



RISK ASSESSMENT ACTION PLAN



EARTHCHECK

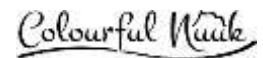
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Nuuk



SERMERSOOQ
BUSINESS

TOWARDS SUSTAINABLE TOURISM
IN NUUK

5			
Risk Assessment and Action Plan – Nuuk 2020			
Name	Date	Change	Comment
Asmus Jessen Rubæk	6.12.2020		
Asmus Jessen Rubæk	14.01.2021	Set targets for 1.1.1 and 1.8.2 after confirmation from Nukissiorfiit	
Asmus Jessen Rubæk	25.01.2021	Filled in remaining targets to prepare the document for external stakeholder engagement on February 5 th	
Asmus Jessen Rubæk	11.02.2021	Changed throughout during Green Team meeting	
Asmus Jessen Rubæk	15.02.2021	Changed point 1.7.1.	
Asmus Jessen Rubæk	16.02.2021	Proof reading	



Reader's guide

Aspect

The aspect column identifies issues to be assessed.

Impact

The impacts column identifies what is impacted by the aspects.

Likelihood (L)

The likelihood column identifies how likely an aspect is to occur using the following scores:

Category	Definition
1	Certain/Daily: Impact is expected to occur in most circumstances, or will occur on a daily basis.
2	Likely/Weekly: Impact will probably occur in most instances.
3	Possible/Monthly: Impact could occur, or will occur on a monthly basis.
4	Unlikely/Annually: Impact could occur but is not expected, or will occur annually.
5	Rare: Impact would occur only in exceptional circumstances.

Severity (S)

The severity column identifies the severity of the aspect using the following scores:

Category	Definition
1	Catastrophic: Widespread, irreparable environmental, cultural, social and/or economic damage; loss of human life or long term human health effects; national attention; serious litigation.
2	Major: Widespread, medium to long term impact; serious human health impacts; state-wide or national attention; major breach of legal requirements; major disruption to operations; Destination's reputation badly tarnished.
3	Medium: Localised medium to long term impact; moderate contribution to global warming; moderate human health impacts requiring medical treatment; regional media attention; moderate breach of legal requirements with fine.
4	Minor: Localised short to medium term impact; minor contribution to global warming; minor and reversible human health impacts treatable with first aid; negative publicity from local media; minor breach of legal requirements.
5	Limited impact to a local area but no long term effects; concern or complaints from neighbours; no injury to people; minor technical nonconformity but no legal nonconformity.

Risk Evaluation (R)

The risk evaluation column is the result of multiplying the likelihood and severity column. The table below shows the interpretation of the risk evaluation:

		Severity				
		1	2	3	4	5
Likelihood	1	1	2	3	4	5
	2	2	4	6	8	10
	3	3	6	9	12	15
	4	4	8	12	16	20
	5	5	10	15	20	25

Key	
Severe	
Extreme	
High	
Medium	
Low	

Nuuk is a small destination with limited resources. Therefore, the Green Team has decided only to act upon aspects with a risk evaluation of 12 or below. We will rather target fewer aspects with a significant impact on each than risk taking on too many tasks and only completing a few or with minor impacts across them all.

Existing Actions

The existing actions column identifies actions already undertaken by the destination to address an aspect. These actions were already in place before the risk assessment and action plan for the relevant year.

New Actions

The new actions column identifies new actions to be undertaken by the destination as a result of the risk assessment and action plan. If this column is empty for an aspect, it signifies that the existing actions are expected to suffice.

Targets

The target column identifies defined targets for each aspect. The targets apply the SMART-model, i.e. the targets should be: Specific, Measurable, Achievable, Relevant and Timely.

Responsibility

The responsibility column identifies which actor or actors within the destination that is responsible for the actions.



Aspect	Potential impacts	L	S	R	Objective	Existing Minimisation / Mitigation Actions	New Minimisation / Mitigation Actions	Target	Responsibility
1. Environment									
1.1 Energy efficiency, conservation and management									
1.1.1 Renewable energy: Currently 19% of Nuuk's energy consumption is renewable energy cf. benchmarking report. Nuuk's population is growing, and demand for energy is increasing, but Nuuk's hydropower plant is already operating at full capacity. If no action is taken, in 2024, the current reservoir falls below the hydropower influx at which point Nuuk will have to use more carbon fuel. The transportation industry, particularly water transport (64%) consumes the majority of energy in Nuuk.	Energy consumption cause greenhouse gas emissions that contribute to global warming and climate change.	3	3	9	Reduce reliance on fossil fuels	Nuuk has Lower taxes on hybrid and electric cars Nukissiorfiit, the energy supply company, delivers 100% green electricity and heating in Nuuk	An expansion of the current hydropower plant has been projected and is put to the parliament for approval in 2021: https://naalakkersuisut.gl/da/H%c3%b8ringer/Arkiv-over-h%c3%b8ringer/2020/Rammebetingelser-for-anlaeg_bvandkraftvaerker . The expansion will provide a 150% increase of power potential and solve energy needs until 2050. The estimated construction timeframe is 3 years. ESANI A/S and Nukissiorfiit plans to introduce carbon capture with its new waste incineration plant turning waste into green fuel. Kommuneqarfik Sermersooq has started a collaboration with	99% Renewable energy for power and heating sector by 2026.	Nukissiorfiit, DMO, ESANI A/S

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							Aalborg Municipality to test green energy technologies in Nuuk.		
1.2 Greenhouse gas emissions									
1.2.1 Nuuk is performing below baseline on greenhouse gas emissions cf. Benchmarking report. Water transport consumes the majority of fossil fuels in Nuuk and causes the most greenhouse gas emissions (77%). Refer to 1.8 for actions.	Contributing to global warming and climate change	1	2	2	Reduce greenhouse gas emissions	Nuuk has 100% green electricity from hydropower supplied by Nukissiofiit	Refer to 1.8 for new actions The DMO will reach out to major consumers and investigate means to reduce through collaboration with Aalborg Municipality to test green energy technologies in Nuuk. The consumers are among others RAL, Royal Greenland, and Polar Seafood. The DMO will try to collect data for 2020 for stationary fuel combustion for heating	Refer to 1.1 and 1.8 for targets	Nukissiofiit, DMO
1.3 Air quality protection, noise control, and light pollution									
1.3.1 Air quality is generally very good yet combustion, spike tires and gravel produce particle matter near main roads that may be harmful to human respiratory systems. No data exist.	Harming human health	3	4	12	Improve air quality	Large construction projects are mandated by law to investigate and mitigate their impact on air quality among other things http://lovgivning.gl/lov?rid=%7b1C3E427E-	Investigate feasibility of annual monitoring Nuuk has no data available and no regular testing, hence our first step is to collect data. Clean air can be turned	Nuuk has no regular data on air quality. Therefore, the first step will be to introduce yearly	DMO

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						397E-4E8F-93EF-5F4891CA77CC%7d	into a marketing asset, e.g. marketing to Asia	monitoring to secure data to produce a SMART-target next year.	
1.3.2 Noise control	Can affect quality of life and local wildlife	5	5	25	N/A	Noise pollution is regulated by lawing mandating the municipalities to regulate noise pollution: http://lovgivning.gl/lov?rid=%7B18FA364A-0245-4C84-BD81-CA898B95D51A%7D#	N/A	N/A	N/A
1.3.3 Light pollution	Can affect sleep patterns, quality of life and local wildlife	4	5	20	N/A	The DMO is looking to become International Dark Sky Association Certified, e.g. creation of a semi remote area where the citizens and tourists can turn off the street light	N/A	N/A	DMO, Nukissiorf iit
1.4 Management of freshwater resources									
1.4.1 Potable water capacity: Nuuk's water supply is 100% captured water and Nuuk is far from reaching full capacity of existing system.		5	5	25	N/A	Water consumption is monitored. When the city grows to 30,000 inhabitants, water supply in winter can become scarce, which can be solved by increasing the reservoir dam. This too is being monitored.	N/A	N/A	Nukissiorf iit

Aspect	Potential impacts	L	S	R	Objective	Existing Minimisation / Mitigation Actions	New Minimisation / Mitigation Actions	Target	Responsibility
1.4.2 Pollution of freshwater resources: There is a risk of pollution of the drinking water reservoir.	Potential harm to humans	5	2	10	Maintain clean and safe potable water	Testing and monitoring of the quality is in place. Emergency equipment is being designed and purchased in Nukissiorfiit. The municipality has signs and regularly patrols the water protection area.	Existing actions suffice	Zero incidents of freshwater pollution causing a boil water advisory or harming human health in 2021	Nukissiorfiit, Kommun eqarfik Sermerso oq
1.5 Waste water management, drainage and streams									
1.5.1 Drainage: Climate change will likely cause more precipitation cf. report from Danish Meteorological Institute. Currently, the drainage ditches overflow in spring when precipitation is high, snow melts and the drainage systems are still full with ice. This is not at problematic levels.	Drainage systems can overflow	4	4	16	Avoid floods	City planning monitors precipitation and design drainage accordingly.	N/A	N/A	Kommun eqarfik Sermerso oq
1.5.2 Waste water management: Nuuk has a passive waste water system. The latest impact report is from 2012 showing insignificant environmental impact, but the city is growing	Can impact environment and marine life	4	4	16	Avoid significant environmental impact	Nuuk is testing mechanical wastewater treatment on a minor outlet.	In 2021, Nuuk will test mechanical wastewater treatment on a major outlet.	N/A	Kommun eqarfik Sermerso oq
1.6 Ecosystem conservation and management									
1.6.1 The scope of the certification is Nuuk city area with 0% habitat conservation areas. Outside the city area, you immediately enter	Flora and fauna may degrade	5	5	25	Maintain wilderness classification outside Nuuk	N/A	N/A	N/A	N/A

Aspect	Potential impacts	L	S	R	Objective	Existing Minimisation / Mitigation Actions	New Minimisation / Mitigation Actions	Target	Responsibility
wilderness area as noted in the benchmarking report conclusion.									
1.7 Land use planning and development									
1.7.1 Land use planning and development: Nuuk suffers from a housing shortage. Nuuk has three major companies renting public housing: The government owned INI A/S and Illuut A/S and the municipally owned Iserit A/S. There is no significant private market. The municipally owned Iserit A/S's waiting list is currently 11 years. Due to this housing shortage many people either need a home or live in a home that is not suited to them, because nothing else is available, e.g. families with children living in small apartments or elderly immobile people living without disability access.	This impacts family life in more than one regard cf. 2.1.2, e.g. leaving your partner can be difficult with no alternative housing to move to. An analysis of violence in Greenland conducted in 2019 by the University of Southern Denmark shows that 65% of reported violence happens in the home with the majority, 44%, being partner violence. In a way, many people have to choose between an abusive relationship and homelessness.	1	3	3	Develop a well-functioning city in terms of all ECSE outcomes	<p>City plans are revised every 4 years with a 12-year planning timeframe. Planning considers city growth, both industry and population.</p> <p>City planning allocates more areas to housing areas, e.g. turning "Entreprenørdalen", an industry area, into a housing and non-polluting business area.</p> <p>Large construction projects are mandated by law to investigate and mitigate their impact on: human use of the area, human health, fauna, flora, earth, rock, ice, water, air, climate, landscape. Material objects and the interaction of the above: http://lovgivning.gl/lov?rid=%7b1C3E427E-</p>	<p>Expansion of tunnel starting 2021 to relieve traffic congestion.</p> <p>Accelerate construction and introduce Siorarsiorfik, the biggest housing project in Greenlandic history</p>	1750 new housings by 2030	Kommun eqarfik Sermerso oq, Nukissiorfiit, Iserit, NCD

Aspect	Potential impacts	L	S	R	Objective	Existing Minimisation / Mitigation Actions	New Minimisation / Mitigation Actions	Target	Responsibility
						397E-4E8F-93EF-5F4891CA77CC%7d Kommuneqarfik Sermersooq has built over 500 new public housings from 2015-2020			
1.8 Transport									
1.8.1 Water transport: Almost exclusively reliant on fossil fuels and with the city growth demand will increase. Maersk, the leading shipping company globally, aims to be carbon neutral in 2050 introducing carbon neutral vessels in 2030.	Contributing to global warming and climate change	1	2	2	Reduce fossil fuel consumption	Greenland has agreed to the IMO ban on heavy fuel oils in the Arctic taking effect 1 2024/2029: https://www.imo.org/en/OurWork/Safety/Pages/polar-code.aspx	Collaboration between shipping industry and Nukissiorfiit regarding E-fuel. Nukissiorfiit will attempt to collaborate with shipping industry to convert from fossil fuels into E-power from ex. Ammonia. The DMO will reach out to major consumers and investigate means to reduce through collaboration with Aalborg Municipality to test green energy technologies in Nuuk. The consumers are among others RAL, Royal Greenland, and Polar Seafood.	By 2030 Nuuk will introduce green fuel for water transport, e.g. powered by carbon capture from the new waste incineration plant possibly through ESANI. Nukissiorfiit will supply electricity to docked vessels by 2030.	Kommun eqarfik Sermersooq, Nukissiorfiit, ESANI

Aspect	Potential impacts	L	S	R	Objective	Existing Minimisation / Mitigation Actions	New Minimisation / Mitigation Actions	Target	Responsibility
1.8.2 Road transport: Mostly reliant on fossil fuels and with the city growth demand will increase	Contributing to global warming and climate change	3	3	9	Reduce fossil fuel consumption	Lower taxes on hybrid and electric cars, free charging points offered by companies	<p>New charging infrastructure both public and private from Nukissiorfiit and Kommuneqarfik Sermersooq in collaboration</p> <p>Improve conditions for pedestrians and cyclists with 1m DKK yearly in the municipal budget 2021</p>	In 2021, Nukissiorfiit and Kommuneqarfik Sermersooq will supply charging stations to electric and hybrid vehicles and supply public charging stations throughout town: Reaching 7 public fast charging stations with 50 kW DC, 5-10 public charging stations with 2x22 kW AC, and 100 private charging stations.	Nukissiorfiit, Kommuneqarfik Sermersooq
1.8.3 Air transport: Almost exclusively reliant on fossil fuels and with the airport expansion and city growth demand will increase, however, currently the jetfuel comprises only a very small	Contributing to global warming and climate change	3	3	9	Improve fossil fuel economy	Air Greenland has purchased a new Airbus a330-800neo, which reduces fuel consumption compared to the older model,		By 2030 Nuuk will introduce SAF in its airport, cf. 1.8.1	Air Greenland

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part of Nuuk's greenhouse gas emissions						however, as this airplane will land in Nuuk and not Kangerlussuaq, in the future, aviation fuel consumption in Nuuk will increase whilst consumption per passenger decreases.		Use more economic aircraft with the new airport, e.g. AirGreenland's coming Airbus a330-800neo	
1.9 Solid waste management									
1.9.1 In the benchmarking report from 2019, Nuuk scored a best practice on waste management. Nuuk recycles above baseline, little is sent to landfill, and incinerated waste produces heat.	Reduces quality of life, impacts the environment, and reduces visitor satisfaction	5	4	20	Improve waste handling	Nuuk already has a managed landfill, waste incineration, and waste and environmentally harmful substances are sent to Denmark for recycling and proper handling.	Greenland's municipalities have established ESANI as a new waste handling company that will build a new waste incineration and treatment plant in Nuuk.	N/A	ESANI, Kommun eqarfik Sermersoq
1.9.2 Waste in the city picture	Reduces quality of life, impacts the environment, and reduces visitor satisfaction	2	5	10	Reduce misplaced waste	<p>Bird and windproof public bins are available.</p> <p>CSR Greenland has a yearly clean-up day, Saligaatsoq.</p> <p>Nuuk Water Taxi did a clean-up day in the fjord in 2020.</p> <p>Municipal operations department has hired 3 street sweepers to clean</p>	<p>Refuse, Reduce, Reuse, Recycle</p> <p>Enter into dialogue in 2021 with local shops. Make campaign targeting the public</p>	Zero visitor complaints over waste in 2021	DMO, Kommun eqarfik Sermersoq

Aspect	Potential impacts	L	S	R	Objective	Existing Minimisation / Mitigation Actions	New Minimisation / Mitigation Actions	Target	Responsibility
						the city center every summer.			
1.10 Management of environmentally harmful substances									
1.10.1 Management of environmentally harmful substances	Could severely impact the environment negatively	5	3	15	Avoid spillage of environmentally harmful substances	Environmentally harmful substances are handled according to MSDS at managed waste facility and send to Denmark for proper environmentally friendly processing. Greenland Oil Spill Response is a public company tasked with responding to oil spillage	N/A	N/A	Municipal waste center, ESANI
2. Social and cultural									
2.1 Cultural and social management									
2.1.1 Maintenance of significant sites	If not maintained, significant cultural heritage could be lost	4	4	16	Maintain significant heritage sites	Nuuk has a planning regulation regarding significant sites: http://www.sermersooq2028.gl/dk/vision_og_hovedstruktur/indsatso_mraader/arkitekturpolitik_02/ Kommuneqarfik Sermersooq monitors compliance with the plan	N/A	N/A	Kommuneqarfik Sermersooq
2.1.2 Assault rate cf. Below baseline in benchmarking report. According to the police, the assault rate will increase in 2020.	Assault rate is 1.5% in Nuuk, which is 6 times higher than the baseline level	1	2	2	Reduce assault rate	Kommuneqarfik Sermersooq has opened a new youth club in the Qingorput city district.	“Foreningen Grønlandske Børn”, a children’s NGO, will introduce a new project	Knowing that the 2020 assault rate will increase,	Kommuneqarfik Sermersooq

Aspect	Potential impacts	L	S	R	Objective	Existing Minimisation / Mitigation Actions	New Minimisation / Mitigation Actions	Target	Responsibility
<p>Violence against women is predominantly domestic violence, whereas violence against men is predominantly alcohol-related violence at nightlife or related to domestic disputes. Alcohol often plays a role, which was exemplified when Greenland had a temporary alcohol ban during Easter in 2020, and the violence rate dropped during the ban as violence during nightlife was reduced. Also, violence increase when wages are paid, because alcoholics can then afford alcohol, get drunk and get violent. This takes into account that there is a social inequality in violence, with higher rates of violence being associated with low incomes and low education levels.</p>						<p>Nuuk Police and Kommuneqarfik Sermersooq has entered a joined project to make the city district "Radiofjeldet" safer.</p>	<p>"Tassa", meaning "stop" in Greenlandic, that aims to reduce violence.</p> <p>DMO will contact municipal prevention unit</p>	<p>we target a return to the 2019 assault rate in 2021 at 1.5%.</p>	
<p>2.1.3 Uncontrolled outbreak of COVID-19: As of February 16 2021 Nuuk has 0 confirmed cases of COVID-19, however, an uncontrolled outbreak is still a risk. Also, Nuuk has only a limited healthcare capacity and this is a major risk for Nuuk. Given that the country is not in isolation, COVID-19 will enter Nuuk, and hence we hope that the current restrictions can control COVID-19 still.</p>	<p>Potential loss of life, major risk to the economy if COVID-19 causes a societal lockdown.</p>	2	1	2	<p>Avoid an uncontrolled outbreak of Covid-19</p>	<p>Testing before entering Greenland and Nuuk, and a five day quarantine and retest after five days in Greenland and Nuuk. Furthermore, Greenland is closed for free travel, only government approved passengers can enter Greenland at earliest until the end of February 2021.</p>	<p>The current strategy has kept COVID-19 at bay.</p> <p>Alternatively, new actions will be societal lockdown or prolonging of only government approved passengers entering Greenland</p>	<p>No uncontrolled outbreak</p>	<p>Kommuneqarfik Sermersooq</p>

Aspect	Potential impacts	L	S	R	Objective	Existing Minimisation / Mitigation Actions	New Minimisation / Mitigation Actions	Target	Responsibility
3. Economy									
3.1 Economic management									
3.1.1 Environmentally accredited operators cf. benchmarking report	Nuuk's operators may have a negative ECSE impact	2	4	8	Increase the number of environmentally accredited operators	Encouraged certification since 2019	Continue encouragement Visit Greenland is working on a certification programme tailored to Greenland	1-3 operators certifying every year for the next 5 years	DMO, Visit Greenland
3.1.2 Seasonal fluctuations. Currently the ratio between the month with the highest and lowest number of total guests and total overnights is 2.5, and the ratio between the quarters with the highest and lowest number of overnights is 1.8 and for guests 1.6. For non-domestic overnights and guests, the month-based ratios are 3 and 3.7 respectively. The quarter-based ratios are 2 and 2.5 respectively.	Negatively impacts decent jobs with seasonal occupation	2	4	8	Decrease seasonal fluctuations	The DMO has started a project investigating the possibility of becoming an International Dark Sky Association certified destination to promote winter tourism, especially northern lights. Also the EarthCheck program.	In 2021, the DMO will host a trade workshop on minimizing seasonal fluctuations	Reduce the ratio between the month with highest and lowest number of total guests from 2.5 in 2019 to 2 in 2025.	DMO, Visit Greenland
3.1.3 Reliance on fishery as the sole economic pillar	Global price levels on seafood affect our economy, and if ecosystem changes, e.g. halibut decrease in size, then Nuuk's livelihood is at risk	4	2	8	Increase tourism's share of the GDP	Diversify the economy by increasing the size of the tourism industry, e.g. with the EarthCheck project, a destination development project with Norrøn Architects, a yearly municipal budget post for tourism	New branding campaign by Visit Greenland in collaboration with among others the DMO	5% yearly tourism growth until 2023, cf. Visit Greenland strategy, but also COVID-19 situation	DMO, Visit Greenland

Aspect	Potential impacts	L	S	R	Objective	Existing Minimisation / Mitigation Actions	New Minimisation / Mitigation Actions	Target	Responsibility
						development, and Nuuk's new airport			



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INPI@SERMSERSOOQ.GL

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WWW.BUSINESS.GL

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