Data Collection Sheet
Index 02 vom 19.03.2019

Name of the Island	Helgoland

0 General Information about the Island

0.1 Population residing on the island (with year reference)

1469 (31st December 2017)

0.2 Average population in the peak tourism month (specify reference year and if possible the average population of each month of the year)

1507 average population (on 30th June 2018)

0.3 Surface area

Main Island= 1,0 km² Dune Island = 0,7 km²

0.4 Presence of energy and/or environmental planning tools on the island (e.g. energy plans, waste management plans, water management plans, sustainable mobility plans)

Every Provider has its own plans

0.5 If existing, specify the names of such and approval details

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0.6 Links to dedicated web sites

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0.7 Attach any suitable documentation

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0.8 Presence of any protected natural areas (parks, reserves, marine protected areas, etc.)

The Island has three major protected natural areas: 1. Helgoländer Felssockel, 2. Lummenfelsen, 3. Helgoländer Düne.

0.9 If existing, specify the year when they were created, the entity in charge, the type of protected area and restrictions; briefly describe protection legislation, local regulations, restrictions, percentage of protected area, surface area and any other suitable information

1. Helgoländer Felssockel: "Helgoländer Felssockel" covers marine areas around the main island and the Dune. The area is protected since 1981 and measures 5,18 ha. It contains rare animal and plant species
2. Lummenfelsen: The area "Lummenfelsen" which is the only bird cliff in germany is protected since 1984 and measures 1,1 ha.
The entity in charge for both of the protected areas since 1983 is the association "Jordsand". Most part of the area belongs to the european network of protected areas "Natura 2000". The ffh-area DE-1813-391 Helgoland mit Helgoland Felssockel includes the protected area Lummenfelsen and parts of the Dune. Moreover the whole area belongs to the EU-bird sanctuary.
3. Helgoländer Düne: The area "Helgoländer Düne" is protected since 1973 and measures 0,7 km² (the Dune is part of several protected areas)

0.10 Links to dedicated web sites

1. www.jordsand.de/schutzgebiete/helgoland
2. https://www.schleswig-holstein.de/DE/Fachinhalte/S/schutzgebiete/ffh/FFHSchutzgebiete.html?g_nr=&g_name=&lk=Pinneberg&art=&lr=&what=ffh&submit=true&suchen=Suchen

0.11 Attach any suitable documentation

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0.12 Any environmental quality certifications and/or quality labels recognized by the local government

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0.13 If such certifications/labels were granted, specify the type, year, entity and briefly describe the certification

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0.14 Links to dedicated web sites

-

0.15 Attach any suitable information

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0.16 Presence of companies operating in the tourism sector which were granted officially recognized environmental quality certifcations and/or labels

The aim of Helgoland is to become an allergy-friendly island. To achieve this aim many of the local companies and shops are joining in and implement regulations, such as transparency when it comes to igredients, for example in a bakery or poll-poor plants in shops and on the island in general.

0.17 If existing, specify the number and briefly describe the type of certification, type of company and meaning of the certification

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0.18 Attach any suitable documentation

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0.19 Significant projects in the „sustainable tourism“ sector

Helgoland plans to develop a certification program for green buildings and companies. Sustainable buildings or companies will get a label, the "green steer" (green star), if specific requirements from the program are being fulfilled. As for the sustainable criterias (energy efficiency, plasticfree bags, cooperation with associations such as *Jordsand* or food products from sustainable sources, etc.) the allergy-friendly suitability for allergy sufferers will be a criteria as well.

0.20 If existing, briefly describe the most relevant projects carried out on the island, including by private entities, to promote sustainable tourism

Green Anna (reusable plastic bag), Water bottle made of stainless steel "EcoTanka"

0.21 Links to dedicated web sites

1. www.green-anna.de
2. www.ecotanka.eu

0.22 Attach any suitable documentation

1 Energy Sector

1.1 Electricity

1.1.1 Number, type and capacity of centralized energy generation plants on the island (thermal power stations, co-generation platns, district heating)

None, only in case of emergency

1.1.2 Interconnection to mainland (Yes/No)

Yes

1.1.3 Total annual generation of electricity

0 MW/h

1.1.4 Total annual consumption of electricity

Approx. 14 GWh

1.1.5 Monthly generation of electricity (specify the MWh of electricity generated each month of the reference year)

MW/h / Month

1.1.6 Type of electricity generation (specify the various sources of energy generation and the relating percentage of the total generation)

None, only in case of emergency (cable damage)

1.1.7 Percentage of electricity produced by renewable sources

0%

1.1.8 Total installed capacity of electricity generation plants from renewable sources (specify the capacity by type of renewable source

0 MW

1.1.9 Attach any suitable documentation

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1.2 Thermal Power

1.2.1 Number, type and capacity of thermal power plants on the island (thermal power stations, co-generation plants, solar plants, district heating…)

Versorgungsbetriebe Helgoland GmbH, 13.5 MW

1.2.2 Total annual generation of thermal power (if available, please specify consumption of diesel fuel, LPG, methane or other sources used to generate heat, net of the volumes used in the electric power stations)

25,023 thermal MWh

1.2.3 Type of thermal power generation (specify the various sources of energy generation and the relating percentage of the total generation)

3 x 4.5 MW Gasoil-based boilers 100 % oil

1.2.4 Percentage of thermal power produced by renewable sources

0%

1.2.5 Total installed capacity of thermal power generation plants from renewable sources (specify the capacity by type of renewable source)

0 MW (only solar-absorber for public spa)

1.2.6 Attach any suitable documentation

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1.3 Additional Information

1.3.1 Presence of LED public lighting (Yes/No)

Yes

1.3.2 If existing, specify the percentage of total lights

70%

1.3.3 Projects/Activities/Actions in the smart Grid and/or Storage sectors

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1.3.4 If existing, please provide a brief description

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1.3.5 Awareness-raising activities, incentives, benefits, laws, local regulations, etc. to support the use of renewable energy sources and energy savings in the civil sector

None

1.3.6 If existing, please describe the type of action and attach any supporting documentation

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1.3.7 Other actions/activities/projects aimed at reducing energy consumption and promoting the use of renewable sources

Since 2006 there are plans to use an e-heater powered by local wind energy or renewable energy via underwater cable from the coast.

1.3.8 If existing, please describe the type of action and attach any supporting documentation for each action described

The aim is to build wind energy turbines on the island to use windpower and central electric-heater for heating and hot waterproduction for all buildings (700 in total) on the island. The challenge is to beware of and handle the upcoming conflict between nature protection / conservation (birds) and climate change. The use of electric energy from mainland will be optionally. One economic problem that may occur: fees (EEG,...) by themselves >6,4 Ct/kWh vs. oilprice: appr. 6 Ct/kWh (actual price) .

2 Water Cycle

Reference year of data

2018

2.1 Production phase

2.1.1 Type of drinking water production (desalination/local springs/import/treatment facilities/etc.)

Desalination reverse osmosis

2.1.2 Total per capita water volume produced

92 cubic metres/inhabitant (attention: including touristic consumption)

2.1.3 Annual volume of water produced locally (specify the type of production)

150,000 cubic metres , 100% desalination

2.1.4 Annual volume of water supplied by tankers (barges)

0 cubic metres

2.1.5 Annual volume of water supplied by submarine pipelines

0 cubic metres

2.1.6 Annual volume of water produced by desalination plants

149,593 cubic metres, 100% desalination

2.1.7 Total annual electricity needs of desalination plants connected to the grid

1496 MWh

2.1.8 Average cost of electricity supplied to desalination plants connected to the grid

190 €/MWh

2.1.9 Annual consumption of diesel fuel used by desalination plants using independant generators

0 litres or kg

2.1.10 Average cost of diesel fuel to feed desalination plants using independant generators

-

2.1.11 Percentage of electricity used for desalination generated from renewable sources

51,50%

2.2 Distribution phase

2.2.1 Annual volume of water supplied to the local distribution network

137,871 cubic metres

2.2.2 Monthly volume of water supplied to the local distribution network

peaking at 16,412 cubic metres in summer, lowest is 5,729 cubic metres in winter

2.2.3 Percentage of water losses in the water network

7.8%

2.3 Treatment phase

2.3.1 Is there a treatment facility? (Yes/No)

Yes

2.3.2 Treatment capacity of facilities (in inhabitant equivalent)

min: 1.200 max: 6.500

2.3.3 Percentage of wastewater treated

100%

2.3.4 Reuse of treated wastewater (Yes/No) (If so, specify what type or reuse)

No

2.3.5 Total annual electricity consumption by treatment systems

300 MWh

2.4 Additional Information

2.4.1 Awareness-raising actions, distribution of flow restictors, monitoring and control of the water network, etc. (Yes/No) (If existing, describe the type of action and attach any supporting documentation)

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2.4.2 Other actions /activities/projects aimed at loss reduction, consumption reduction and/or water ressource recovery (Yes/No) (If existing, describe the type of action and attach any supporting documentation for each action)

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3 Sustainable Mobility

Helgoland in general abandoned motorised private transport. Motor vehicles and bicycles are forbidden in accordance to § 50 StVO. Exceptions are made for electrical vehicles that are used for the transport of people from and to the harbour (only during the season). Further exceptions for electric platform cars for the transportation of any goods shipped to the island and working equipment, of which are 55 fuel using vehicles. Waste is also collected via electrical vehicles.

The public transport on the Dune from the airport to the jetty and vice versa is a motor vehicle. During the season there are plans to switch to an electric vehicle as well.

3.1 Reference year of data

2018

3.2 Type of vehicles used for public transport

2 e-taxis, transit electric

3.3 Motorization rate and Number of motor vehicles per 1,000 inhabitants

96

3.4 Percentage of electric/hybrid vehicles out of the total number of vehicles

62%

3.5 Automotive diesel consumption

As there is only one petrol station on the island, which serves motor vehicles and boats as well, it cannaot be differenciated.

3.6 Automotive petrol consumption

0 litres

3.7 Automotive LPG consumption

0 litres

3.8 Automotive methane consumption

0 litres

3.9 Number of car rentals on the island

None

3.10 Number of car rentals with electric cars:

None

3.11 Percentage of car increase during the tourist season

0%

3.12 Presence of incentive parking lots

None

3.13 Presence of working electric/hybrid vehicles charging stations (Yes/No)

No

3.14 Number of working electric/hybrid vehicles charging stations

No

3.15 If existing, how many of them are fast charging stations

-

3.16 Presence of charging stations for electric/hybrid boats

No

3.17 Number of charging stations for electric/hybrid boats

-

3.18 Are there many low-environmental impact boats? If so, provide a brief description of the type of boat and type of technology used

1 vessel, "MS Helgoland" Hybrid LNG

3.19 Presence of bike paths (Yes/No)

No

3.20 If existing, how many kilometres

-

3.21 Percentage of bike paths out of the total road network

-

3.22 Awareness-raining actions, incentives, benefits, laws, local regulations, etc. for the use of bicycles and/or electric vehicles (Yes/No) (If existing, describe the type of action)

No

3.23 Other actions/activities/projects to promote sustainable mobility (Yes/No) (If existing, provide a description of the type of action and attach any supporting documentation relating to each action described)

Helgoland has a long tradition of disembarkation of passengers. The boats tender between the pier and offshore anchored ferrys. There are plans, that the boats for disembarkation of passengers will be all electric driven. Thus electric charging stations have to be installed.

4 Waste Circle

4.1 Reference year of data

2018

4.2 Total annual waste generation

 2.792,202 to.

4.3 Total monthly waste generation (specify the number of tons generated each month of the reference year)

Januar 146,727

4.4 Total annual percentage of separate collection

 76,58 %

4.5 Total annual quantity of separately-collected waste

 2.138,232 to.

4.6 Total monthly quantity of separately-collected waste: …tons (specify the tons of separately-collected waste generated in each month of the reference year)

Januar 95,925

4.7 Total quantity of non-recycable waste collected annually

 1.041,405 to.

4.8 Total quantity of organic fraction collected annually

There is no collection of organic fraction, some people compost in their garden, the rest is going into the non-recycable fraction

4.9 Total quantity of glass and cans collected annually

 186,60 to

4.10 Total plastic waste collected annually

 95,70 to.

4.11 Total paper and cardboard collected annually

 202,80 to.

4.12 Presence of waste disposal and/or recycling facilities (Yes/No) (If so, specify the type of plant and the quantity and type of waste treated)

No, all the waste is being shipped to the main land by Karl Meyer. Before the waste is shipped, it is being compressed in a waste treatment plant.

4.13 Total annual cost of waste collection and disposal

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4.14 Awareness-raising actions and/or distribution of household composters: (Yes/No) (If existing, describe the type of action and attach any supporting documentation)

Private households can get information about waste and recycling through a citizen services (e. g. homepage: https://abfall.kreis-pinneberg.de/Service+_+Termine/Helgoland_Infos/Restm%C3%BCll+Helgoland.html)

4.15 Mayors orders/laws/local regulations forbidding the sale of non-compostable products (Yes/No) (If existing, describe the type of action and attach any supporting documentation)

No

4.16 Other actions/activities/projects aimed at waste reduction, recovery and recycling (Yes/No) (If existing, describe the type of action and attach any supporting documentation for each action described)

To avoid waste, especially plastic waste, it is possible to buy the "green Anna" which is a reusable plastic bag, made of 80% recycled PET-Bottles.
On the Dune you can find lattice boxes on the beaches. The intention is to throw all the waste that is found on the beach and in the water inside and thus draw attention to the people.
Furthermore the association Jordsand will monitor the wash margin to analyse the waste and material being washed up the shore.
A staff member of Jordsand is currently working on a doctoral thesis with the title: Gannets and marine litter: systematic analysis of origin and impact of plastic waste in seabirds nests on the breeding population in German Bays.

5 Why is your island sustainable?

Give a brief description of the level of sustainability achieved by your island, indicating strengths and targets to be met in the next few years

The aim of Helgoland is to become an emission-free island. The goal is, to completely replace district heating with wind energy and provide affordable energy prices. To do so, the municipality pursues three main initiatives: the first is to implement a ZERO emission hybrid heat supply and storage infrastructure based on wind/hydrogen power. The second is the installation of green shipping technologies for vessels and the third is a smart and efficient use of the energy gained. The island already installed a large scale heat pump system and the eco-friendly LNG-powered MS "Helgoland". Others goals are: green transport mainland-connection, sustainable housing and an eco-friendly island.

Projects in pipeline:
1. Deployment of a clean heat supply for both islands
2. Deployment of clean engine drives in >3 major public transport vessels on the island
3. Deployment of domestic PV highly integrated on buildings stucture
4. Deployment of smart technology solution to manage the usage of energy from public lighting to metering services
5. Green harbour solutions to reduce emissions
6. Achieving the 100 % electric mobility goal
7. Improve energy efficiency of public buildings with smart technologies
8. Promote a high sea research and underwater test park for green technologies