



## DEVELOPMENT OF AN INDICATOR-SYSTEM FOR MEASURING THE SUSTAINABILITY OF TOURISM IN GERMANY

*2<sup>nd</sup> Meeting of the Working Group of Experts on Measuring the Sustainability of Tourism | 25 October 2018 | Madrid*

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## Our Research Project

German Environment Agency

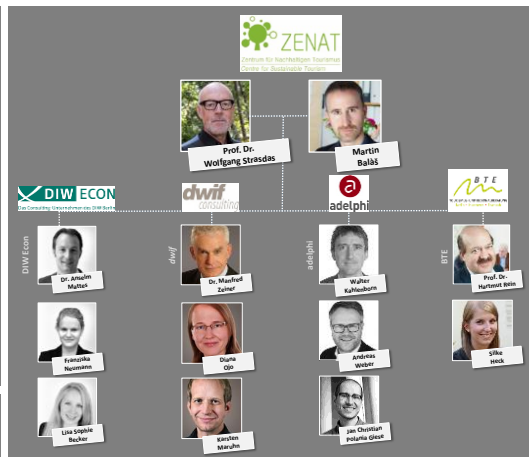


Federal Environment Ministry



Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

July 2017 – June 2020



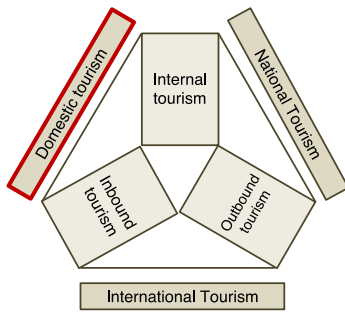
## Objectives of the project

- Is it possible to **estimate the share of sustainable tourism** compared to all tourism in Germany (in terms of value added)?
- **How „sustainable“** is the tourism industry in Germany overall?
- How can this be **measured**? → Development of a national data-based indicator system.
- What are the **conclusions**? → Evolving sustainable tourism in Germany.



## Setting the framework: tourism

### Tourism definition of UNWTO 1993



Germany as a destination and location of tourism businesses

motivation	motive	Business	Health	Leisure/Recreation	Education, business
	segment	Business-Travel	Health-tourism	Holiday tourism	Study trips
duration	days	1	2-4	5-30/45	+ 30/45
	nights	0	1-3	5-30/45	+ 1 year
target market	Description	Day-travel	Short stays	holiday	Long-term tourism
	distance	hometown	Near surrounding	Inland	Parts of inland, international, continental, trans-continental
Description	distance	Residential surroundings	Recreation	domestic-tourism	international-tourism
	Description	Residential surroundings	Recreation	domestic-tourism	international-tourism
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■ Tourism per definition ■ Framework of the study

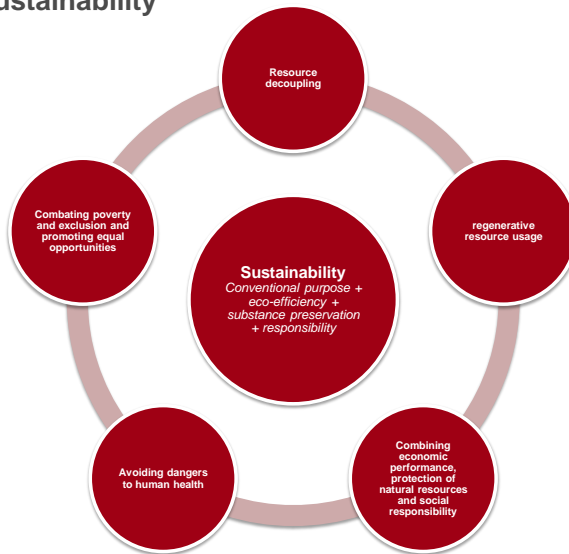
source: own illustration, based on UNWTO 1993:2, Freyer 2011:3



## Setting the framework: Sustainability

### Summary

- time dimension:  
today & future
- Location-based dimension:  
Responsibility for  
international effects caused  
here



source: own illustration, based on the German sustainability strategy 2017



## Setting the framework: Sustainable Tourism

### Sustainable Tourism

Tourism that takes full account of its current and future economic, social and environmental impacts, including the needs of visitors, industry, the environment and the host community. (UNWTO, 2004)



Figure: Center for Sustainable Tourism, 2018



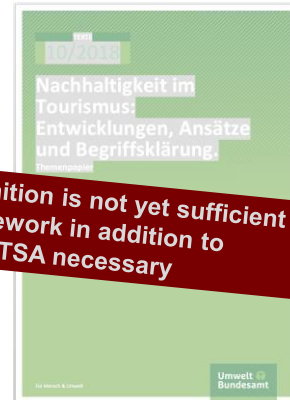
## Binary distinction between Sustainable ⇔ Non-Sustainable Tourism

### Challenges & Impossibilities

- **Sustainability benchmarks & exclusion criteria** mostly have an arbitrary character; no clear proof available
- No existing reference data for **trends** or **comparisons** to other industries
- Sustainability itself would need to be expressed as a **composite indicator** or **index**  
→ **opposing sub-indicators** possible; **weighting** not defined
- **Certification systems**: no standardised assessments; mostly only elements of sustainability; partly questionable quality; does not represent overall tourism industry; data not publicly available

#### → Consequences:

1. **Value-based concept**, high subjectivity (Sustainability = Process of discussions & negotiations)
2. **Individual decision** at corporate level / local destination level → high effort of data collection necessary



## Defining Key aspects of Sustainability in tourism

### • Desk Research

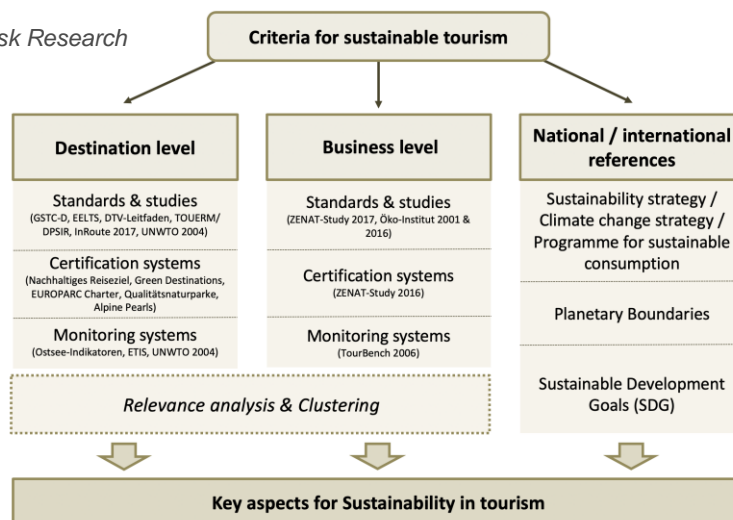


Figure: Center for Sustainable Tourism, 2018

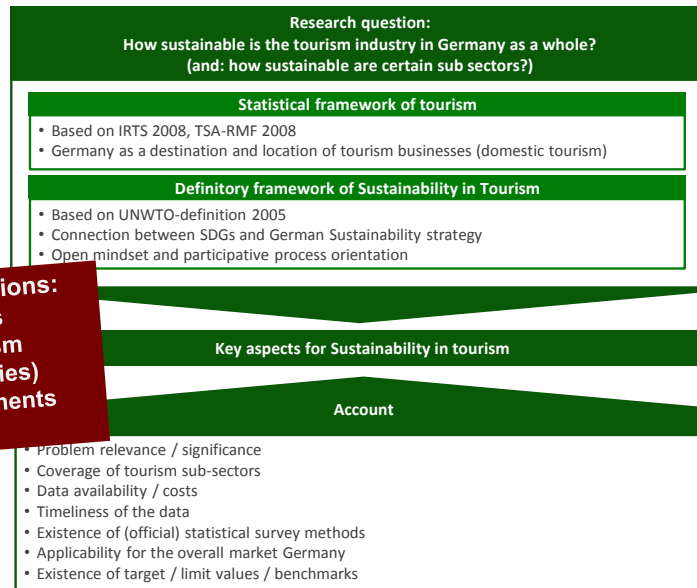
## Defining Key aspects of Sustainability in tourism



Figure: Center for Sustainable Tourism, 2018

## Defining Key aspects of Sustainability in tourism

- *Framing of the account*



**Other relevant limitations:**

- Spatial dimensions
- Seasonality (tourism intensities / densities)
- Life cycle assessments
- Causal links

Figure: Center for Sustainable Tourism, 2018

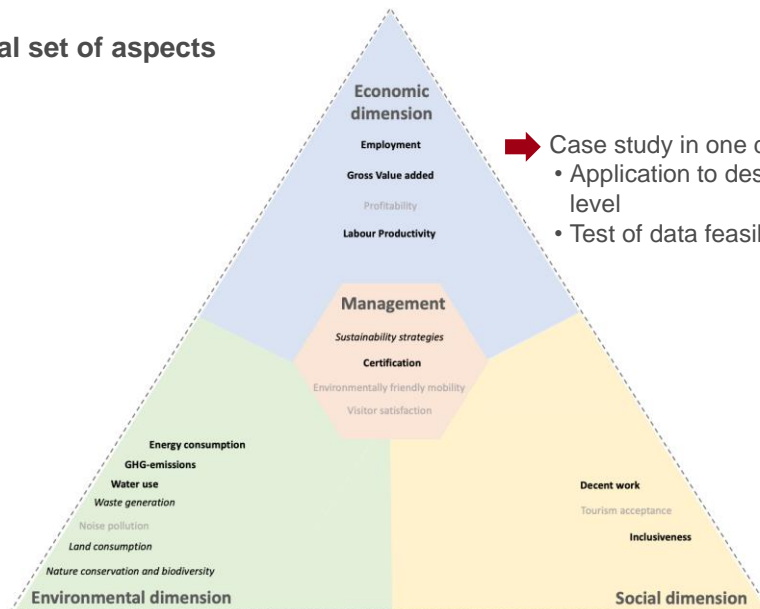
## Defining Key aspects of Sustainability in tourism

### • Framing of the account

Bewertungsmaßstab	Beschreibung/Vorgehen	Bewertung	Gesamtbewertung
Problemelevanz	Der Indikator gibt die Zahl der Arbeitskräfte in Köpfen innerhalb eines oder mehrerer Unternehmen bzw. in Summe innerhalb eines bestimmten Bezugsraums in tourismusrelevanten Wirtschaftsbereichen an.	●	●
Abdeckungsgrad Teilbranchen	Es sind alle touristischen Teilbranchen nach WZ 2008 verfügbar.	●	
Datenverfügbarkeit / Kosten	Daten sind in den VGR verfügbar.	●	
Aktualität	Vorläufige Ergebnisse nach Wirtschaftsbereichen sind mit etwa einem halben Jahr Verzögerung verfügbar. Aktuelle Quoten, die sich auf den tatsächlichen Anteil der touristischen Nachfrage beziehen, sind unregelmäßig und mit etwa 2 Jahren Verzögerung verfügbar.	●	
Erhebungsverfahren	Für die Berechnung der Ergebnisse der VGR werden alle geeigneten laufenden wirtschaftsstatistischen Erhebungen verwendet, die zum jeweiligen Veröffentlichungs- bzw. Revisionszeitpunkt vorliegen. Zusätzlich werden weitere Datenquellen wie administrative Daten (zum Beispiel Finanz- und Steuerstatistiken, Daten der Bundesagentur für Arbeit), Geschäftsstatistiken und Jahresabschlüsse großer Unternehmen (zum Beispiel Luftfahrt, Telekom, Kreditinstitute), Haushaltsbefragungen (Einkommens- und Verbrauchsstichprobe (EVS), Mikrocensus) sowie Informationen von Verbänden ausgewertet.	●	
Ziel-/Grenzwerte / Benchmarks	Einordnung der absoluten Werte über Zeitreihen	●	
Empfehlung der Anwendbarkeit	Alle räumlichen Ebenen	●	
Vorschlag Methodik bei regionaler Anwendung	Gegebenenfalls Rückgriff auf die Daten des Arbeitskreises Volkswirtschaftliche Gesamtrechnungen der Länder und Auswertungen der Bundesagentur für Arbeit, Befragung		
Empfehlung Fallstudie	Ja		

Major conceptual challenges	Conceptually feasible with limitations	Currently conceptually feasible
<ul style="list-style-type: none"> <li>Sustainability strategies</li> <li>Waste generation</li> <li>Land consumption</li> <li>Nature conservation and biodiversity</li> <li>Noise pollution</li> <li>Tourism acceptance</li> </ul>	<ul style="list-style-type: none"> <li>Certification</li> <li>Environmentally friendly mobility</li> <li>Guest satisfaction</li> <li>Water consumption</li> <li>Land consumption (tourism density)</li> <li>Decent work (DGB Index)</li> <li>Inclusiveness (Tourism for All)</li> </ul>	<ul style="list-style-type: none"> <li>Employment</li> <li>Gross value added</li> <li>Profits</li> <li>Labour Productivity</li> <li>Energy consumption</li> <li>GHG-emissions</li> <li>Decent work (indicators by statistical office)</li> <li>Inclusiveness (participation denied due to poverty)</li> </ul>

## Final set of aspects



➔ Case study in one destination:

- Application to destination level
- Test of data feasibility

## The “extended TSA“ in tabular representation – I) overview

	Tourism total*	Accommodation	Food and beverage service activities	Land transport and transport via pipelines	Water transport	Air transport	Rental and leasing activities	Travel agency, tour operator & other reservation service activities	Creative and cultural, gambling, sports, amusement & recreation act.	Other	Comparison: German economy as a whole
Tourism share (TSA)**		55	56	49	50	51	77	79	90-93		
Share in total tourism GVA (TSA)***	100										
<b>Management</b>											
Certification											
Sustainability strategies											
<b>Economic dimension</b>											
Employment											
Gross value added											
Labour productivity											
<b>Environmental dimension</b>											
Energy consumption											
Energy intensity											
Greenhouse gas emissions											
GHG intensity											
Water use											
Water intensity											
Waste generation											
Nature conservation and biodiversity											
Land consumption											
Noise pollution											
<b>Social dimension</b>											
Decent work (DGB)											
Gender Pay Gap											
Low wage rate											
Overlong working hours											
Involuntary time limit											
Over- and underqualification											
Participation denied due to poverty											

## The “extended TSA“ in tabular representation – II) rows

	unit	
<b>Management</b>		
Certification	% (destinations)	Under development: own data collection, cooperating with certifications organisations and DTV (German Tourism Association)
Sustainability strategies		
<b>Economic dimension</b>		
Employment	persons	DIW Econ: TSA
Gross value added	EUR	
Labour productivity	EUR/person	
<b>Environmental dimension</b>		
Energy consumption	J	Destatis: Environmental-economic accounts and TSA
Energy intensity	J/EUR	
Greenhouse gas emissions	t CO2 equ.	
GHG intensity	t CO2 equ./EUR	
Water use	m³	
Water intensity	m³/EUR	
Waste generation		
Nature conservation and biodiversity		
Land consumption		
Noise pollution		
<b>Social dimension</b>		
Decent work (DGB)	Index	DGB (German Trade Union Confederation): „Decent Work“ Index and TSA
Gender Pay Gap	% (earnings)	
Low wage rate	% (employees)	Destatis: Quality of employment (indicator set) and TSA
Overlong working hours	% (persons employed)	
Involuntary time limit	% (limited contracts)	
Over- and underqualification	% (persons employed)	Eurostat: European Union Statistics on Income and Living Conditions (EU-SILC)
Participation denied due to poverty	% (population)	

## The “extended TSA“ in tabular representation – III) columns

	Tourism total*	Accommodation	Food and beverage service activities	Land transport and transport via pipelines
		55	56	49
Tourism share (TSA)**				
Share in total tourism GVA (TSA)***	100			

Water transport	Air transport	Rental and leasing activities	Travel agency, tour operator & other reservation service activities	Creative and cultural, gambling, sports, amusement & recreation act.	Other	Comparison: German economy as a whole
50	51	77	79	90-93		

## The “extended TSA“ in tabular representation – IV) overview

	Tourism total*	Accommodation	Food and beverage service activities	Land transport and transport via pipelines	Water transport	Air transport	Rental and leasing activities	Travel agency, tour operator & other reservation service activities	Creative and cultural, gambling, sports, amusement & recreation act.	Other	Comparison: German economy as a whole
		55	56	49	50	51	77	79	90-93		
Tourism share (TSA)**											
Share in total tourism GVA (TSA)***	100										
<b>Management</b>											
Certification											
Sustainability strategies											
<b>Economic dimension</b>											
Employment											
Gross value added											
Labour productivity											
<b>Environmental dimension</b>											
Energy consumption											
Energy intensity											
Greenhouse gas emissions											
GHG intensity											
Water use											
Water intensity											
Waste generation											
Nature conservation and biodiversity											
Land consumption											
Noise pollution											
<b>Social dimension</b>											
Decent work (DCB)											
Gender Pay Gap											
Low wage rate											
Overlong working hours											
Involuntary time limit											
Over- and underqualification											
Participation denied due to poverty											

## Links to existing national targets & benchmarks

Subject area of the account	Goals of the German Sustainable Development Strategy (aligned with SDGs)
<b>Certification:</b> Proportion of destinations with sustainability performance certification	12.1.a Market share of goods certified by independently verified sustainability labelling schemes
<b>Sustainability strategies</b>	12.2. EMAS eco-management
<b>Employment:</b> Persons employed	8.5.a/b Employment rate
<b>Value added:</b> Gross value added	8.4. GDP per capita
<b>Productivity:</b> Gross value added per person employed	7.1.a/b Final energy productivity and primary energy consumption, 11.2.a/b Final energy consumption in freight transport and passenger transport
<b>Energy consumption:</b> Use of energy and energy intensity	
<b>Greenhouse gas emissions:</b> Greenhouse gas emissions and greenhouse gas emission intensity	13.1.a Greenhouse gas emissions
<b>Nature and species conservation, biodiversity</b>	15.1. Species diversity and landscape quality
<b>Land consumption</b>	11.1.a Built-up area and transport infrastructure expansion
<b>Decent work:</b> Gender Pay Gap	5.1.a Gender pay gap: Difference between average gross hourly earnings of women and men
<b>Decent work:</b> Niedriglohnquote	10.2. Gini coefficient of income distribution
<b>Inklusiveness:</b> Anteil der deutschen Bevölkerung, die aus finanziellen Gründen keinen Urlaub von mindestens einer Woche außerhalb des Heimatortes verbringen können	1.1.a/b Material deprivation: Materially deprived and severely materially deprived persons