



Sustainability Transition Assessment and
Research of Bio-based Products
Grant Agreement Number 727740



Effective monitoring of sustainability impacts

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Introduction

The contribution of STAR-ProBio to BE monitoring activities

- STAR-ProBio WP9 has focussed on the interface between product related measures for sustainability assessment and verification (i.e. the SAT-ProBio blueprint) and the systemic dimension of the EU BE policy framework.
- In that sense, WP9 analysed potential links between both elements and highlighted potential support for the development of a future BE policy framework by STAR-ProBio results.
- This presentation focusses on T9.4 results → Interface between BE Monitoring and sustainability certification

Introduction

Monitoring the BE – Why?

- “inherent complexity and the very high level of ambition of the Bioeconomy strategy itself ” (Giuntoli et al. 2020)
- Complex policy framework with overlapping effects from existing legislation in the different BE sectors (STAR-ProBio T9.1)
- Stakeholder acceptance largely depends on reliable sustainability claims and robust verification

BE Monitoring activities in the EU



- From the desktop research 28 monitoring activities were identified.
- Besides the different geographical foci, the identified existing approaches differ mostly in terms of their
 - general purpose,
 - the applied monitoring criteria,
 - the reporting frequency and
 - the presentation/reporting of the monitored data.

BE Monitoring activities in the EU

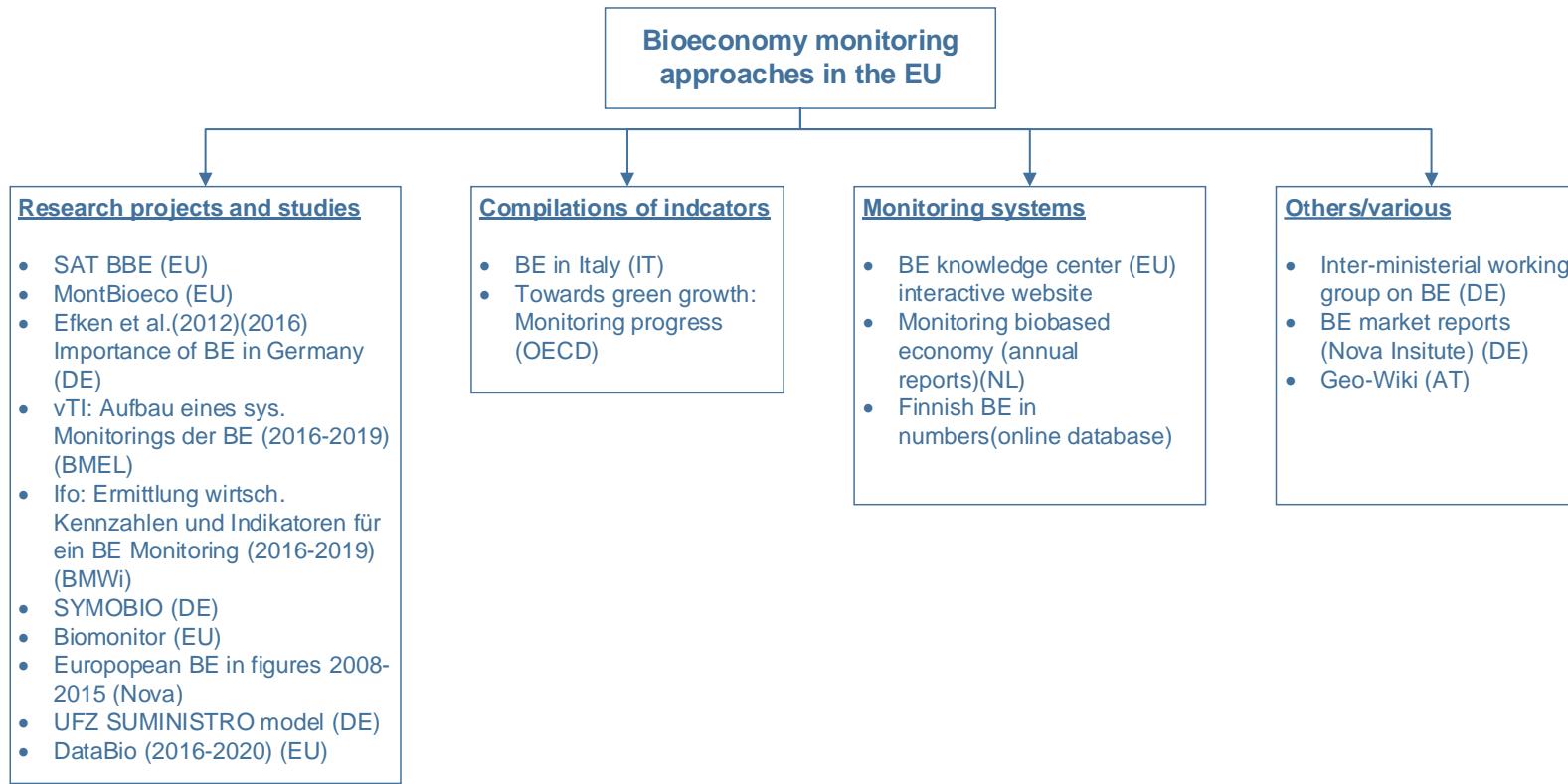


Figure taken from STAR-ProBio D9.1

- To further study the differences in our selection of existing activities, we classified the items according to four different categories:
- **Research projects**, mostly government-funded, preparing the introduction of respective monitoring systems and aiming at answering specific technical questions
- Activities, which **compile** proposals for **monitoring indicators**. Indicators can be considered a core element of a monitoring system.
- We found three **monitoring systems**, considered to be operational.
- Finally, several **other** activities that are not primarily related to the BE, but still have potentially valuable aspects worth highlighting.



BE Monitoring activities in the EU

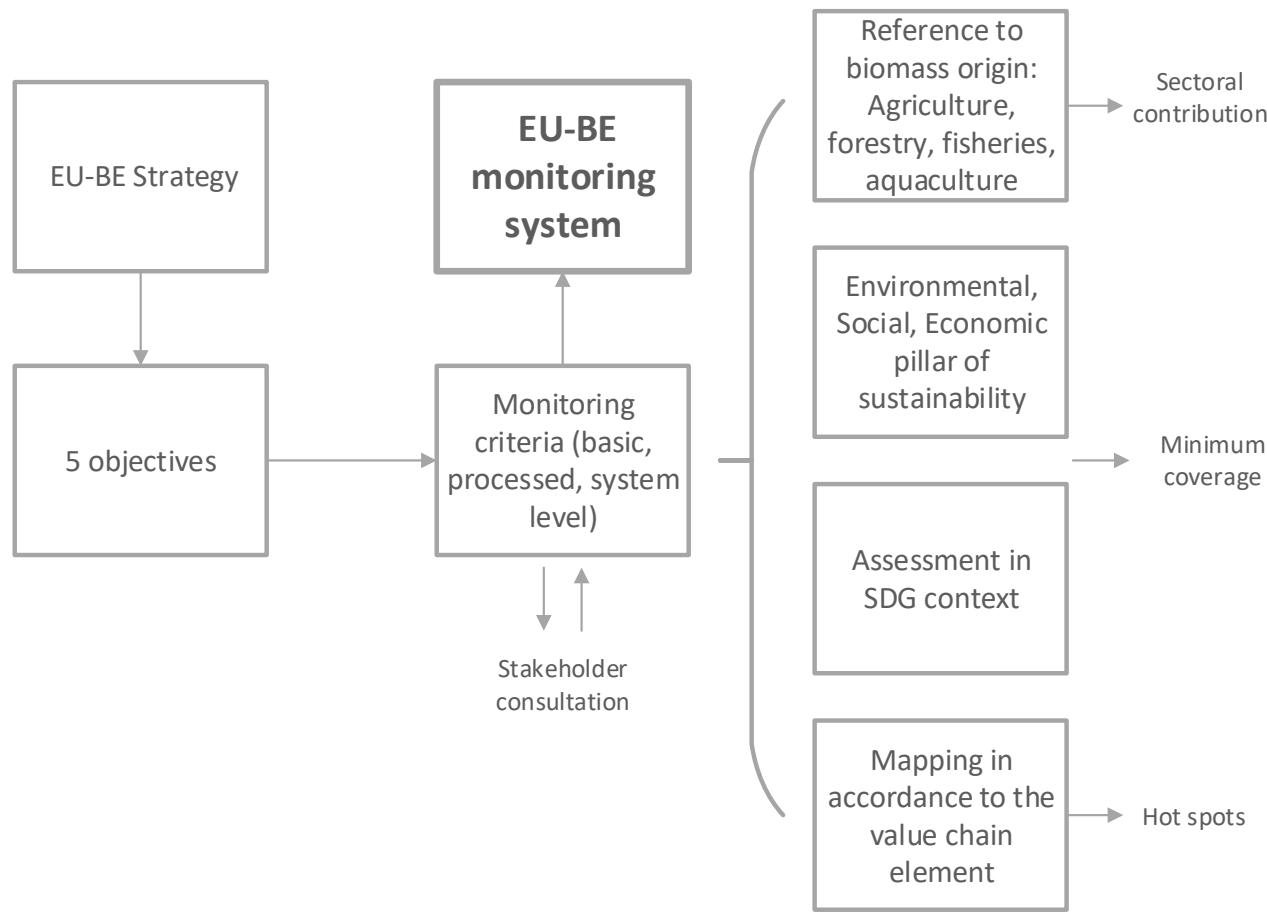


Figure based on Giuntoli et al. 2020

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Funded by the EU H2020 Programme

- There is significant effort to monitor the BE on an EU level
- The Commission is establishing a system which is already operational, but works with very limited criteria (so far).
- The Joint Research Centre recently reported on the current status in 2020 and the planned further development (Giuntoli et al. 2020).
- The criteria are central in the concept and mirror the objectives of the EU BE strategy.
- To ensure a sustainable BE, the criteria set shall take the social, economic and environmental sustainability pillar into account and shall be assessed against the Sustainable Development Goals.
- The system shall facilitate the identification of sectoral contributions from agriculture, forestry, fisheries and aquacultures, as they represent the resource base of the BE.
- A stakeholder consultation process will compliment consensual agreement for the monitoring criteria.



Links between BE Monitoring and sustainability C&V

- Sustainability certification has become an important instrument in various sectors of the Bioeconomy.
- Currently being used to ensure safeguards for a number of specific sustainability criteria associated with the production of biomass or biobased products.
- Furthermore, in certain sectors it has also become an instrument, which can support market differentiations and orientation for consumers, demanding certain products or product characteristics.
- With increasing activities in sustainability certification and monitoring of the Bioeconomy, the question arises, to which extend both activities might benefit from one another in the future.

	Sector	Label	Initiative	Certification scheme	Name	geographic	feedstock	Supply Chain	Scope	Social	Environment	Economic	Good Governance
Bioenergy	liquid biofuels	x	x	x	International Sustainability & Carbon Certification (ISCC)	global	multiple	full	x	x	x	x	
		x	x	x	REDcert EU	Europe (+Ukraine, Belarus)	multiple	full	x	x	x	x	
		x	x	x	Red Tractor Farm Assurance Sustainable Biomassfuels EU (RED) (RIB EU RED)	global	multiple	full	x	x	x	x	
		x	x	x	Red Tractor Farm Assurance Combustible Crops & Sugar Beet (Red Tractor)	UK	grain, oilseeds, sugar beet	full/first feedstock delivery point	x	x	x	x	
		x	x	x	Roundtable on Sustainable Palm Oil REDD (RSPO)	global	multiple	full	x	x	x	x	
		x	x	x	Certification System addressing Indirect Impacts of Biofuel (CIB)	EU+	multiple	farm gate to first processor	x	x	x	x	
	solid biofuels	x	x	x	Sustainable Biomass Partnership (SBP)	global	woody biomass	from cultivation to energy products	x	x	x	x	
		x	x	x	DINplus Short rotation coppice sustainably grown according to DIN EN 16214-	global	SRC wood	cultivation	x	x	x	x	
		x	x	x	Nordic Ecolabelling (NENAN)	Denmark, Finland, Iceland	woody biomass	x	x	x	x	x	
	Biosol	x	x	x	CB-Code Biobasedness	Italy	multiple	production process, product	x	x	x	x	
		x	x	x	Global Bioenergy Partnership (GBEP)	EU	multiple	production to use	x	x	x	x	
Heat/Power		x	x	x	nature made star	CH	multiple	energy production and delivery	x	x	x	x	
		x	x	x	OK-Power	Germany	multiple	power production	x	x	x	x	
		x	x	x	Grüner Strom-Label (Green-Power-Label)	Germany	multiple	power production to distribution	x	x	x	x	
Forestry		x	x	x	Forest Stewardship Council (FSC) CoC	global	woody biomass	full	x	x	x	x	
		x	x	x	European Composite (ECC) Sustainability Standard	USA	wood fiber	full	x	x	x	x	
Construction		x	x	x	D-GIPS system	global	multiple	from cradle to grave	x	x	x	x	
		x	x	x	Green Building Rating System BREAM	global	multiple	design and procurement stage, pos	x	x	x	x	
		x	x	x	Assessment System for Sustainable Building (BNB)	Germany	multiple	from cradle to grave	x	x	x	x	
		x	x	x	Minergie	Switzerland, Liechtenstein	Leadership in Energy and Environmental Design (LEED)	global	x	x	x	x	
Food	Fair Trade Certification Sys	x	x	x	Fairtrade Label - Fairtrade Labelling Organizations International (FLO)	global	crops	full	x	x	x	x	
		x	x	x	NATURLAND fair	global	multiple	full	x	x	x	x	
		x	x	x	Roundtable on Fair Trade in Hand	global	multiple	full	x	x	x	x	
Fish Certification Systems		x	x	x	Marine Stewardship Council (MSC)	global	fish	from fisheries to retailers	x	x	x	x	
Agricultural Products		x	x	x	GlobalGAP crops certification	global	crops	pre-farm gate	x	x	x	x	
		x	x	x	demeter	global	multiple	cultivation to processing	x	x	x	x	
		x	x	x	Ecovin	Germany	grapes	cultivation to processing	x	x	x	x	
		x	x	x	Sustainable Agriculture Network / Rainforest Alliance Certified (SAN)	global	crops	cultivation	x	x	x	x	
		x	x	x	Roundtable on sustainable palm oil (RSPO)	global	palm oil	full	x	x	x	x	
Feed		x	x	x	GMFS Feed Responsibility Assurance	global	corn, soy, tea, hemp	full	x	x	x	x	
		x	x	x	DIG certificare Sustainable agriculture	Germany	soy, fish meal	feed production and trade	x	x	x	x	
Textiles	Fair Trade Certification Sys	x	x	x	Fairtrade Textile Standard - Fairtrade Labelling Organizations International (FLO)	global	multiple	agricultural production	x	x	x	x	
		x	x	x	NATURLAND Textil (natural and textile)	global	natural fibres	certified cotton, other respirable	x	x	x	x	
		x	x	x	EU Ecolabel - fabrics	EU, CH, NOR, ISL, TUR	multiple	products	x	x	x	x	
minerals and Plastics		x	x	x	ECOplastic	global	multiple	full	x	x	x	x	
		x	x	x	Business Feedstock alliance	global	multiple	full	x	x	x	x	
Pharmacy / Cosmetics		x	x	x	COSMOS Standard - Cosmetic organic and natural standard	global	multiple	production process, product	x	x	x	x	
Plastics/Products		x	x	x	CRADLE TO CRADLE CERTIFIED PRODUCT STANDARD	global	multiple	production process, product	x	x	x	x	
		x	x	x	INFRÖ Nachhaltigkeitskriterien für die stoffliche Biomassenutzung (sustainability)	global	multiple	agricultural biomass	x	x	x	x	
		x	x	x	Nature Care Products Standard	global	multiple	products	x	x	x	x	

Taken from Majer et al. 2018



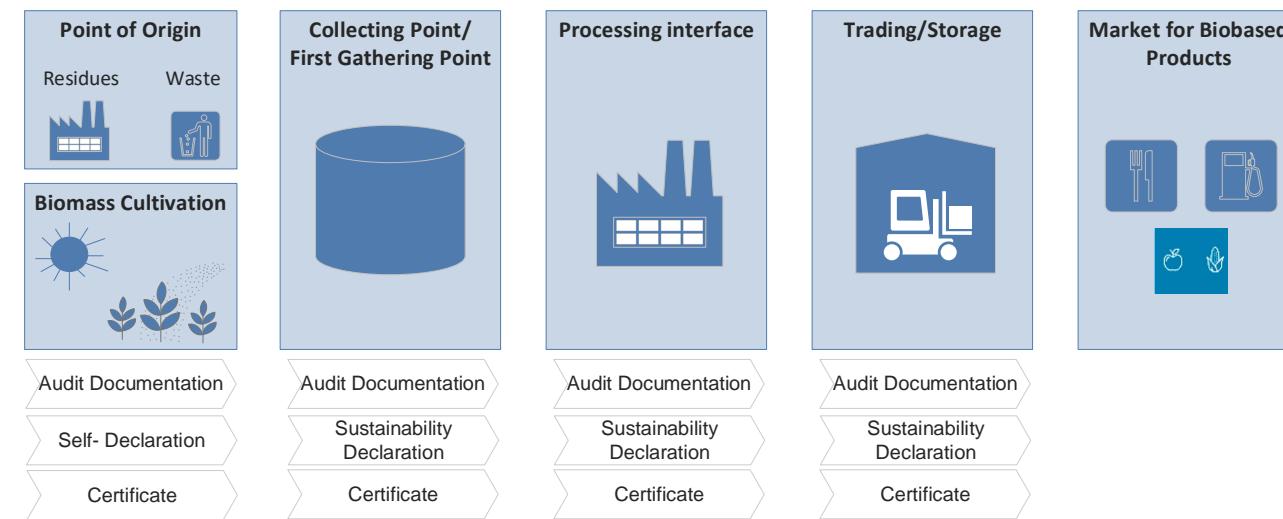
Links between BE Monitoring and sustainability C&V

(i) Data from certification to support BE Monitoring (i)

Supply chains for biobased products are diverse and can include different international and regional trade-flows and set-ups.

A certification system may verify a whole supply chain or each single element of the supply chain.

A huge number of different datasets being potentially relevant for a monitoring of the BE is verified during auditing.



Due to the significant differences between certification, the development of a general systematic for the types of documents and data from the certification seems not feasible at this point in time. However, we can differentiate between certification activities in different sectors of the EU Bioeconomy.

Links between BE Monitoring and sustainability C&V

(i) Data from certification to support BE Monitoring (ii)

Some sectors are already fully covered by certification as a result of existing legislation. In these sectors, we can observe common structures regarding the documentation and reporting of data.

Furthermore, we can observe voluntary certification activities in sectors with a high market penetration of a few certification schemes and finally, sectors with a low market penetration of certification and a huge variety of existing schemes.

During auditing and while transferring certified biomass and bio-based products through the supply chain, different certification and auditing documents are being generated. These documents contain relevant information on certified biomass (e.g. feedstock type and origin).

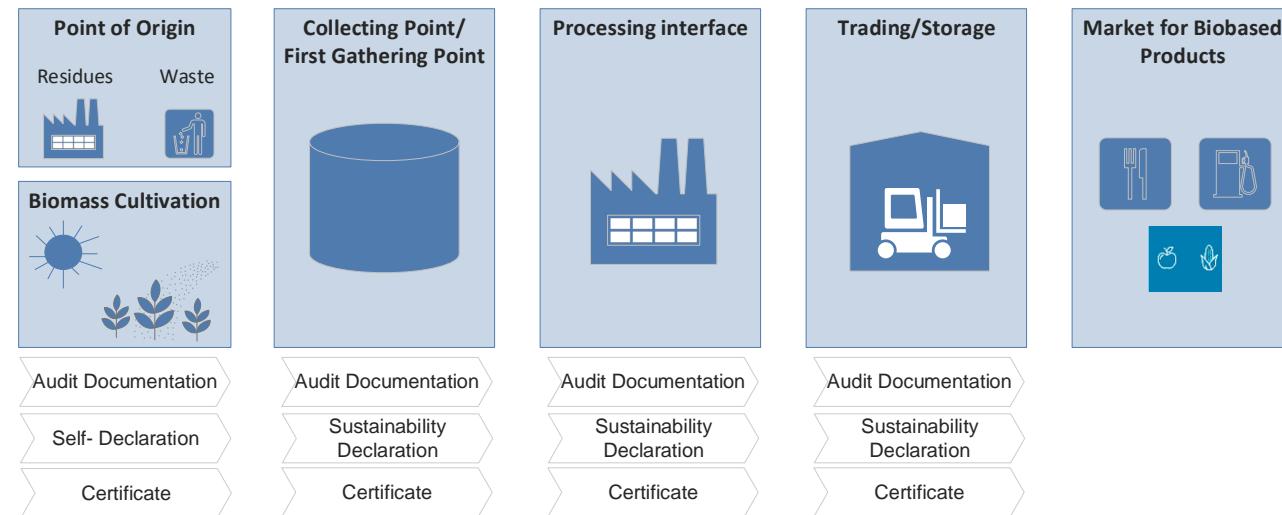


Figure taken from STAR-ProBio D9.1

Links between BE Monitoring and sustainability C&V

(ii) Hot-spot analysis and improvement

- Combining elements of BE Monitoring with sustainability certification of producers in these areas
- Development of case specific measures for improvement and verification with producer certification
- Support the start of improvement and sustainable production in areas or regions with high risks for unsustainable production of biomass

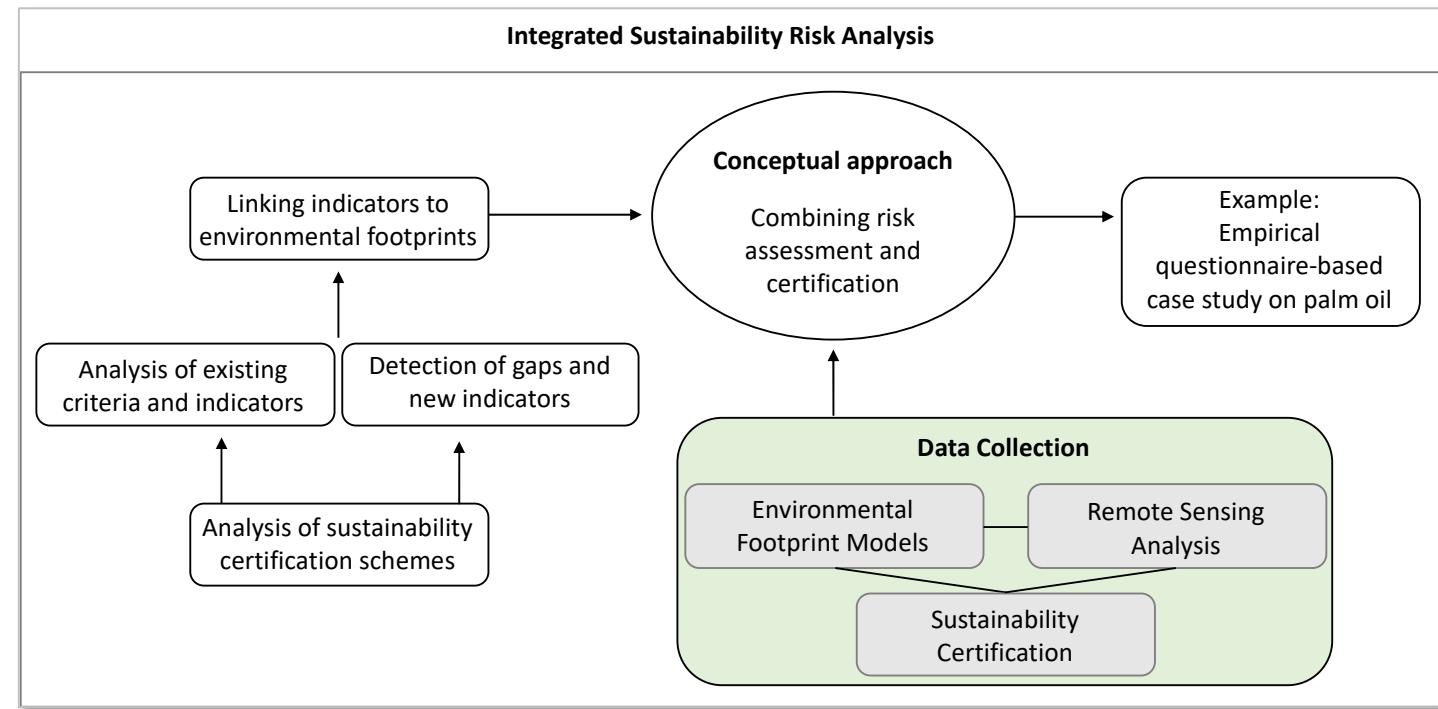
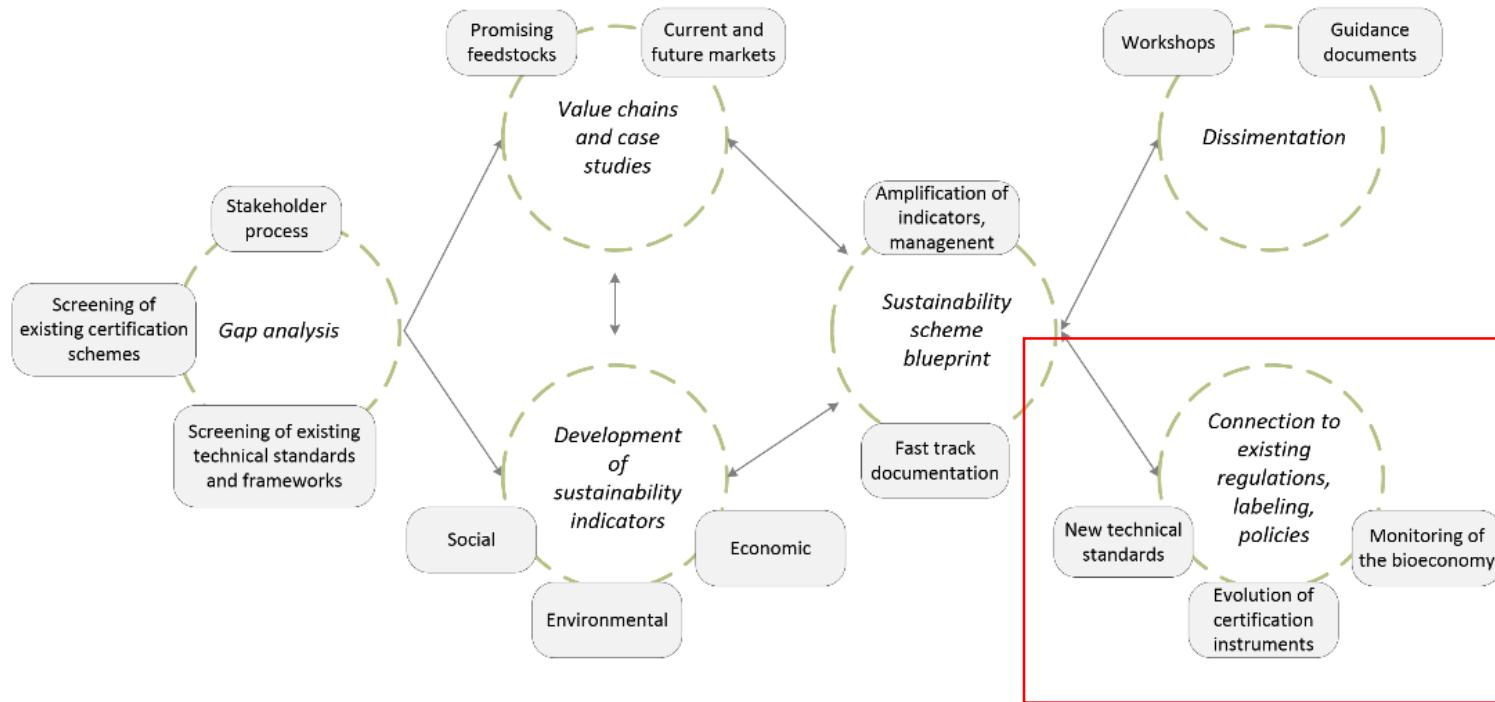


Figure taken from Helka et al. 2020

Results of WP9



- WP 9 results are available at: <http://www.star-probio.eu/research/>
- Deliverable D9.1: Comprehensive overview of existing regulatory and voluntary frameworks on sustainability assessment
- Deliverable D9.2: Recommendations for standards and criteria for eco-labels for bio-based products
- Deliverable D9.3: Proposal for a co-regulation framework for the use of sustainability certification schemes in the production of bio-based products
- Deliverable D9.4: Potential links to BE monitoring activities and their support by STAR-ProBio results

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