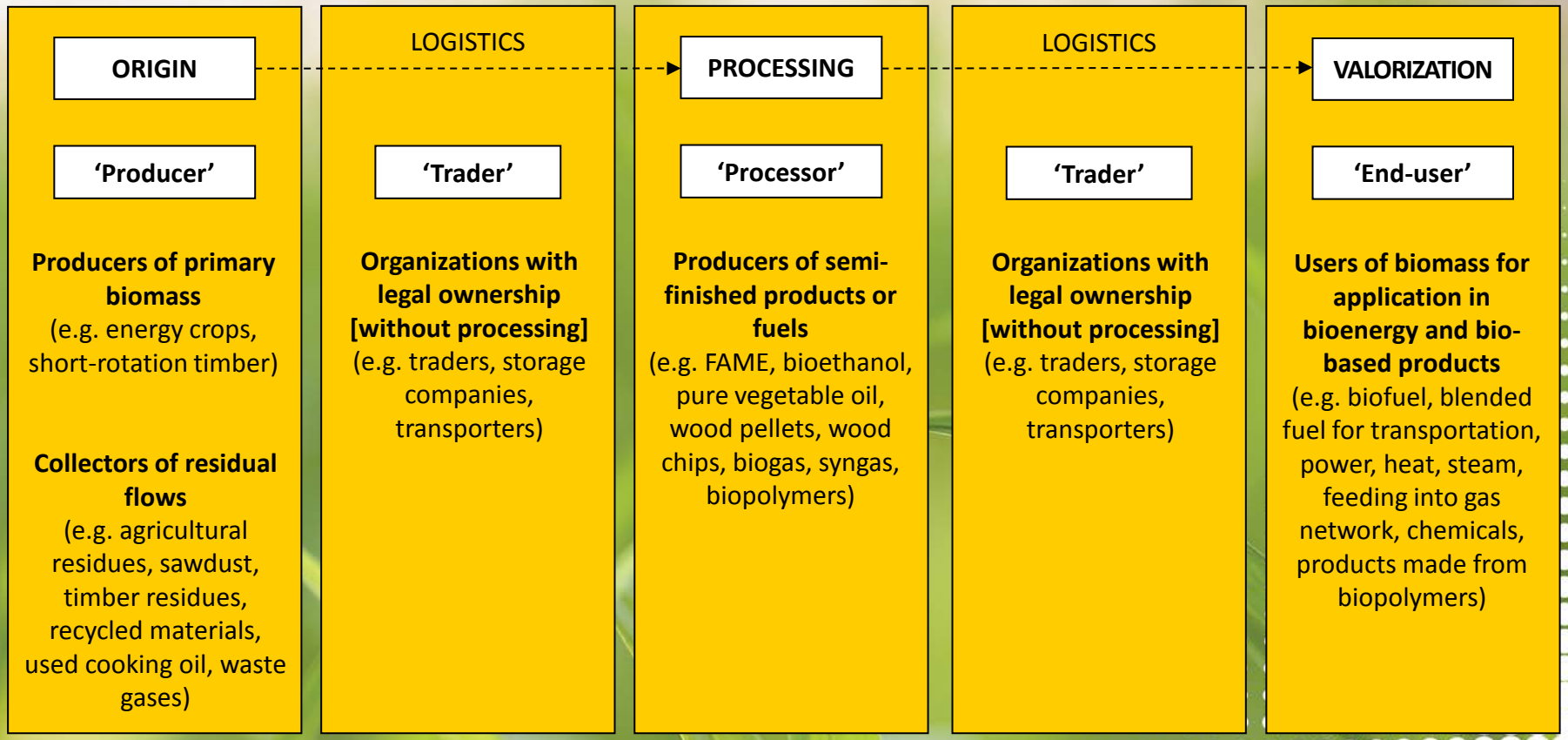
Outline

- Overview Better Biomass certification system
- Better Biomass sustainability requirements
- Better Biomass chain-of-custody requirements
- Better Biomass certification roadmap

Overview Better Biomass certification system



Better Biomass field of application



Some characteristics

- Better Biomass is accepted by Dutch accreditation council (RvA)
- Better Biomass designed to meet requirements of:
  - Renewable Energy Directive incl. amendments based on “ILUC Directive” (under reassessment)
  - Dutch Energy Accord for co-firing (to be assessed when possible)
- Better Biomass is recognized under Green Deal “Green certificates” for bio-based products
- Better Biomass is aligned with European and international standards wherever possible

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Better Biomass system documentation (1)

Better Biomass system documentation (2)

- NTA 8080-1:2015, Sustainably produced biomass for bioenergy and bio-based products – Part 1: Sustainability requirements
- NTA 8080-2:2015, Sustainably produced biomass for bioenergy and bio-based products – Part 2: Chain-of-custody requirements
- Better Biomass certification scheme (administered as NCS 8080:2017-04)
- Interpretation document N° 1
- NEN scheme management manual

Two versions operational

- Better Biomass certification for “non-RED biomass” based on NTA 8080:2015 and NCS 8080:2017-04 (i.e. solid and gaseous biomass for bioenergy and biomass for bio-based products)
- Better Biomass certification for “RED biomass” based on NTA 8080:2009 and NTA 8081:2012-04 pending recognition updated Better Biomass certification system (i.e. biofuels and bioliquids for bioenergy)

Information in this presentation is based on updated Better Biomass certification system

Better Biomass sustainability requirements

Sustainability aspects

- Greenhouse gas emissions
- Competition with local applications
- Biodiversity
- The environment
- Prosperity
- Wellbeing

What's new or improved?

- New developments taken into account:
  - Carbon debt
  - Cascading of biomass
  - ILUC (indirect land-use change)
- Improvements in criteria setting:
  - Biodiversity
  - Socio-economic criteria
  - Continual improvement

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Greenhouse gas emissions

- GHG emission savings
- Land use change
  - Wetlands
  - Continuously forested areas and other forests
  - Peatland
- Excluding use that creates carbon debt

Competition with local applications

- Local prices
- Efficient use of raw materials (biomass cascading)
- ‘ILUC low risk’ [optional]

Biodiversity

- Land use change
  - Primary forest and other wooded land
  - Nature protection areas
  - Highly biodiverse grassland
- Creating set-aside areas
- Restoring, preserving and strengthening biodiversity

The environment

- Soil quality
- Ground and surface water quality
- Water sources and use
- Air quality
- Waste management

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Prosperity

- Contributing to local economy
- Recruiting amongst local population
- Contracting local suppliers

Wellbeing

- Labour rights
- Working conditions
- Responsible contact with (local) stakeholders
- Land-use rights
- Contributing to wellbeing local population
- Integrity of company

Applicability of sustainability aspects

Applicability of sustainability requirements depends on activities and position in supply chain

Section	Sustainability aspect	Scope						
		'producer' [a]				'processor'	'trader'	'end user'
		biomass producer	smallholder	collector of primary residual flows	collector of non-primary residual flows			
6.2	**Greenhouse gas emissions**							
6.2.1	Greenhouse gas emission saving	X	X	X	X	X	X	X
6.2.2	High carbon stock	X [b]	X [b]	X [b]				
6.3	**Competition with food and local applications of biomass**							
6.3.1	Local prices	X						
6.3.2	Raw materials-efficient use of biomass (cascading)	X				X		X
6.3.3	'ILUC low risk'	X [c]						
6.4	**Biodiversity**							
6.4.1	Land with high biodiversity value	X [b]	X [b]	X [b]				
6.4.2	Restoration, preservation and strengthening of biodiversity	X	X					

Special "regime" for residual flows (lower risk)

Most requirements for biomass producers

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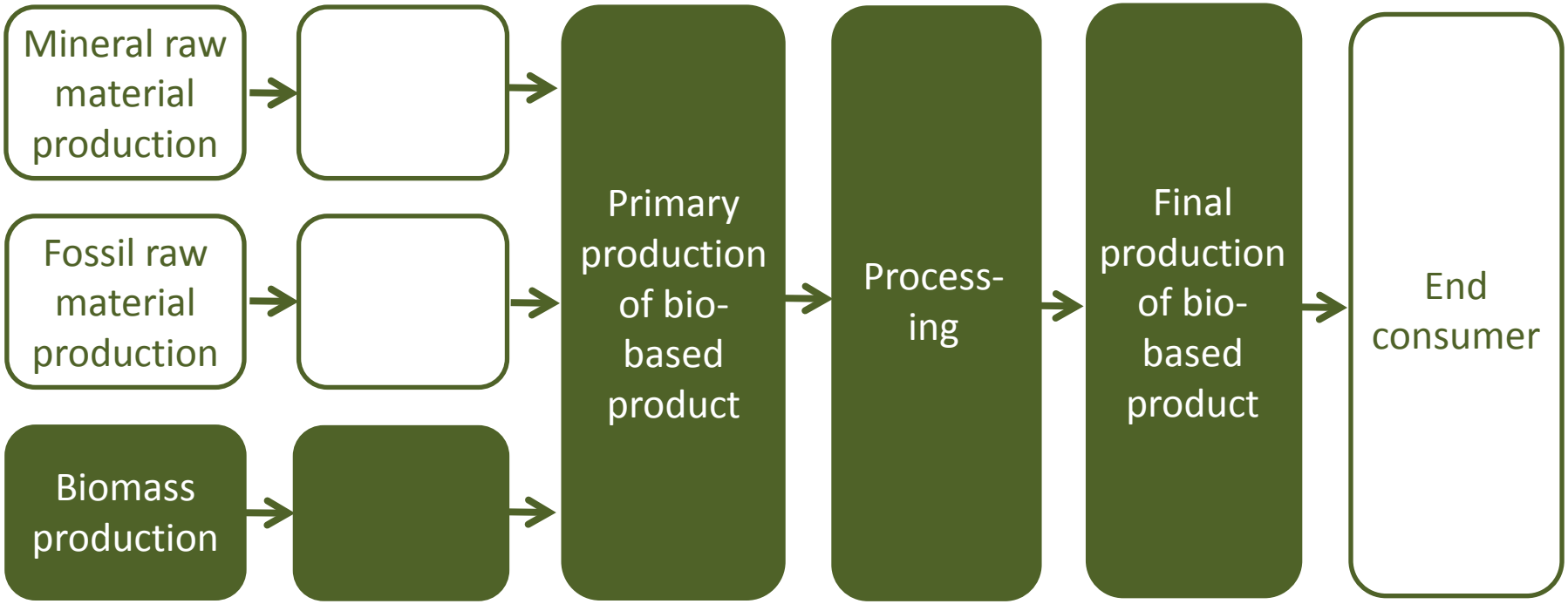
Better Biomass chain-of-custody requirements

Supply chain

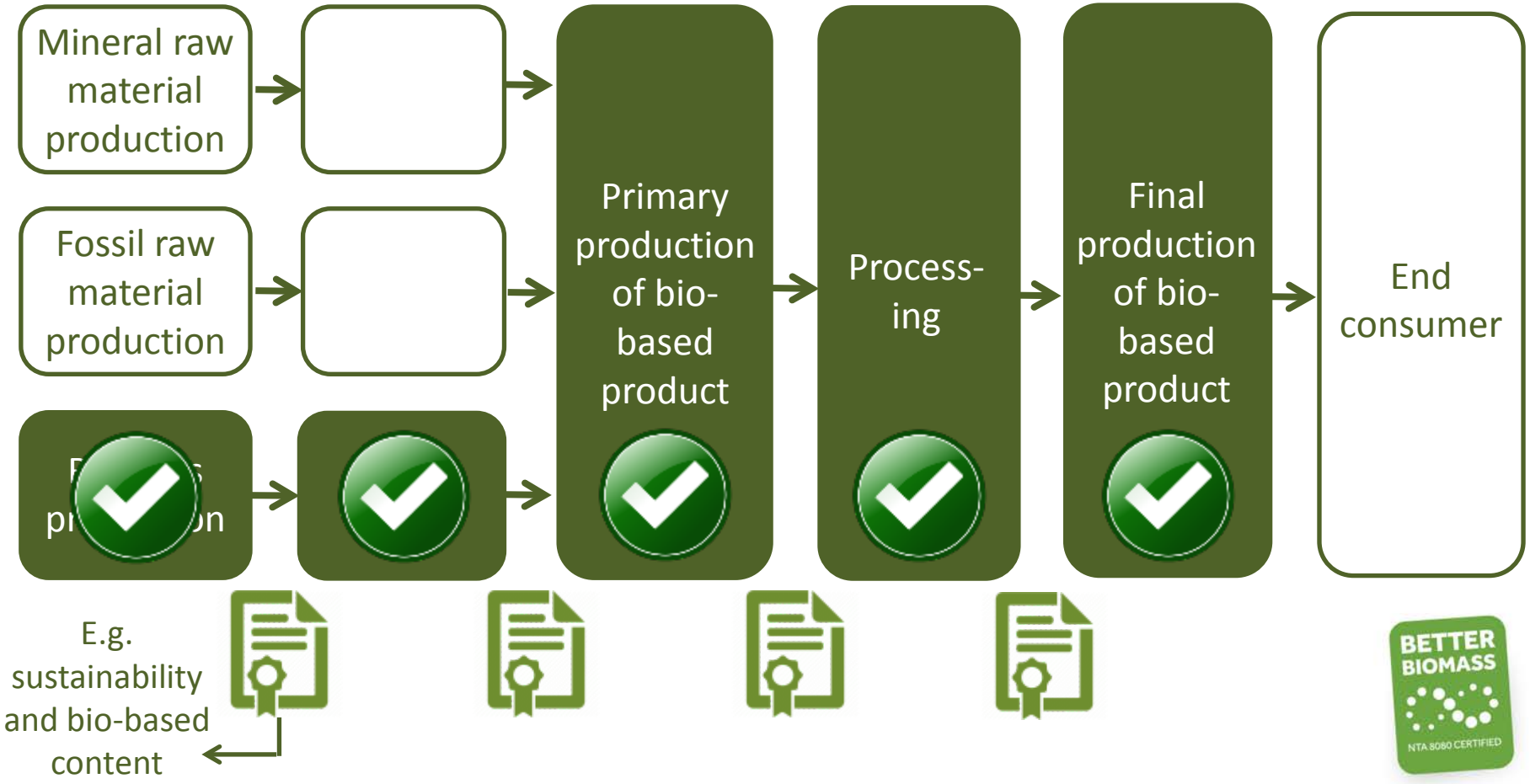
Supply chains can be complex, e.g. for bio-based products



[Source: EN 16751:2016]

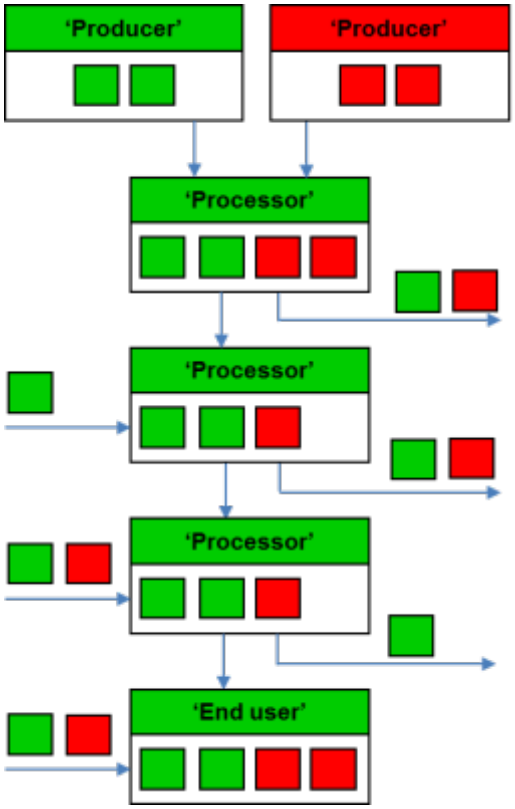
Chain of custody

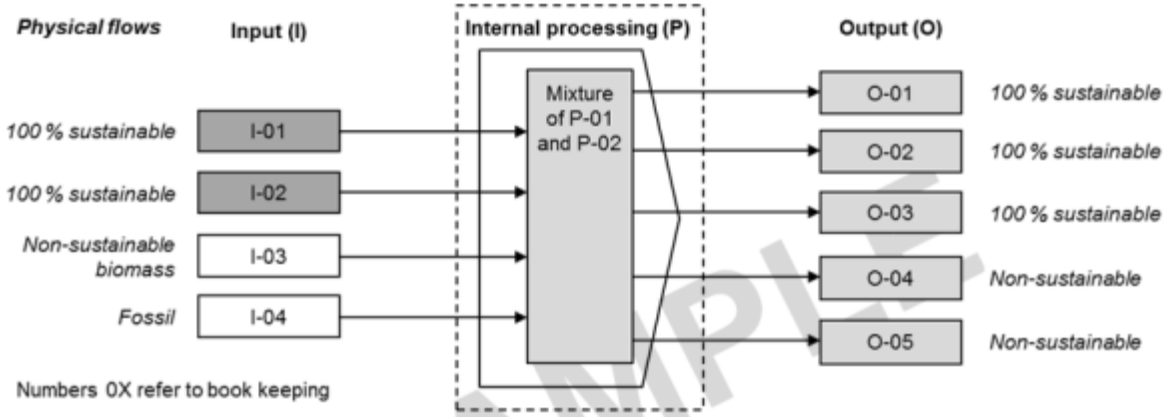
Sustainable sourcing of biomass requires traceability



Mass balance approach

- Chain-of-custody requirements apply to entire supply chain
- Mass balance to ensure robust sustainability claims





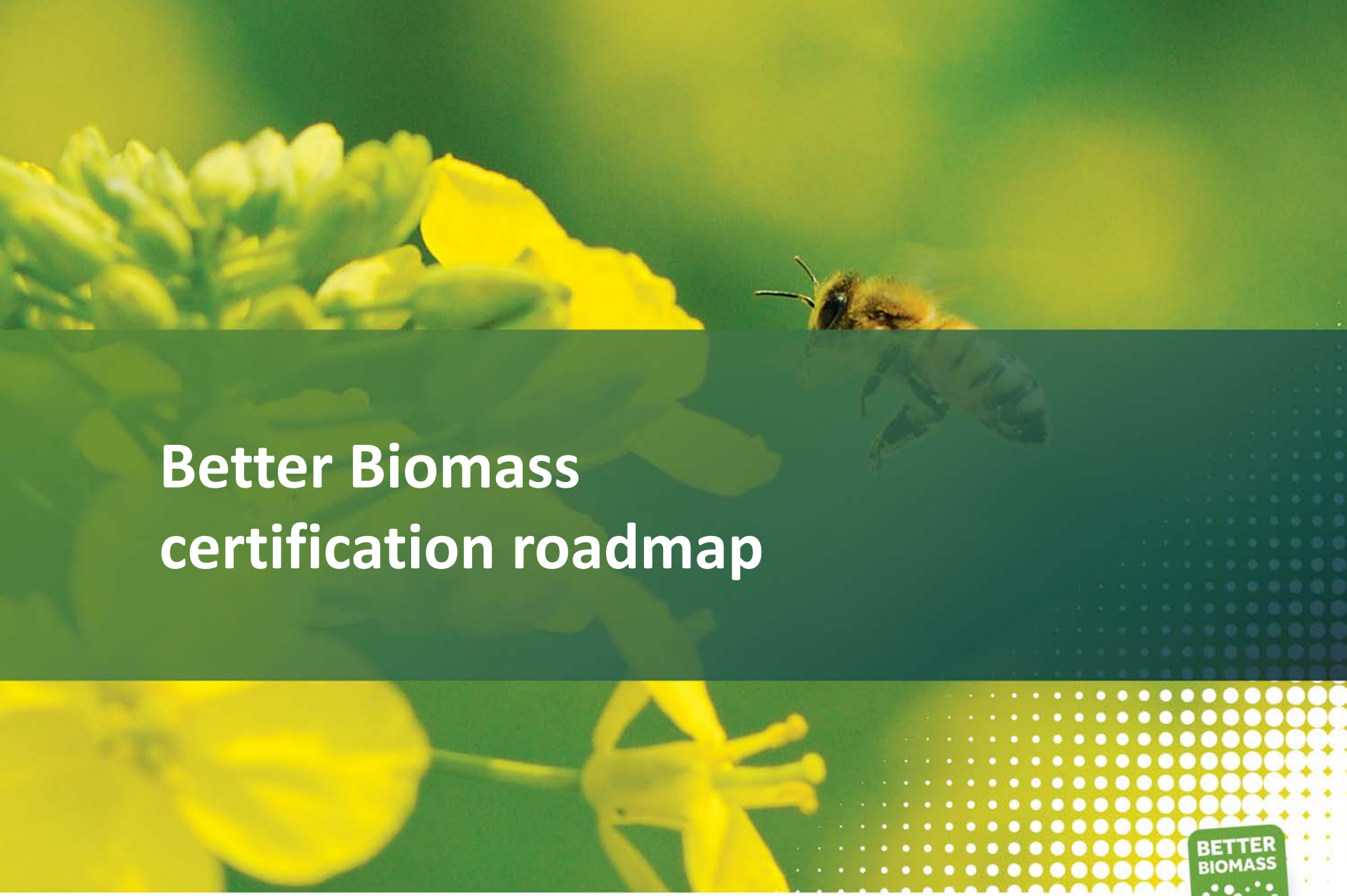
Book keeping

Input		
Batch	**Type**	**Amount**
I-01	100 % sustainable	500
I-02	100 % sustainable	1.500
I-03	Non-sust biomass	500
I-04	Fossil	500
Total		**3.000**

Internal processing		
Batch	**Type**	**Amount**
P-01	100 % sustainable	2.000
P-02	Non-sustainable	1.000
Total		**3.000**

Output		
Batch	**Type**	**Amount**
O-01	100 % sustainable	700
O-02	100 % sustainable	800
O-03	100 % sustainable	500
O-04	Non-sustainable	600
O-05	Non-sustainable	400
Total		**3.000**

Better Biomass certification roadmap



Roadmap to Better Biomass certification

Organization implements NTA 8080 requirements in its operations

Organization carries out self assessment to verify compliance with NTA 8080

Organization contracts one of associated certification bodies

Organization becomes a Better Biomass member

Certification body carries out initial audit phase 1 (document review)

Certification body carries out initial audit phase 2 (on-site visit)

Certification body grants Better Biomass certificate (if no majors)

Organization is added to Better Biomass certification register

Organization maintains certificate via surveillance audits and recertification

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Tools to support certification process

Better Biomass website contains:

- Background information (based on Bibliography):
  - Standards
  - Legislation
  - Reports and other documentation
- Tools and databases:
  - GHG calculations
  - Biodiversity
  - Soil
  - Water
  - Wellbeing
- System plans – self assessment tools (new version expected in summer)

Thank you for your attention!

"To bee or not to bee"
Do you have any question?

www.betterbiomass.com