

Supplementary Materials: Carbon Footprint of Inbound Tourism to Iceland: A Consumption-Based Life Cycle Assessment including Direct and Indirect Emissions

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Table S1. Structure of tourism sector in Icelandic National Accounts: the Icelandic categories under each UNWTO category within the tourism industry, and the Icelandic industry classification of activities (ISAT) codes.

No.	UNWTO Categories of Tourism Industries	ISAT Codes	Icelandic Categories
1	Accommodation for visitors	55.10.1	Hotels and similar accommodation, without restaurants
		55.10.2	Hotels and similar accommodation, with restaurants
		55.20.0	Holiday and other short-stay accommodation
		55.30.0	Camping grounds, recreational vehicle parks and trailer parks
		55.90.0	Other accommodation
		68.20.1	Letting of residential housing *
		68.31.0	Real estate agencies *
		68.32.0	Management of real estate on a fee or contract basis *
2	Food & Beverage serving industry	56.10.0	Restaurants and mobile food service activities
		56.29.0	Other food service activities
		56.30.0	Beverage serving activities
3	Railways passenger transportation		Not applicable in Iceland
4	Road passenger transportation	49.32.0	Taxi operation
		49.39.0	Other passenger land transport
5	Water passenger transportation	50.10.0	Sea and coastal passenger water transport
		50.30.0	Inland passenger water transport
6	Air passenger transportation	51.10.1	Scheduled air transport
		51.10.2	Non-scheduled air transport
7	Transport equipment rental	77.11.0	Renting and leasing of cars and light motor vehicles
		77.12.0	Renting and leasing of trucks
8	Travel agencies and other reservation services	79.11.0	Travel agency activities
		79.12.0	Tour operator activities
		79.90.0	Other reservation service and related activities
9	Cultural services	90.01.0	Performing arts
		90.02.0	Support activities to performing arts
		90.03.0	Artistic creation
		90.04.0	Operation of arts facilities
		91.02.0	Museums activities
		91.03.0	Operation of historical sites and buildings and similar visitor attractions
		91.04.0	Botanical and zoological gardens and nature reserves activities

Table S1. Cont.

No.	UNWTO Categories of Tourism Industries	ISAT Codes	Icelandic Categories
10	Sport and recreational services	77.21.0	Renting and leasing of recreational and sports
		92.00.0	Gambling and betting activities
		93.11.0	Operation of sports facilities
		93.13.0	Fitness facilities
		93.19.0	Other sports activities
		93.21.0	Activities of amusement parks and theme parks
		93.29.0	Other amusement and recreation activities
11	Country-specific tourism characteristics goods	47.30.0	Retail sale of automotive fuel in specialized stores
		**	Retail trade of handicraft
		**	Retail trade of souvenirs
12	Country-specific tourism characteristics services	93.12.0	Activities of sports clubs (e.g. golf)

* Only a part what is related to second homes and timeshare properties; ** no ISAT codes allocated.

Table S2. The EIOLCA categories and other data sources used in matching with the Icelandic expenditure data categories for the GHG assessment.

Statistics Iceland Category	Sub-Category (from CRS)	Input Output Model Category/Other Source
Accommodation services	Hotel Accommodation	7211A0 Hotels and motels, including casino hotels
	Other accommodation service	721A00 Other accommodations
Food and Beverage Serving Services	Catering	722000 Food services and drinking places
	Other	722000 Food services and drinking places
Transport	Passenger transport by land	485000 Transit and ground passenger
	Passenger transport by sea	483000 Water transportation
	Passenger transport by air	Chester and Horvath (2009)
	Car rental	532100 Automotive equipment rental and leasing
	Tolls, parking fees and other services	8111A0 Automotive repair and maintenance
	Petrol, repair and maintenance	324110 Petroleum refineries + fuel combustion
Travel Agency Services (inc Tour Operators)		8A0 Scenic and sightseeing transportation and support activities
Sports and Recreation		7130 Amusements, gambling, and recreation
Cultural Services and Sports and Recreation Services	Museums, galleries and zoos	712000 Museums, historical sites, zoos, and parks
	Concerts, theatre, film screenings and events	711500 Independent artists, writers, and performers
	Other	713B00 Other amusement and recreation industries
General Goods Retail	Groceries	3110 Food manufacturing
	Retail sale of clothing	3150 Apparel manufacturing
	Gifts and souvenir shop	4A0000 Retail trade
	Duty free shops	4A0000 Retail trade
	Other shops	4A0000 Retail trade
General Other Services	Various tourism services	S00700 General State and Local Government
	Various other services	813B00 Civic, social, professional and similar
	Government charges	S00700 General State and Local Government
	Withdrawals of cash	813B00 Civic, social, professional and similar

Table S3. Comparison of results with other studies.

Category	Current Study	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Share of Total Emissions								
International Air Travel	50%–83%	40%–50%	63%–89%	71%	NA	56%	90%	80.8%
Other Transport	10%–30%	16%–35%	10%–35%	23%	63%			2.1%
Accommodation	2%–6%	21%–24%	0.2%–0.4%	16%	9%	27%	6%	13.4%
Activities	2%–5%	4%–6%	0.5%–2%	NA	NA	17%	4%	2.7%
Retail	2%–6%	NA	NA	8%	10%		NA	NA
Other	1%–3%	NA	NA	NA	18%		NA	NA

References

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