

ATLAS Annual Conference 2023 I
Quality of Life: Health, Tourism and Climate
Bad Gleichenberg October 11th, 2023



StuttgartAirLeben

CLIMATE EDUCATIONAL AND EXPERIENCING CITY TOURS:
OVERCOMING THE ATTITUDE-BEHAVIOR-GAP

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- **Relevance & motivation**
- Research framework and theoretical foundations
- StuttgartAirLeben: Climate educational and experiencing tours

URGENCY OF “BUILDING BACK BETTER” ON SOLID FOUNDATIONS, WITH SUSTAINABILITY AND STEWARDSHIP IN TRAVEL & TOURISM SECTOR

3.3 Building Back Better: Sustainably & Inclusively

“The resulting Sustainability Strategy focuses on three core pillars, notably climate, environment, and social issues, with an emphasis on evidence to drive meaningful action.”

<https://wtcc.org/Portals/0/Documents/Reports/2021/Global%20Economic%20Impact%20and%20Trends%202021.pdf>

THE MODE OF TRANSPORT AS MAIN LEVER TO REDUCE EMISSIONS OF GLOBAL TOURISM AND FOSTER SUSTAINABLE TOURISM

8 %
(35 bn t)



The tourism industry is responsible for approximately **8% of global CO2 emissions**.

80
Years for
1 t CO2

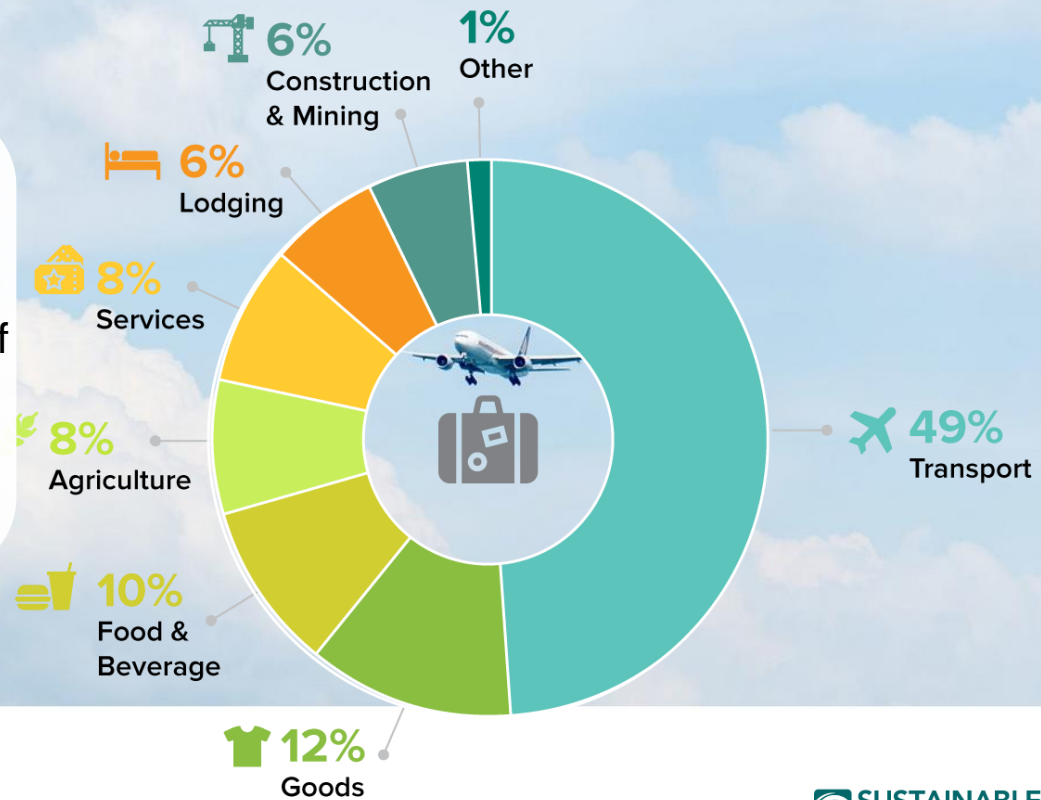


Emitting approx. 35 billion tons of CO2 globally, we would have to plant more than 200 billion beech trees for compensation.

224 bn
Trees



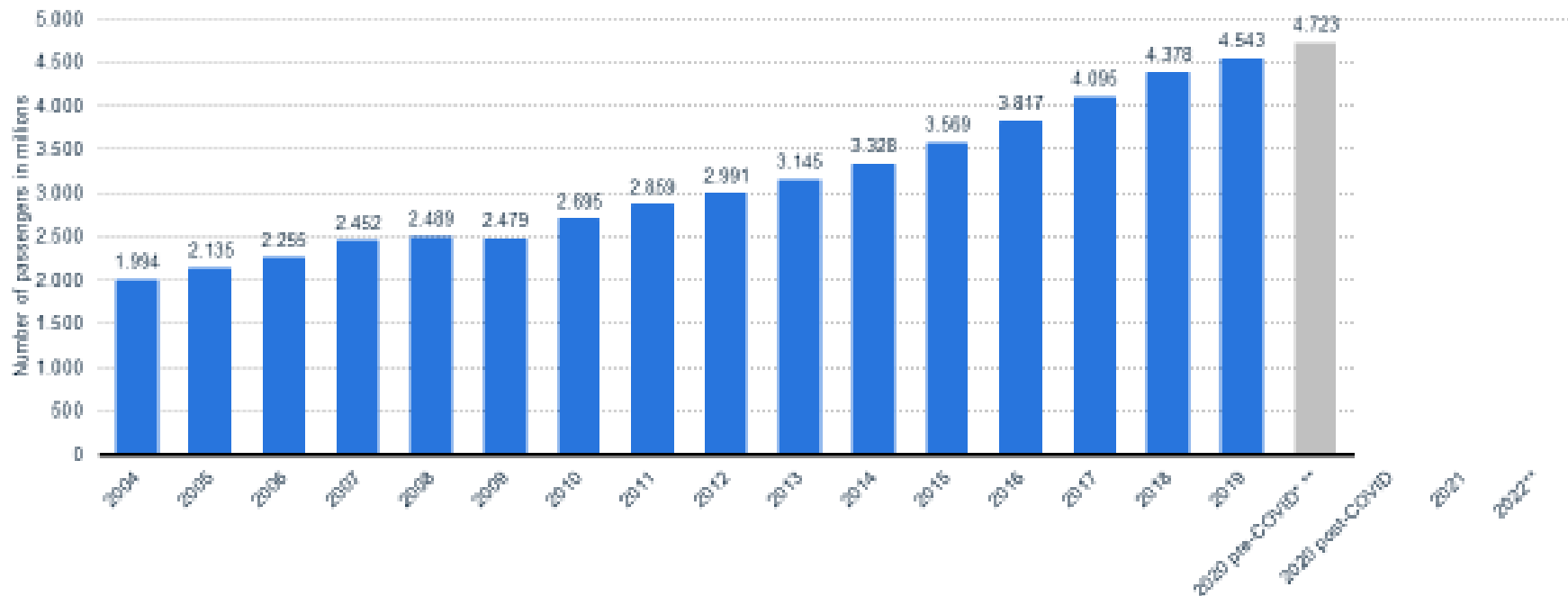
Carbon Footprint of Global Tourism



THE CORONA CRISIS GAVE HOPE: LOCAL & REGIONAL TOURISM GAINED POPULARITY; THE NUMBER OF AIRLINE PASSENGERS DROPPED

Number of scheduled passengers boarded by the global airline industry from 2004 to 2022 (in millions)

Global air traffic - scheduled passengers 2004-2022



➔ However (unfortunately), despite the pandemic, when local & regional tourism gained popularity, people tend to fall back into old habits.

Airline industry - passenger traffic worldwide 2004-2022 | Statista

EXAMPLE: THE TREND TOWARDS ACTIVE MOBILITY CAN'T BE TAKEN FOR GRANTED AND NOT ONLY REQUIRES POLITICAL DECISIONS...

Urban Cycling Institute
2. Oktober um 20:33 · 🌐

The distribution of street space is not a technical question. It is a de one! 'Justicia Urbana' by Fabian Todorovic Karmelic.



3%



63%



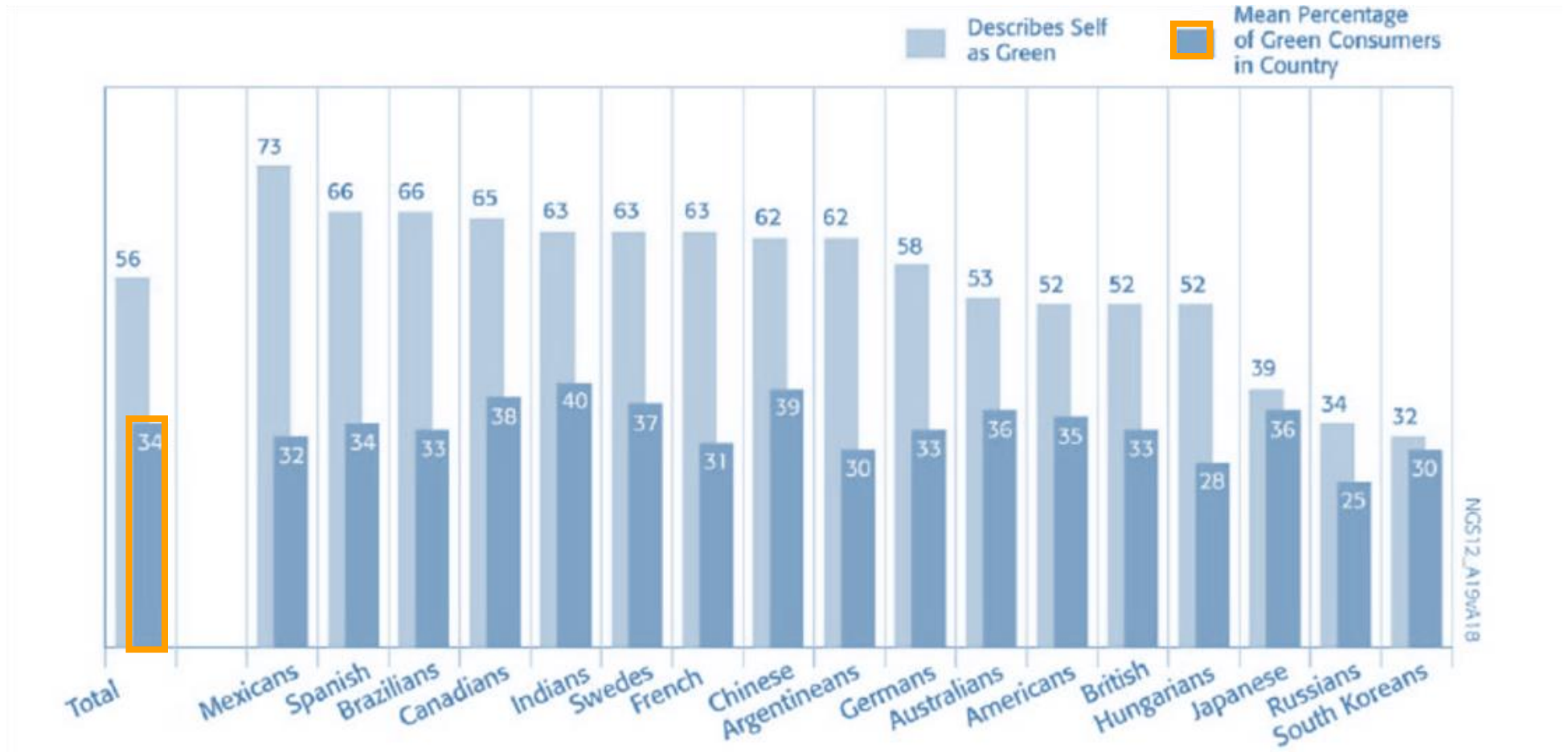
... but a change of mindset supported by targeting incentives from employers and local communities

Image sources: Urban Cycling Institute & Karmelic 2021; 3sat 2021; Bundesministerium für Verkehr und digitale Infrastruktur 2021, VCD 2019

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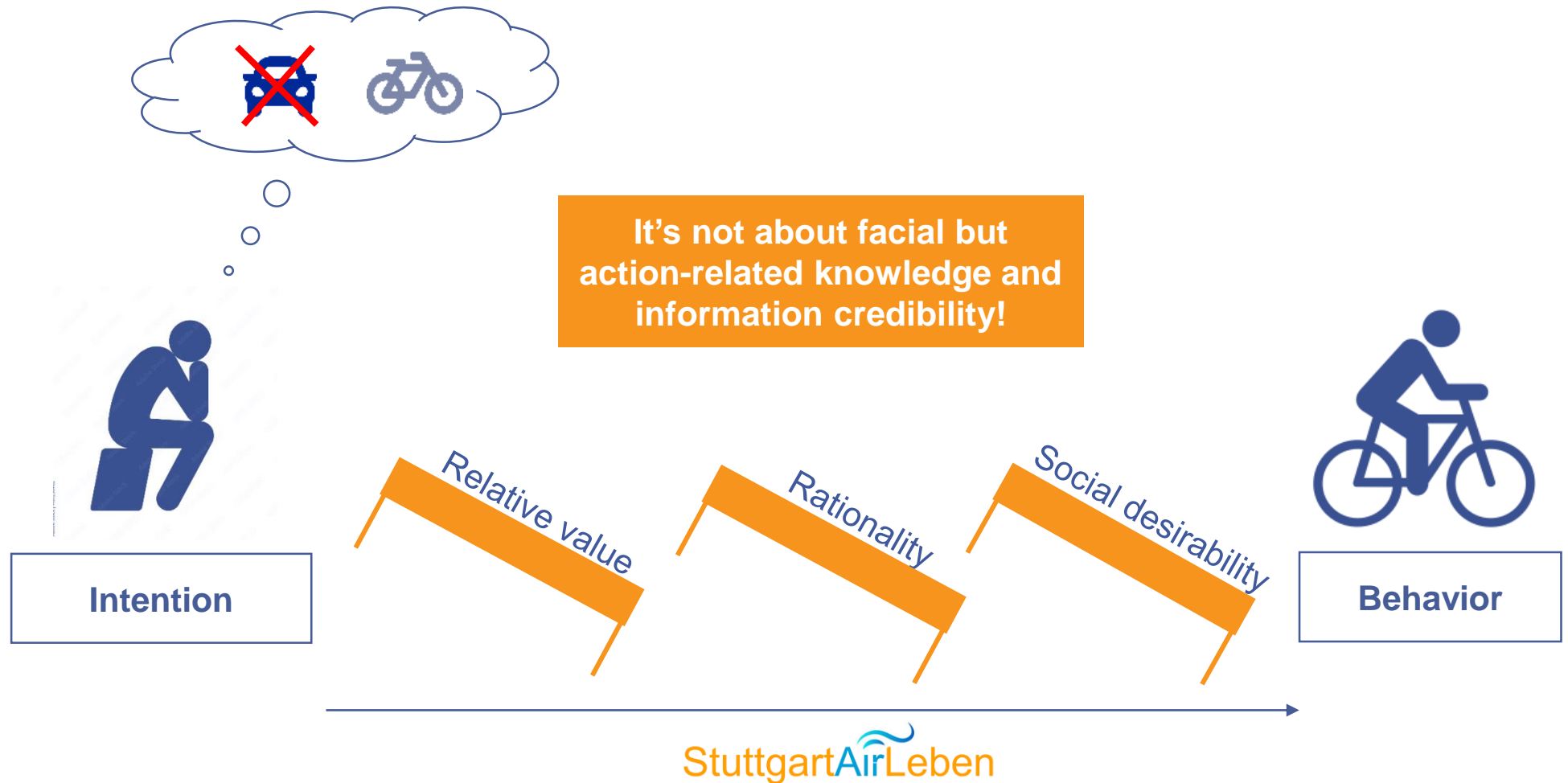
DESPITE A GREEN ATTITUDE CONSUMERS DON'T BEHAVE GREEN, IN PARTICULARLY IN TOURISM RESP. TRAVEL CONTEXT

Attitude-Behavior-Gap: Consumers with green-attitude versus average actual green consumer behavior in % (based on Greenindex)



Terlau/Hirsch (n.k.), p. 6.

HOW TO OVERCOME THE ATTITUDE BEHAVIOR GAP AND HAVE INDIVIDUALS BEHAVE/ CONSUME MORE GREEN?



Aizen (1991); Ajzen and Fishbein (2005), p. 184; Heimel et al. (2022); Hibbert et al. (2013); Wintschnig (2021), p. 340.

META-STUDY: DRIVERS AND BARRIERS OF SUSTAINABLE CONSUMPTION AS WELL AS FACTORS INFLUENCING THE ATTITUDE-BEHAVIOR GAP

Individual-related factors

Socio-demographics	Non-cognitive factors
Age, gender, income level, religiosity and educational level	Emotions
	Habits
Personal characteristics and value orientation	Cognitive factors
Altruism	Awareness of consequences
Emotional intelligence	Factual knowledge
Openness and affinity for new ideas	Action-related knowledge
Commitment to believes	Environmental concern
Locus of control	Sense of personal responsibility
Time orientation	Perceived consumer effectiveness
Self-discipline	Perceived behavioral control
	Perceived marketplace influence
	Perceived lack of urgency and advantageousness (-)
	Application of neutralization techniques (-)
Benevolence values	
Collectivistic values	
Egoistic values	
Generativity values	
Materialistic values	
Traditional values	
Universalism values	
Pro-environmental self-identity	
Dominant cultural paradigm (-)	

Environmental factors

Product, service or behavior related factors	Social influence
Price of behavior (-)	Influence of significant others
Time and effort needed to perform the action (-)	Influence of unrelated others / social norms
Switching costs (-)	Sustainability communities (+)
Product performance	
Image and stereotypes (-)	
Corporate activities	Structural conditions
Information utility and credibility	Public policy
Communication efforts	Infrastructure
brand loyalty (-)	Today's lifestyle (-)

Legend:

(+/-) : factor only has a positive/negative influence on behavior according to the literature (possibly together with no influence in other studies)

- factor increases the gap according to the literature
- factor reduces the gap according to the literature

Main result: action-related Knowledge leading to indented behavior

situational contingency factors at point of behavior implementation

- Relevance & motivation
- Research framework and theoretical foundations
- **StuttgartAirLeben: Climate educational and experiencing tours**

PROJECT PROFILE: STUTTGARTAIRLEBEN IS FUNDED WITHIN THE CLIMATE INNOVATION FOND BY THE CITY OF STUTTGART



STUTTGARTAIRLEBEN

Funding institution: State capital (Stuttgart, Baden-Württemberg)

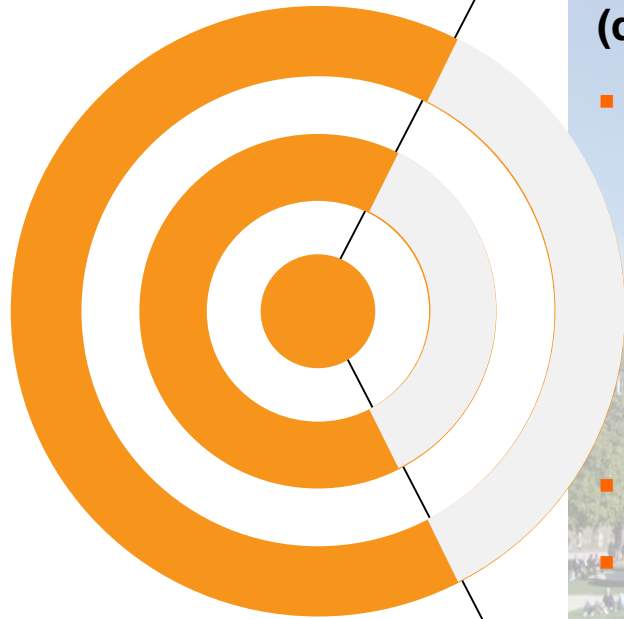
Grant: Climate Innovations Fond

Duration: 01/2023 – 12/2024

Volume: 48.057 EUR

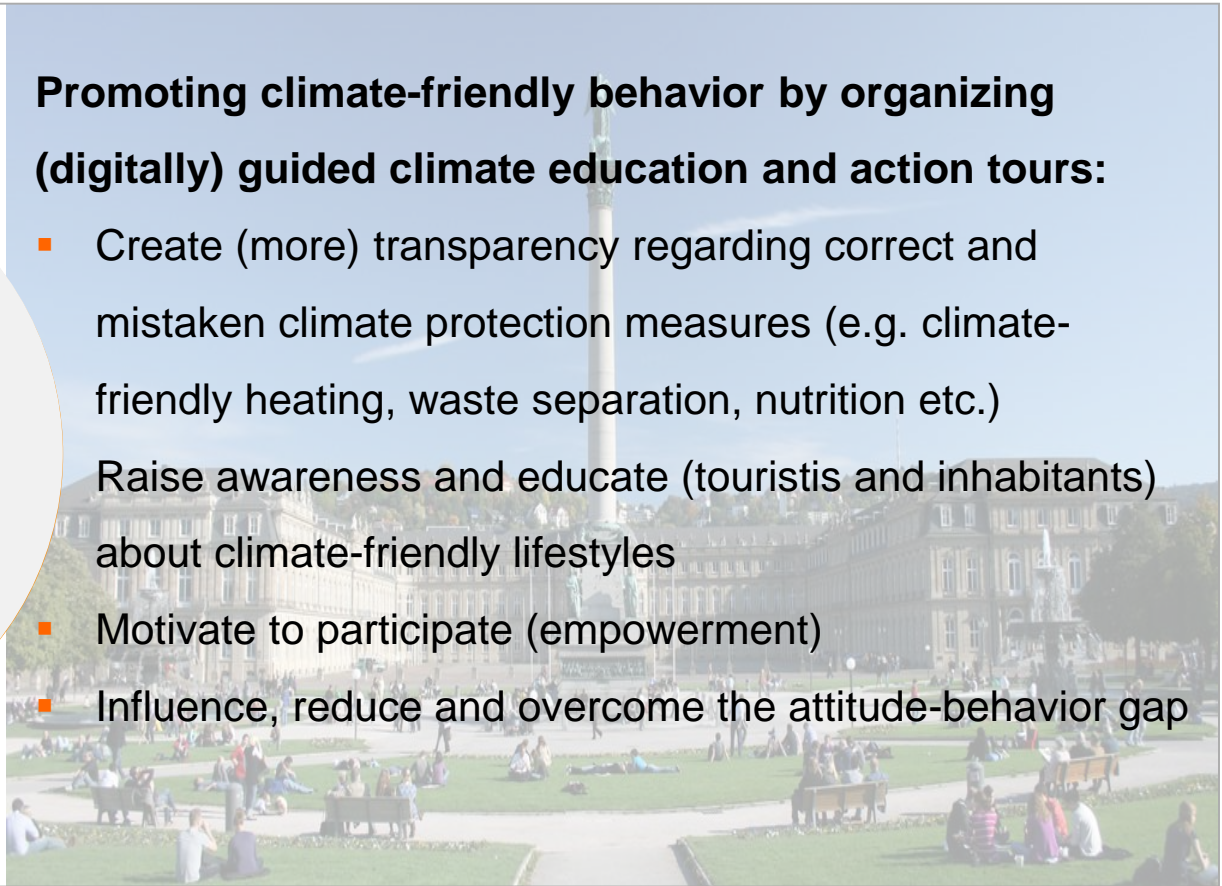
Project owner: Jana Heimel, board member of German
Association for Sustainable Development
(DINE e.V.)





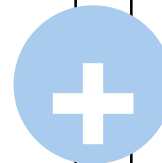
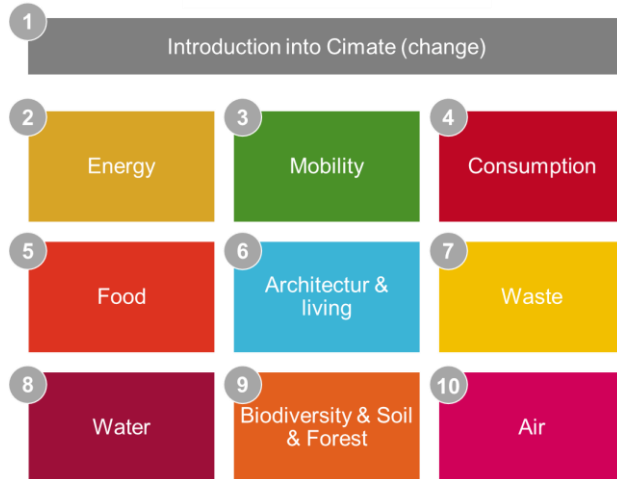
Promoting climate-friendly behavior by organizing (digitally) guided climate education and action tours:

- Create (more) transparency regarding correct and mistaken climate protection measures (e.g. climate-friendly heating, waste separation, nutrition etc.)
- Raise awareness and educate (tourists and inhabitants) about climate-friendly lifestyles
- Motivate to participate (empowerment)
- Influence, reduce and overcome the attitude-behavior gap



THE CONCEPT (1/2): IMPART A CLIMATE-FRIENDLY BEHAVIOR BY COMBINING EXPERIENCE TOURISM WITH EDUCATIONAL MEASURES

Knowledge



Action

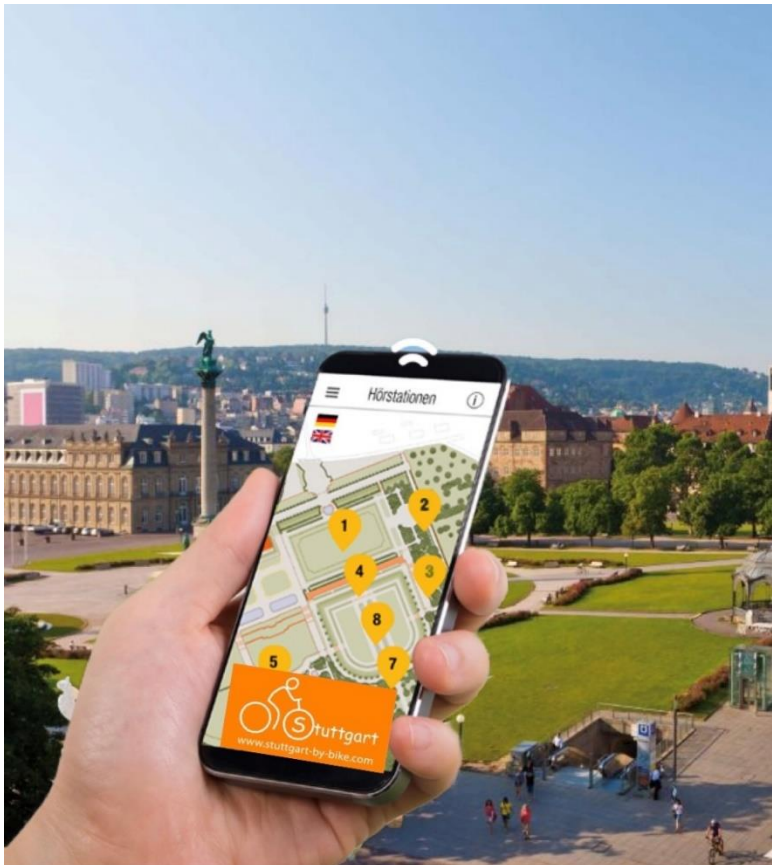


- (Theoretical) foundations
- Linkage to climate
- Stuttgart specific facts
- Climate myths
- Climate funding programs
- Climate protection measures

- Collecting trash
- Separating waste
- Distributing food waste
- Planting flowers
- Watering trees
- ...

THE CONCEPT (2/2): DEVELOP AN AUDIO-GUIDED CLIMATE EDUCATIONAL TOUR COMPRISING TOPICS ALIGNED WITH SDGS

StuttgartAirLeben



Stuttgart by Bike City Tour

2 Grünes U

- Acht Kilometer langer Park
- Setzt sich aus sechs Parkanlagen zusammen
- Entstand durch mehrere Gartenschauen

3 Staatstheater

- Drei-Sparten-Theater: Oper, Ballett, Schauspiel
- Eckensee vor dem Staatstheater
- Glasgebäude ist der Landtag Baden-Württemberg

5 Markthalle

- Jugendstilgebäude unter Denkmalschutz
- Wurde 1914 eingeweiht
- 6800 m² Nutzfläche

6 Marienplatz

- Urbanner Szenentreff
- Zahnradbahn zum Woodparker-Trail
- Start des Stuttgarter Weinwanderwegs

8 Johannekirche

- Feuersee wird durch Bärensee gespeist
- 1865: Bau der neogotischen

9 Hoppenlau Friedhof

- Wurde im 17. Jahrhundert angelegt
- 1880: letzte Erdbestattung

Features:

- Tour with GPX track
- 1-2 stops per topic area
- Each stop has a QR code with a link to the audio file (and images) Spirit. 1 climate action per tour

Stuttgart by Bike
 Bahnhofstraße 14-18
 70372 Stuttgart-Bad Cannstatt
 Tel.: +49 7141 127343
 info@stuttgart-by-bike.com
 www.stuttgart-by-bike.com

<https://tourism4sdgs.org/>

OUTLOOK: (NATIONAL) SCALING OF AIRLEBEN BY DISSEMINATING THE APP IN OTHER (GERMAN) REGIONS/CITIES



PROFILE: JANA HEIMEL, PROFESSOR AT HEILBRONN UNIVERSITY, ENGAGED TO PROMOTE CYCLING (TOURISM)



Jana Heimel

- Dr. oec.
- Dipl.-Kffr.
- Diplôme ESC
- Jana.heimel@outlook.de

Employment history

- Since 2016 Professor for Management Accounting and International Business, University Heilbronn
- 2007 – 2016 Managing Consultant, Competence Center Controlling & Finance and Head of CFO-Panel, Horváth & Partners, Stuttgart
- 2013 Conferral of a doctorate in economics at the University of Zurich
- 2006 – 2007 Scientific officer at International Performance Research Institute (IPRI) gGmbH, Stuttgart
- 2005 – 2006 Divisional director at a retail company, Duisburg
- 1999 – 2005 Studies of International Business Administration at the European University Viadrina, Frankfurt/Oder and ESC Montpellier

Research projects

- PendlerRatD (BMVI) <https://pendlerratd.com/>
- WILLE (Land Baden-Württemberg)
- Bicycle tourism on the rise – (cultural) drivers, determinants and trends in C2C tourism
- Wine Cycling Tourism – Success Factors for Vineyards and Tourism associations

Teaching

- International Management
- Management Accounting (Controlling)
- Strategic & Change Management
- New Business models
- Organization

Engagements

- Working group International Group of Controlling „Green Controlling“
- Rennrad Stuttgart, Stuttgart by Bike, RaDhaus Ost
- ADFC, DAV

Experiences

- Project management, Change Management, process management, benchmarking, Performance management und measurement
- Conception and realization of more than 50 (trend) studies

Ajzen, Icek (1991). "The theory of planned behavior". Organizational Behavior and Human Decision Processes. 50 (2): 179–211. doi:[10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T).

Ajzen and Fishbein (2005), p. 184.

Ar Rashi (2023): IMPORTANCE AND BENEFITS OF SUSTAINABLE TOURISM DEVELOPMENT, <https://limbd.org/importance-and-benefits-of-sustainable-tourism-development/>, retrieved 09.10.2023

EDGAR (2022): https://edgar.jrc.ec.europa.eu/report_2022#emissions_table

Gaval, Isabel (2016): The economic benefits of Sustainable tourism, <https://ecobnb.com/blog/2016/10/economic-benefits-sustainable-tourism/>, abgerufen am 08.10.2023

Giampaolo Viglia, Diletta Acuti (2022): How to overcome the intention–behavior gap in sustainable tourism: Tourism Agenda 2030 perspective article; in Tourism Review. <https://www.emerald.com/insight/content/doi/10.1108/TR-07-2022-0326/full/html?skipTracking=true>

Greentourism (o.J.): What is sustainable tourism, <http://www.greentourism.eu/en/Post/Name/SustainableTourism>, retrieved 08.10.2023

Hann (2020): Theory of green purchase behavior (TGPB): A new theory for sustainable consumption of green hotel and green, restaurant products, in Journal of Business Strategy and the Environment, Volum: 21, 2020 – Issue 6, <https://onlinelibrary.wiley.com/doi/abs/10.1002/bse.2545>, retrieved 08.10.2023

Heimel et al. (2019, 2021, 2022).

Julia F. Hibbert; Janet E. Dickinson; Stefan Gössling; Susanna Curtin (2013): Identity and tourism mobility: an exploration of the attitude–behaviour gap; in: Journal of Sustainable Tourism; Volume 21, 2013 - Issue 7: Psychological and behavioural approaches to understanding and governing sustainable mobility; Guest Editors: James Higham, Scott A. Cohen, Paul Peeters & Stefan Gössling; <https://www.tandfonline.com/doi/abs/10.1080/09669582.2013.826232>

Neumann, Franziska; Helms, Lea (2020): Treibhausgas-Emissionen im Deutschland-Tourismus; Themenpapier im Rahmen des Projektes „Weiterentwicklung des nachhaltigen Tourismus: Identifizierung von Synergieeffekten zur Stärkung der Kooperation mit und zwischen wichtigen Akteuren“, checked:
<https://www.umweltbundesamt.de/publikationen/treibhausgas-emissionen-im-deutschland-tourismus>.

Sustainable Travel International (o.J.): Carbon Footprint of Tourism, <https://sustainabletravel.org/issues/carbon-footprint-tourism/>, retrieved 09.10.2023

Upskill (o.J.): Sustainable Tourism Guidelines, <https://upskill.study/sustainable-tourism>, retrieved 08.10.2023

Umweltbundesamt (2022): Flugreisen möglichst vermeiden und Alternativen benutzen, <https://www.umweltbundesamt.de/umwelttipps-fuer-den-alltag/mobilitaet/flugreisen#wie-sie-flugreisen-vermeiden-konnen>, retrieved 08.10.2023

STUTTGART

airleben



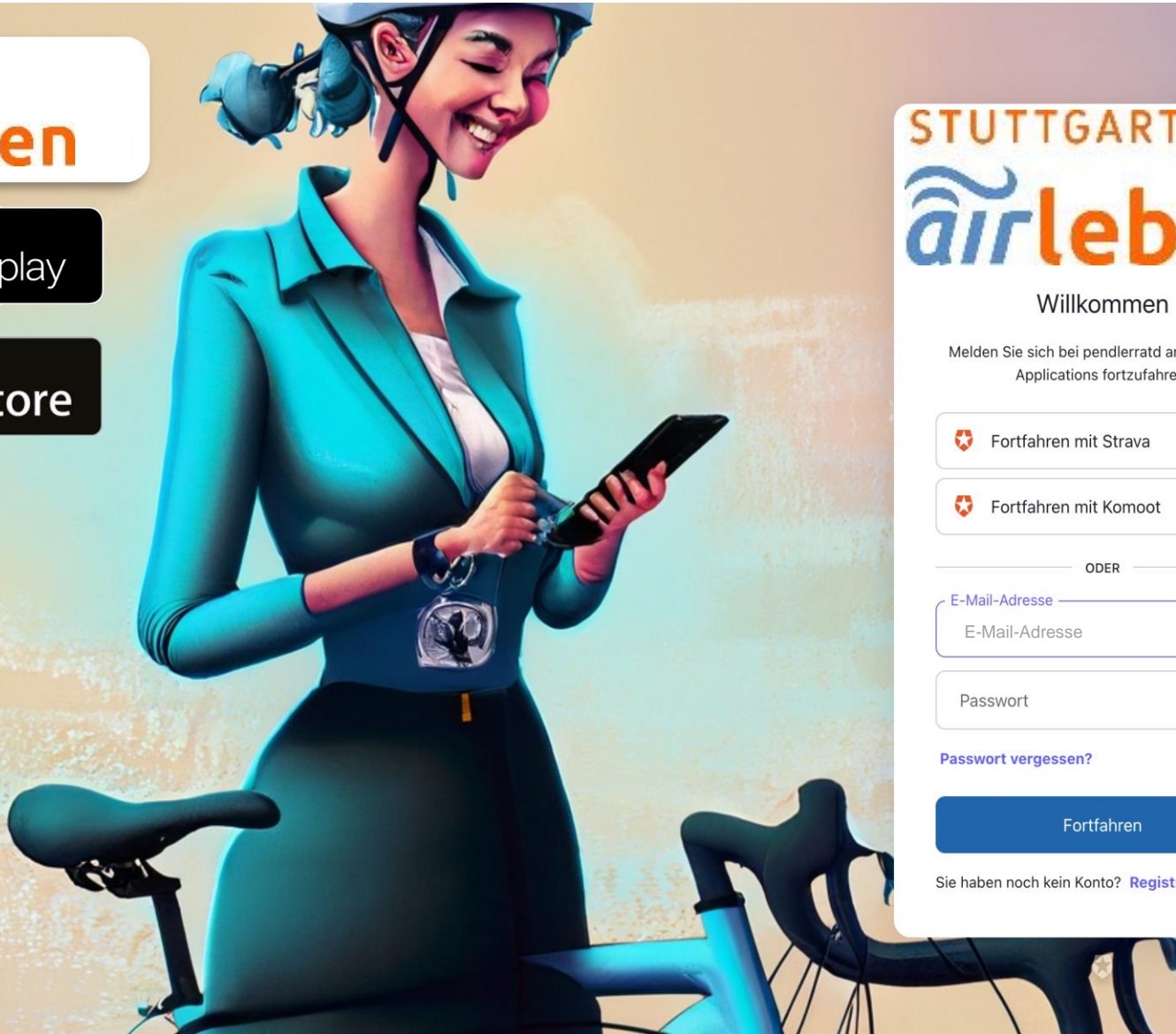
JETZT BEI

Google play



Laden im

App Store



STUTTGART

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Willkommen

Melden Sie sich bei pendlerratd an, um mit All Applications fortzufahren.

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