

Stakeholder priority areas in relation to climate change in Greenland - Report from the AACA stakeholder consultation in Greenland

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This is an AACA background document presenting the process and outcome of the AACA stakeholder consultation conducted in Greenland.

The goal of this background paper is for the authors of the impact chapter to have early and direct access to a more detailed presentation of the stakeholder perspectives emerging from the AACA consultation.

The priority issues presented here concern climate change related issues alone. The final chapter on priority areas in the region (chapter 2.3) for the AACA report will also include an introduction to other priority areas defined by government and stakeholders in the region (e.g. concerning education, language etc.)

The final chapter (2.3) for the AACA report will of course also include a presentation of stakeholder priority areas defined on the Nunavut side.

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Strategy for Greenlandic stakeholder involvement in AACA

The indigenous self-governance institutions on each side of the bay have developed different structures for political representation. As the AACA project worked to collect and include a broad range of stakeholder perspectives, different methodologies/procedures were therefore chosen.

Interest representation often finds a formal organization in Greenland, where political parties and traditional interest organizations already hold a long history. This formal organization of stakeholder interests has developed in tandem with the Danish colonial administration that was based on a Scandinavian consultation model. The centralized form of consultation governance continued with Greenland Home Rule (1979) and current Self-governance (2009).

As examples of formal representation, KNAPK organize Greenlandic fishers and hunters in a national organization with local branches. The off-shore fishery and Greenlandic employers are equally represented in their organizations GA and NUSUKA). The workers in Greenland are represented in SIK. ICC Greenland represents the indigenous interests of Greenlandic Inuit. The 'Greenlandic NGO coalition for improved citizen participation' of (year?) exemplifies a recent mobilization for greater civil society participation in the Self-governance decision-making in relation to the new large scale projects. The interests of Greenland's municipalities have historically been represented vis-à-vis Greenland Home Rule/Self-governance by the municipality umbrella organization 'Kanukoka'.

In recognition of the Greenlandic tradition of professionalized formal organization and the democratically governed access to stakeholder perspectives that they provide, the AACA project chose to involve stakeholder perspectives through consultation of formal organizations e.g. Interest organizations, public service agencies and Greenland Self-Governance administration.

In Greenland four types of stakeholder consultation was conducted in 2013 and 2014 in order to systematically collect stakeholder perspectives on the challenges and opportunities that they experience and/or foresee in relation to primarily climate change (a fifth round of stakeholder consultation began in Nuuk in 2016) :

1. Workshop with planners and technicians from the Greenlandic municipalities

In cooperation with KANUKOKA, a 2 hour workshop was conducted in Qaqortoq, 10 March 2013, with 23 municipal planners and technicians from Greenland's four municipalities. The workshop started with an initial brain storm among participants about climate change challenges in the everyday work of the municipalities. Each municipality subsequently engaged in group discussions guided by a (cupboard plate?) with three questions: 1) what possibilities and challenges do we see as a result of climate change and what adaptation models do we see? 2) How are we already working to adapt to climate change? 3) What type of knowledge and tools do we need in order to adapt to climate change? The oral presentations of the groups were recorded and transcribed and the plates were collected. A separate report summarizing the perspectives from the workshop was written in Danish.

2. Written information about AACA and invitation to provide written contributions

In May 2013 a written invitation to provide written inputs was distributed to Greenland Self governance ministries; key public service providers (store supply, housing, transport, communication); interest organizations representing key economic sectors (fishing, tourism, agriculture, extractive industry, other industry); and organizations representing Greenlandic children(MIO), indigenous peoples (ICC Greenland) and civil society (Greenland NGO coalition).

The invitation material invited stakeholders to send any perspectives on Climate change previously formulated by their organizations or to provide new input based on the three questions that had proved fruitful in the municipal workshop: 1) what possibilities and challenges do we see as a result of climate change and what adaptation models do we see? 2) How are we already working to adapt to climate change? 3) What type of knowledge and tools do we need in order to adapt to climate change? Six organizations provided written input: Royal Greenland; the Ministry of education, church, culture and equality; Greenlandic health authority (translation?); Ministry of environment and nature; WWF).The invited organizations/agencies are listed in appendix A and the invitation material in Appendix B.

3. AACA workshop with three target groups of stakeholders

Subsequently, on June 2-4 2013, an AACA RIT project workshop was held in Nuuk. June 3rd was planned as a stakeholder day and three categories of stakeholders were put together by the RIT and invited to participate in each a 2,5 hour session: 1) Indigenous peoples (ICC and ICC Greenland) and small-scale fishers and hunters (KNAPK) 2) The off-shore fishing industry (GA, Royal Greenland, the Greenland institute of natural resources) 3) Extractive industries (Shell, True North gems, True North Gems Greenland A/S , Mineral License and Safety Authority (MLSA), the Environmental Agency for Mineral Resources Activities, Tanbreez Mining Greenland A/S, Nunaoil A/S /GOIA HSE, Ministry of Industry and Mineral Resources). The participating persons are listed in appendix C.

4. Community meeting in Qaanaaq

In cooperation with the Ministry of Nature and Environment, ICC and WWF, the AACA project has received input from locals and hunters in Qaanaaq community in the form of meeting minutes from a community meeting held in Qaanaaq May 4th 2014, provided by Bjarne Lyberth (ICC).

Greenlandic priority areas in relation to climate change as defined by stakeholders

1. Understanding a changing natural environment

Stakeholders are generally interested in knowing and understanding the way the natural environment is changing. So for example KNAPKs members, the Qaanaaq community members and the fish industry /represented by RG) are making and sharing a range of observations of

changes in their environment. KNAPK explains that when their members face climate change challenges, they are not dealing with projections into the future, but with everyday life. KNAPKs members have observed changes in fish abundance for species such as cod, capelin, mackerel, herring, salmon, seith, haddock, squid, and sand eel.

In Qaanaaq, locals have observed retreating ice and changes in ocean currents which affect their hunting operations. They observe a range of changes in the behaviour and availability of the living resources. They have observed that breeding seals that were once everywhere are now only to be found in the inner parts of the fiord. Here they gather around a few breathing holes where they can find a little snow to hide underneath. It has been observed that polar bears are managing fine without ice and they are now observed in South Greenland – as for example in Nuuk. New species as for example capelin and cod have been observed by locals. At least four new whale species have been observed including minke whale, the bones of which are still lying on the old whale flensing sites (terminology?) from the 18th century. The arctic char is observed to be bigger and the cormorant has been observed for the first time. Guillemot is observed to migrate south way later than it used to do. Hunters observe that their whole area has now become a Greenland halibut area and that catfish has (arrived/increased?). Grenadier (Macrouridae) has become more common. The walrus goes further in the fiord and makes it hard to catch seals with nets. Polar bears have become more common at Pituffik because they are lacking the ice. Eider duck breeding grounds are more common and during shedding we see way too many on our way up north. Furthermore, changes in sea-ice affect the distribution of wild life and game.

2. Changes in subsistence life style and traditional hunting culture

Changes in the subsistence life style and the traditional hunting culture constitute a major area of concern for ICC. Changes in sea ice challenge the Inuit culture, mobility and safety.

ICC points to the on-going transition from the subsistence to the monetary economy and the fact that modern education does not take into account knowledge from traditional hunting. As a result, the use of dog sledges is diminishing and people increasingly have to invest in new equipment such as boats, engine, and snowmobiles.

The relationship between the life-ways of the subsistence economy and the monetary economy is another area of concern. If people are unable to provide for themselves as they use to do, they will be dependent on public welfare payments.

The ministry of education, church, culture and equality equally points to the survival of the traditional hunting culture and the potential loss of traditional and local knowledge as one of two greatest climate change challenges in Greenland.

3. Challenges and opportunities to existing fishing and hunting sector

Changes in the fishery resources are generally treated with an equal portion of concern for dwindling resources and a hope for new opportunities. The southern municipality is particularly interested in changes in the shrimp/cod relationship and a potential return of the cod and a re-opening of the local cod fishery in the settlements. WWF too expects new opportunities within fishing.

Locals from Qaanaaq, KNAPK, WWF and the Northern municipality highlighted changes in the sea ice as a major challenge to the areas fishery and hunting activities. Here, much hunting takes place at the sea-edge, but the ice-edge where they travel has become very unreliable. Locals in Qaanaaq have also experienced increased difficulties in hunting from the edge of the sea-ice and today, they often have to use motor boat. Nor can they hunt polar bears from the sea ice anymore, but have to travel across Inglefield land.

Besides from representing a challenge to the Greenlandic fishery sector, challenges to this 'traditional' ice-based way of hunting links directly to the above mentioned challenges of the subsistence life style

The municipalities also mention that changes in ice-cover could also mean increased access in ice-free periods, though also less access in the prolonged transition periods. Royal Greenland equally sees new opportunities for new fishing areas caused by sea ice melt, for fishing new interesting species and for a longer fishing season. But Royal Greenland also notes that changes in weather with increased storm and precipitation can make fishing more dangerous.

In relation to new fisheries, the organisation representing the off-shore fishing industry informed that the ability of the industry to go for new species is greatly determined by the economy and the market. If a new fishery is economically viable, the fishery will go for it as was seen in the case of mackerel. The same goes for a declining fishery as is seen in the case of prawns. Even though the prawn stock is declining, the fishery is still able to make a profit from it because of increased market prices. It is possible to conduct a flexible fishery today, and the decision of whether or not to shift to a flexible fishery is likewise determined by questions of profitability.

Royal Greenland which owns many of the local fish factories also expect some fish species to disappear while others may come, posing adaptation challenges to the fishery as well as the factory equipment. New species require development in technology and training of employees. Changes in the fishery structure also implies risk for the local population as factories are closed down in some places and opened in others.

Royal Greenland notes that fishers and their families as well as company employees can lose job and income and that public authorities will have to work to create new opportunities for income and employment of its citizens.

4. Opportunities for the development of other existing and new industries/professions

Another major theme brought to the table by stakeholders is how to develop other industries and professions. The question of how to diversify the Greenlandic economy is a classic priority area in Greenlandic economic policy, but with the prospect of new changes within as well as outside the fishery, the area receives renewed attention in climate change discussions.

The ministry Ministry of education, church, culture and equality sees an overarching need to identify what type of professions - besides from large scale projects – to prioritize in the future. Economic development was of major interest to the municipalities too, who pointed to the possibility of new business opportunities in the context of climate change. Interesting sectors included agriculture, aquaculture, green energy, eco-tourism, oil and mining and hydropower development.

WWF suggests that climate change adaptation focus on supporting those groups currently relying on activities affected by climate change to transition onto areas with new opportunities. WWF notes that others have pointed to opportunities for stock keeping and agriculture in the southern part of Greenland. They notice that the production is limited today, but a focused effort could perhaps bring new investments to this sector - e.g. green houses – and thus increase production and create local employment in a region currently suffering from unemployment.

Tourism holds great potential according to WWF. Greenland already has a lot to offer in this area, but climate change has resulted in increased interest for the entire Arctic region. Greenland should look into how to develop this industry and how to improve the conditions of the tourists. WWF suggests looking for inspiration in the nature tourism of Svalbard, Canada and Alaska.

Sermersooq municipality also argued for investigating the possibilities for increased tourism in East Greenland due to increased access of the and it was suggested to explore the possibilities for polar bear trophy hunting and the establishment of local tourist guide educations further.

5. Competition and conflict between old and new industries

The time of the AACA stakeholder consultation coincided with a recent announcement by KNAPK to the government (June 2014) that it was now officially against the development of an off-shore oil industry. During AACA consultation, KNAPK explained that the organization's

official view is that the offshore oil industry should not be developed because of its potential for damaging the fisheries that still represent 90% of the economy. KNAPK's members are concerned by the observed effect of seismic activities including hunters' observations of behavioral changes.

Royal Greenland is also concerned that increased marine activity of external actors implies greater risks of pollution in the 'crystal clear' waters by which they brand their sea food products on the international market. Risks mentioned are oil spill from shipping, cruise ships and oil drills as well as mining waste from mining (terminology?)

Royal Greenland also foresees the risk of losing employees to the new industries

ICC also emphasized emerging conflicts between users of the natural resources as when for example the interests of fishers and hunters interests conflict with oil exploration activities. ICC has principles for resource development and while ICC is not against resource development, they emphasize that high environmental standards and local involvement are needed. ICC shares the concerns of KNAPK in regard to oil exploration.

ICC saw an opportunity for the AACA assessment could facilitate dialogue and bring down the conflict.

Shell is generally confident that the oil industry will be able to meet changes in the physical aspects of climate change, though it will be a challenge. Yet the industry must also adapt to social and political changes occurring at high speed and such changes are often more difficult to deal with for the industry than the physical environment. The adaptation capacity of local people and government is therefore also a priority area for the oil industry, that find it important to understand how change will affect the people and the government they are working with.

6. Empowering local communities

Empowerment of communities by means of free prior consent is another central priority area for ICC. Inuit communities have a right to be informed so they can give consent of influence direction of societal development. Inuit may have public government, but it does not mean that this government can do as they see fit while in office. The decision to invite only part of the Greenlandic population to a referendum on Uranium was highlighted as an example of the political challenges facing Inuit public government that need further attention.

With increased possibility of resource extraction, input of outsiders to do business is expected. Inuit have seen that they have become a minority group in other regions. Currently, public government does not take into account indigenous peoples' rights as these are not built into our

legislation. This is a disadvantage to the Inuit population in case it becomes a minority in its own country and constitutes another challenge to the Inuit Self-governance arrangements.

7. Management of the living resources

In Qaanaaq hunters observe that hunting restrictions have altered the balance of the ecosystem. If quota restrictions continue, the prey availability for the animals will be affected as in the case of Arctic cod. Arctic cod has for example become smaller; 50 year ago they were difficult to carry, but now they can carry them in an ordinary plastic bag.

A local from Qaanaaq explains that restrictions on the walrus hunt is the worst thing that has happened to them after the municipal reform.

Qaanaaq hunters explain that the changing weather puts a natural imitation on the hunters' activities. Whereas they could before supply themselves with dog fodder, restrictions now makes it more difficult for them to supply for themselves and their dogs.

The hunters explain that previously, there were more hunters. Now more are getting regular jobs because the hunting profession has become unprofitable. They spoke about climate change 3 years ago and not until now, after they have started to adapt, have somebody (ICC, WWF and Greenland Self-government) come to start the dialogue.

WWF recognizes the discussions about concrete opportunities and challenges in the form of new fisheries and changes in the living resources. But if one is to lift the discussions to a more general level, one of the main challenges is to secure that the management regime is suitable for a changing world.

When speaking of protected areas, ICC Greenland has argued that establishment of protected UNESCO areas must take subsistence concerns into account. Protected areas should be open to seasonal hunting as there are games that are necessary for hunters to use. There could be some flexibility in announcing these protected areas.

8. Changed risks for human health

Health issues with traditional food and food security is one of ICC's priority areas. Concerns include accessibility and the potential for the mobilization of contaminants.

In Greenland, the public health authorities (landslægeembedet) is involved in the Arctic council working group on 'International circumpolar surveillance'. It identifies three health challenges related to climate change: 1) Vector-borne diseases that Greenland has not had before 2) A disease like tetanus, which is not a problem in Greenland today, could appear as a result of permafrost disappearance 3) Drink water problems where we use surface water from lakes.

9. Changes in how to plan build and sustain built infrastructure

As ICC explains, permafrost is not as great an issue in Greenland as it is in for example Alaska. Still, planning of new infrastructure must take into account the thawing of permafrost.

The planners and technical departments of the Greenlandic municipalities which were consulted in the AACA project are responsible for the maintenance of much built infrastructure. They were able to point to a range of climate change related challenges that either affect their work today or will expectedly affect their work in the future. These challenges were: 1) Protection of cultural heritage including protection of wooden buildings and protection of ruins from coastal erosion 2) Meld in buildings 3) Problems with roads and buildings due to changes in permafrost 4) Changed usage of the open land including the establishment of new trails for dogs and snow mobiles 5) Increased snow load on buildings 6) Drainage of increased melt- and rainwater 7) The identification of areas suitable for building new infrastructure in the context of permafrost melt 8) Increased need for gritting and snow clearing 9) Impaired transport opportunities when sea ice is unstable.

Royal Greenland also noted that melting permafrost and increased storm and precipitation would increase the risks of building damage.

Stakeholder identification of gaps in knowledge and policy in Greenland

As an integrated part of the discussions above, stakeholders were often able themselves to point to a range of knowledge and policy actions that could facilitate their adaptation actions

Better understanding of changes in the natural and physical environment in general

ICC explains that changes in the natural environment are of interest to the Inuit population. Fishers would like to know more about winds, currents, salinity, acidification, the moving of animals and changing of species. Mapping of sea-bed is important if the region is to take part of shipping development.

The municipalities are generally interested in understanding weather changes: Each individual think they observe certain changes, but what are the actual patterns of change in regard to wind, precipitation and ice cover?

The mining and oil industry is equally interested in understanding physical/environmental changes. True North Gems is a mining company with plans to start an open pit ruby mine in South West Greenland and in relation to this project, the company would be interested in precipitation modeling for the future. To Shell, the main challenge is to assert the rate of change expecting that fast occurring changes will affect the industry most. Shell explained that their first priority is safety of operation. Shell is designing structures in a 15 years framework

with 50 years duration, and there are not physical parameters available for this span. Recent data reflect actual major changes.

Integrating local and user knowledge

The inclusion of user and local knowledge to supplement scientific research was a major challenge mentioned by WWF. In Greenland, only few attempts have been made to include user-knowledge about for example climate change, but this inclusion is not systematized and is not applied in management. Instead, stakeholders are included in management decision-making through the fishery and hunting councils. WWF notices that Canada has a longer tradition of working with the collection of Traditional Ecological Knowledge and the AACA project could serve as a platform to strengthen this in Greenland through cooperation with the research institutions in Canada.

Integrating social and natural scientific knowledge

WWF identifies a need for social scientific climate change research that builds on the natural scientific research and for the aggregation of natural science in order to make it more policy-focused. The question of the policy-implications of natural scientific research is most often left unanswered. But what are the consequences of management action for local communities and Greenlandic society as a whole?

Recognising the challenge of social change, Shell too identifies a need for tools that integrate physical, economic and social factors. They should apply across the Arctic, but still be site specific.

Targeting the scientific information

Translating knowledge into politics is major challenge identified by the involved stakeholders. WWF notes that large quantities of research focus on climate change, but this research is not aggregated to answer the pertinent questions of politicians and administrations – what do these changes mean for the fish stocks in the oceans off Greenland? And how should Greenlandic society invest in order to create new employment in the future?

WWF noted that to argue for the relevance of climate change adaptation actions, research must be translated into knowledge that can be applied by the administration, the politician and those who are expected to face great changes. The municipalities equally pointed to a need for data that documents that working with climate change is worth the effort can be used in argumentation vis-à-vis politicians and citizens as well as internally in the municipalities.

WWF currently works to understand climate change and to translate knowledge to methods and ideas that can be used in the management in the Arctic countries. WWF has developed a

method called 'Rapid Assessment of Circumpolar Arctic Ecosystem Resilience' (RACER). The aim of this method is to alert to those areas that are important to people today and in the future, because the areas have a large primary production and relatively large bio diversity.

The municipalities highlighted the need for accessible scientific knowledge that is communicated to practitioners in a targeted and short format, as opposed to a general and lengthy format.

Both the municipalities and members of the Qaanaaq community were interested in more presentations by scientists.

EAMRA argued that one of the big problems in representing a stakeholder view is that the AACA assessment is more about uncertainty than about certainty. It is difficult to plan from this perspective. A business such as tourism, for example, needs good predictions in order to plan their business.

Knowledge of changes in the open land

The municipalities would like more research focus on the open land – for example updated maps, background data, knowledge of what has happened and prognoses of what is going to happen.

Knowledge relevant to build infrastructure

The planners and technicians of the municipalities were also able to identify gaps in knowledge about how to sustain built infrastructure including: 1) The possibilities for securing the coast from erosion 2) The preservation of wooden buildings 3) More knowledge about mold, methods and materials. Will climate change worsen mold attacks? 4) Technological knowledge about how we can secure the installations - supplementing existing cooperation with ARTEK in Sisimiut 5) More knowledge of snow load and buildings; diversion (afledning) of melt water and smart solutions. 6) Mapping of areas suitable for building new constructions

Management of new fisheries – knowledge and policy

KNAPK notes that Capelin has been observed in large entities as bycatch in the offshore shrimp fishery and some shrimp fishers are speculating in opening commercial fisheries. On the other hand, it is also recognized by science and KNAPK members that capelin is also an ecologically important species. So opening up fisheries on capelin also affects the ecosystem. KNAPK therefore identifies a need for more research on different populations of capelin in order to establish whether there is competition between the offshore and the coastal fishery.

New fisheries will also pose challenges to the management and KNAPK would like to bring that message forward to Self-government ministry and fishery biologists. Shifting between species happen all the time, KNAPK advises multispecies licenses, enabling fishermen to invest in new types of gear and target seasonal species such as pelagic ones. Other challenges have to do with choices of how to organize the production. Most fish are being exported as whole frozen fish today. More processing of fish products in Greenland will need new investments. But because species are unpredictable, investment is difficult. It is also important to keep in mind that KNAPK covers large specters of livelihood and that communication is therefore also a challenge in relation to research and management.

The industry is interested in understanding changes in the fishery resources; what is for example to be found further north? And will spawning places for shrimp move? The industry is interested in increased cooperation with the Greenlandic Institute of Natural Resources as well as management plans to manage the changes.

The municipalities are interested in knowing more about the fishery resources and the shift from prawn to cod.

The municipalities identify a need to reconsider the re-opening of closed fish factories in settlement. Furthermore, local interests in exploiting a new fishery resource and the local buyer/production/freezing capacity should be better coordinated (this had been a problem in Qaanaaq). New fishery opportunities on the East coast could furthermore be supported by an identity building process whereby hunters will become more acceptable to seeing themselves as 'fishers' too.

Royal Greenland generally finds that the best strategy is to be pro-active, follow the development and adapt to the new conditions as they occur while addressing both risk and opportunities.

Better understanding of possibilities for agriculture

The municipalities are interested in more knowledge about new plants and animal species to supplement existing research conducted at the agricultural research centre 'Upernaviarsuk'

Knowledge exchange about emerging agriculture projects in North Greenland targeted at entrepreneurs in North Greenland.

Better understanding of possibilities for aquaculture

The municipalities are interested in knowing more about the possibilities for seaweed production? Several projects have been started up, but the production has never taken off

Better understanding of possibilities for green energy projects

Green energy and hydro-power was once a hot topic in the municipalities and discussions about the possibilities for hydro-power projects should be re-opened.

Knowledge exchange within as well as outside of Greenland

The municipalities and its citizens experiment with developing new technical methods within for example agriculture and composting. They find it useful to engage in knowledge and experience exchange internally in Greenland as well as internationally.

Up-front information about regulations and requirements to the extractive industries

True North Gems expressed interested up-front knowledge about regulations and monitoring program requirements. The sizes of the mining projects differ and the monitoring requirements should be proportional.

Explicit prioritization of future professions

The ministry sees a need for Greenland to identify what type of professions (besides large scale projects) to prioritize in the future.

Coordination of sector planning between the municipalities and the Self-government

The adaptation capacities of the municipalities will be strengthened if the sectorial planning of the Self-governance was made more accessible to the municipalities

Including traditional knowledge in the formal education

The transition from a subsistence to a formal economy is considered inevitable, but there are concerns that traditional knowledge will be lost. ICC suggests that the knowledge of traditional hunting is taken into account in the planning of the formal education.

Municipal pro-activeness in extractive industry planning

The municipalities think they should keep themselves up to date and facilitate the development of extractive industries. They should be ready to construct infrastructure and influence the companies in the desired direction of as few environmental consequences as possible.

Local tourist guide training

Tourism guide training should be adapted to and offered in areas where increased tourism is foreseen. For example in East Greenland where a longer tourist season is expected as a result of climate change

Investigating the possibility of allowing polar bear trophy hunting to promote tourism

The municipalities debated whether the management of living resources should support new opportunities in hunting and for example allow for trophy hunting of polar bears in East Greenland

Political empowerment of Inuit communities

ICC identifies a need to empower local communities vis-à-vis Greenland Self-governance in the form of free prior consent and the legal specification of Inuit rights vis-à-vis a potential rise in the immigrating population.

Specific natural resource management tools – Protected Areas

WWF identifies a need to start thinking about new management models that are adapted to a nature undergoing change, stating that: *‘The majority of arctic protected areas have been established in strategically important and representative areas, helping to maintain crucial ecological features and functions. This approach, however, contains an underlying assumption that conditions within these delineated borders remain static and unchanged. But these borders are manmade constructions and do not shift to match changing ecological conditions and species movements. Given the scale and pace of changes affecting the Arctic, scientists and managers may find that these «untouched» areas are more challenging to define, that what requires protection may change and perhaps be lost completely before it can be determined. Strategies in protected areas management and conservation must evolve to meet new realities and challenges’*¹

Local lists of actions

In other working groups ICC works with the possibility of not only having a governmental list of actions, but also a more local list of actions. Questions such as ‘What can local communities do to adapt to changes’ could be a helpful part of the AACA assessment.

Establish new transport routes on land

The municipalities stated that new transport routes should be established on land when sea ice becomes too unstable.

Prioritize cooling of permafrost in buildings

¹ Tom Barry and Courtney Price, Arctic Protected Areas: conservation in a time of change. In The Circle, Protected Areas and Beyond, 03/2012, http://awsassets.panda.org/downloads/circle0312_web.pdf

The municipalities suggested prioritizing the cooling of permafrost in existing buildings

Specification of responsibility

The municipalities identified a need to specify the responsibility for coastal protection – including economic responsibility

Method appendix for the stakeholder consultation

Appendix A:

Sector/area	Name of organization/agency
Sheep farming	SPS - fåreholderforeningen
Tourism	Visit Greenland
Local supply/grocery stores	KNI
Public housing agency	INI
Local supply/sea transport of goods	Royal Arctic Line,
Local supply/sea transport of passengers	Arctic Umiaq Line
Communication infrastructure	Tele-Post
Local supply/air transport of goods and passengers	Airgreenland
Interest organisation. Greenlandic hunters and fishers	KNAPK
Interest organisation. Greenlandic employers	GA
Interest organisation. Greenlandic hunters and fishers	SQAPK
Self governance owned sea-food company	Royal Greenland
Interest organisation. Greenlandic workers	SIK
Interest organisation. Greenlandic employers	NUSUKA
Greenlandic oil company	NUNAOIL
Greenlandic mining company	Nuna Minerals
Interest organisations: Foreign oil companies	Greenland Oil Industry Association
Greenlandic NGOs	Members of Greenland's NGO coalition for bedre borgerinddragelse (ICC Grønland, Transparency International Greenland, WWF Verdensnaturfonden, Avataq, KNAPK)
Childrens right organisation	Mio Børnerettighedsorganisation
Military	Arktisk Kommando

Self governance administration	Formandens Departement
Self governance administration	Departement for Sundhed og Infrastruktur
Self governance administration	Departement for Finanser og Indenrigsanliggender
Self governance administration	Departement for Erhverv, Råstoffer og Arbejdsmarked
Self governance administration	Departement for Fiskeri, Fangst og Landbrug
Self governance administration	Departement for Familie og Justitsvæsen
Self governance administration	Departement for Uddannelse, Kirke, Kultur og Ligestilling
Self governance administration	Departement for Miljø og Natur
Self governance administration	Department for Boliger
Self governance administration	Udenrigsdirektoratet
Self governance administration	Landslægeembedet
Self governance administration	Miljøstyrelsen
Greenlandic municipality administrations	De fire grønlandske kommuner

Appendix B: Invitation material

Invitation letters (Danish):

Invitation til at bidrage til Arktisk Råd projekt om klimatilpasning i Grønland

Kære interessent, rettighedsholder og/eller beslutningstager i Grønland

Vi henvender os til jeres organisation og/eller institution, fordi vi gerne vil bede om jeres input til, hvordan man bedst kan målrette eksisterende viden om klimaforandringer og tilpasningsmuligheder til grønlandske interessenter, rettighedsholdere og beslutningstagere. Jeres input vil indgå i et projekt under Arktisk Råd, kaldet "Adaptation Actions for a Changing Arctic", AACA, hvor der i samarbejde med Canada skal udføres en regional analyse af klimaforandringer og tilpasningsmuligheder for Baffin Bugten og Davis Strædet. Projektets grønlandske del ledes af Grønlands Klimaforskningscenter og Aarhus Universitet, Nationalt Center for Miljø og Energi, og der vil indgå en række grønlandske, danske og canadiske vidensinstitutioner i arbejdet (se venligst vedlagte projekt beskrivelse).

Det er tanken fra Arktisk Råd at dette projekt, i højere grad end ved tidligere videnskabelige udredninger fra Arktisk Råd, skal være regionalt fokuseret og fokuseret på at besvare spørgsmål der er vigtige for lokale ønsker og behov.

I første omgang vil vi gerne bede om et skriftligt input. Formålet med at bede om jeres skriftlige input er: 1) At skabe overblik over identificerede behov for klimatilpasning og viden hos en bred vifte af interessenter, rettighedsholdere og beslutningstagere i det grønlandske samfund. 2) På sigt at bruge jeres input til at sikre netværk og dialog mellem jer og projektets tekstforfattere, således at I løbende kan være med til at understøtte, at arbejdet målrettes jeres behov som modtagergruppe. Vi håber I har lyst til at deltage med et første skriftligt input. Vi håber også, at I efterfølgende har lyst til at indgå i det videre samarbejde – for eksempel i form af workshops og/eller møder med tekstforfattere inden for jeres interesseområder. Vi vil i så fald vende tilbage til jer med udgangspunkt i jeres input og projektets videre forløb. I forhold til det skriftlige input: Vi tænker at flere organisationer allerede har formuleret deres syn på klimatilpasningens udfordringer og muligheder ved andre lejligheder? Ligeledes har I måske før diskuteret hvad I har brug for at kunne tilpasse jer til klimaforandringerne? Vi modtager meget gerne input som I allerede har formuleret i jeres organisation og som I stadig finder repræsentative. Såfremt at I vil formulere jeres skriftlige input på ny foreslår vi, at I formulerer det i punkt form ud fra nedenstående 3 spørgsmål:

- 1) Hvilke muligheder og udfordringer ser vi som følge af klimaforandringer og hvilke tilpasningsmodeller ser vi?
- 2) Hvordan arbejder vi allerede nu med at tilpasse os klimaforandringer?
- 3) Hvilken type viden og redskaber har vi brug for, når vi arbejder med klimatilpasning?

Vi håber I vil deltage og vi vil meget gerne modtage jeres input inden d. 23 maj 2014. Vi modtager dem gerne per e-mail til AACA@natur.gl. Såfremt I har interesse i videre samarbejde foreslår vi også at I fremsender navn og kontaktoplysninger på en person, der har interesse i at fungere som kontaktperson i det fremtidige samarbejde.

Bedste Hilsner

Malene Simon, Grønlands Klimaforskningscenter

Anders Mosbech, DCE – Nationalt Center for Miljø og Energi

Project description (Danish)

Projektbeskrivelse for et nyt Arktisk Råd projekt:

Tilpasningsmuligheder i et Arktis i forandring

'Adaptation Actions for a Changing Arctic' (AACA)

Befolkningen i Arktis må i stigende grad forholde sig til ændringer, kompleksitet, usikkerhed og nye muligheder. Klima, miljø og samfundsmæssige forandringer spiller sammen og forstærker hinanden på nye måder. Kendte udfordringer kan blive forstærket og nye muligheder kan opstå.

De traditionelle vurderinger af klima, miljø og samfund i Arktis har oftest fokuseret på enkelte faktorer: biodiversitet, klima, forsuring, miljøgifte, sundhed, skibsfart, olie og gas er kendte eksempler, hvor Arktisk Råd har gennemført analyser og vurderinger. Disse vurderinger har resulteret i mange værdifulde informationer, men der er behov for en bedre belysning af samspillet mellem de forskellige faktorer på mere lokalt og regionalt niveau for at befolkning, interessenter og beslutningstagere sikres den bedst mulige viden om udviklingsmulighederne. For at imødekomme disse udfordringer og muligheder har Arktisk Råd iværksat projektet 'Adaptation Actions for a Changing Arctic' (AACA). Projektet udføres under Arktisk Råd arbejdsgruppen af 'Arctic Monitoring and Assessment Programme' (AMAP) og har til formål at beslutninger i Arktis kan tages på informeret grundlag. Arktisk Råd har bedt AMAP om at 'producere information, der kan støtte lokale beslutningstagere og interessenter i tre arktiske regioner med at udvikle tilpasningsværktøjer og strategier, som er bedre egnet til at håndtere klimaforandringer og andre presserende miljøudfordringer'.

De tre regioner som dækkes af AACA projektet er: 1) Barents regionen 2) Baffin Bugten og Davis Strædet 3) Bering, Beaufort og Chukchi regionen (se kort). Alle tre regioner vil dække både marine og terrestriske områder og analysen vil især arbejde med fremtidsscenarier for 2030 og 2080.

Grønland, Danmark og Canada indgår sammen i projektet vedrørende Baffin Bugten og Davis Strædet.

Kort over de tre regioner i AACA studiet: Der er nedsat en arbejdsgruppe under Grønlands Klimaforskningscenter og Aarhus Universitet, Nationalt Center for Miljø og Energi, som har til formål at sikre en indsamling og integration af eksisterende viden og afdække de områder hvor der er behov for yderligere viden, som er relevante for grønlandske eksperter, interessenter, rettighedsholdere og beslutningstageres. Det er

formålet, at de påpegede behov for yderligere viden bliver behandlet, og så vidt det er videnskabeligt og praktisk muligt imødekommet i AACA projektet. Det skal sikre, at projektet bliver anvendeligt for grønlandske interessenter og beslutningstagere. Et første og vigtigt led i denne proces er dialog mellem grønlandske aktører om, hvordan AACA projektet kan imødekomme netop deres informationsbehov. Det er planen, at projektet primært skal arbejde med at sammenbringe og analysere eksisterende viden, men det er en del af projektet at pege på forskning der kan understøtte samfundets behov for informationer angående klimatilpasning.

Som første skridt i denne proces vil vi gerne bede om et skriftligt input fra jeres side. Se venligst vedlagte invitation.

Projektets gennemførelse støttes økonomisk af det danske miljøministerium

Invitation letters (Greenlandic)

Kalaallit Nunaata silap pissusiata allanngoriartorneranut naleqqussarnissaa anguniarlugu Issittumi Siunnersuisooqatigiit suliniuteqarniarnerannut immersueqataanissamut qaaqussissut

Asasarpuk Kalaallit Nunaanni soqutigisaqartoq, pisinnaatitaasoq aamma/imaluunniit aalajangiisartoq.

Silap pissusiata allanngoriartorneranut taakkulu naleqqussarfigineqarnissaannut tunngatillugu ilisimariikkat qanoq ililluni Kalaallit Nunaanni soqutigisaqartunut, pisinnaatitsissummik pigisaqartunut aalajangiisartunullu pitsaanerpaamik iluaqutissanngortinneqarsinnaanerata anguniarlugu immersueqataaqkullusi saaffigatsigit. Isummasi Issittumi Siunnersuisooqatigiit ataani suliniummuk "Adaption Actions for a Changing Arctic"-imik, AACA, taaguuserneqarsimasumut ilanngunneqassapput, tassanilu Canada suleqatigalugu Baffin Bugtimi Davis Strædemilu nunap immikkoortuini silap pissusiata allanngoriartornera naleqqussarfigineqarnissaanullu iliuuserineqarsinnaasunik misissueqqissaarisooqarlunilu periarfissanik nalilersueqqissaarisooqassaaq. Suliniutip Kalaallit Nunaannut tunngasortaamik Silap Pissusianik Ilisimatusarfik aamma Aarhus Universitet, Nationalt Center for Miljø og Energi aqutsisuussapput, tassanilu Kalaallit Nunaanni, Danmarkimi Canadamilu ilisimasanik katersuisooqarfiit assigiinngitsut suleqatigineqassapput (suliniutip allaaserineqarnera ilanngunneqartoq takuuk). Issittumi Siunnersuisooqatigiit eqqarsaatigaat suliniut una pineqartoq Siunnersuisooqatigiit siusinnerusukkut ilisimatuussutsikkut suliniutigisartagaanit allanit annerusumik nunap immikkoortuinut sammitinneqarnerullunilu sumiiffinni kissaatigisat pisariaqartitalu pillugit apeqqutitut pingaarutilinnut akissutisarsiniarnermut sammitinneqarnerussasoq.

Siullermik pingaarnerutillugu ilissi allakkatigit immersueqataanissarsi qinnutigissavaput. Taamatut allakkatigit isummanik immersueqataaqkullusi qinnuvigineqarnissinni siunertaavoq: 1) Inuiaqatigiinni soqutigisallit sapinngisamik amerlasuut, pisinnaatitaaffiligaasutut Kalaallit Nunaannilu inuiaqatigiinni aalajangiisartut silap pissusiata allanngoriartorneranut tunngatillugu ilisimasasatut pisariaqartitaannik ilisimasaqalernissaq. 2) Piffissaq ungasinnerusooq eqqarsaatigalugu isummersuutisi aqqutigalugit attaveqarfigisartagassanik qularnaarinnissaq kiisalu ilissi akornassinni aammalu suliniummik allaaserinnittunut oqaloqatigiinermik pilersitsinnissaq, taamaaliornikkut ilissi malinnaatinneqartuarnissarsi sulinerullu atuissatut pisariaqartitsinerannut naleqqussarneqartuarnissaa angujumallugu. Neriuppugut allakkatigit immersueqataanissamut siullermut peqataajumassasusi.

Taamatullu aamma neriuppugut, ilissi suleqataaqqittarnissamut peqataajumasarumaartusi - soorlu assersuutigalugu naapeqatigiilluni isummersooqatigiittarnernut aamma/imaluunniit ilissi soqutigisassi iluini suliniummik ingerlatsisunik ataatsimeeqateqartarnernut. Taamaassappat ilissi isummersuutissinnut tunngasut aallaavigalugit suliniutillu ingerlanera pillugu atassuteqarfigeqqittarumaarpatsigit. Allakkatigit isummersuutitut tunngatillugu: Ilimagaarput kattuffiit arlallit silap pissusiata allanngorneranut tunngasutigut unammilligassat periarfissiisutaasunullu tunngasuteqartut isummersorfigisareersimassagaat? Immaqaluunniimi silap pissusiata allanngornera qanoq ilillusi naleqqussarfigissanerlugu oqallisigisarparsi? Kattuffissinni isummersuutigisartakkasi immaqa sulit ullumikkut pissutsinut naleqquttut paasisaqarfigerusussaaqagut. Allakkatigit nutaamik isummersorumassagussi siunnersuutigissavaput apeqqutit pingasut ataaniittut aallaavigalugit allattuissasusi:

☐ Silap pissusiata allanngorneranut tunngatillugu periarfissat unammilligassallu suut takusinnaavagut naleqqussarnissamullu periarfissat sut takusinnaavagut?

☐ Silap pissusiata allanngorneranut naleqqussarniarluta sunik suliniuteqareerpugut?

☐ Silap pissusiata allanngorneranut naleqqussarnitsinni ilisimasat sakkussallu suut pisariaqartippagut?

Neriuppugut peqataajumassasusi isummersuutissinnillu piaartumik tigusaqarusuppugut 23.05.2014 nallertinnagu. E-mail-imut uunga AACA@natur.gl nassiussinnaavusi. Suleqataaqqinnissaq soqutigigussiuk siunnersuutigissavaput inuup atassuteqaataasussap, siunissami suleqatigiinissami attaveqaataasussap, aqqa pillugu paasisutissanillu nassiussissasusi.

Inuulluaqqusilluta

Malene Simon, Silap Pissusianik Ilisimatusarfik, Pinngortitaleriffik.

Anders Mosbech, DCE – Nationalt Center for Miljø og Energi, Danmark.

Project description (Greenlandic)

Issittumi Siunnersuisoqatigiit suliniutaat nutaaq pillugu nassuiaat:

Issittumi allanngoriartortumi naleqqussarnissamut periarfissat

'Adaptation Actions for a Changing Arctic' (AACA)

Nunarsuup Issittortaani najugallit allanngornerit, imaannaanngitsut, nalorninartut periarfissallu nutaat takkukkiartuaartut isummersorfiginerusariaqalerpaat. Silap pissusia, avatangiisit inuiaqatigiinnilu allannguutit imminnut sunniivigeqatigiillutillu sakkortusaqatigiittarput. Unammilligassat ilisimariikkat sakkortunerulersinnaapput, kisiannili aamma periarfissat nutaat saqqummilersinnaapput.

Nunarsuup Issittortaani silap pissusianik, avatangiisinik inuiaqatigiillu ileqqutoqqaannik naliliisarnerit amerlanertigut sunniutininik ataasiakkaanik tunngaveqartarsimapput: uumassuseqassutsip assigiinngisitaarneranik, silap pissusianik, avatangiisini seernarsiartornerinik, avatangiisini toqunartunik, peqqisutsimik, umiarsuit angalanerinik, uuliamik gassimillu ingerlatsinerit sunniutaannik Issittumi Siunnersuisoqatigiit misissuutitsisarunilu nalilersuutitsisarsimappu. Nalilersuisarnerit tamakku paasisutissarpassuarnik naleqarluartunik kinguneqartarsimapput, innuttaasulli, soqutigisaqatigiit aalajangiisartullu ineriartornissamut periarfissat pillugit pitsaanerpaanik ilisimasaqarnissaat qularnaarumallugu sumiiffinni nunallu immikkoortuini assigiinngitsuni pissutsit imminnut sunniigiveqatigiittarnerannut tunngasuteqartut pitsaanerusumik qaammarsaassutigineqartariaqarput.

Unammilligassat periarfissallu tamakku iluarsivigiumallugit Issittumi Siunnersuisoqatigiit suliniut 'Adaptation Actions for a Changing Arctic' (AACA) aallartippaat. Suliniut Issittumi Siunnersuisoqatigiit suleqatigiissitaanit 'Arctic Monitoring and Assessment Programme' (AMAP)-imit ingerlanneqassaaq Issittunilu aalajangiisarnerit paasisutissanik pitsaasunik tunngaveqartarnissaat siunertarineqarpoq. Issittumi Siunnersuisoqatigiit AMAP qinnuigaat 'paasisutissanik nunarsuup issittortaani sumiiffinni pingasuni aalajangiisartut soqutigisaqatigiillu iluaqutigisassaannik naleqqussarnissamut ingerlatseriaasissanillu inerisaanerminik tunngaviusussanik, silap pissusiata allanngoriartorneranut naleqqussarluarnerunissamut avatangiisinilu unammilligassanut nukinginnarsigaluttuinnartunut allanut naleqqussarnermi sakkussanik pilersitseqqullugit'.

Nunat immikkoortui AACA-ip suliniutaanut attuumassuteqartut tassaapput: 1) Barent-ip eqqaa 2) Baffin Bugtip Davis Strædellu eqqaat aamma 3) Bering, Beaufort aamma Chuckip eqqaat (nunap assinga takuuk). Nunat immikkoortuini pingasuni taakkunanik pineqarput imartat nunallu nalilersuinissanilu suliarineqassapput siunissami aaqqiissutigineqarsinnaasutut takorloorneqarsinnaasut, matumani ukiunut 2030 aamma 2080 tikillugit pisinnaasut aallaavigalugit sulisoqassalluni.

Suliniut Baffin Bugtip-imut Davis Strædemullu tunngasumi Kalaallit Nunaat, Danmark Canadalu suleqatigiissapput.

AACA-mi nunap immikkoortui pingasut suliniuteqarfiusussat takussutissarineqarnerat:

(qupperneq tulleg takuuk)

Silap Pissusianik Ilisimatusarfeqarfiup Aarhus Universitet-llu, Nationalt Center for Miljø og Energi-llu ataanni suleqatigiissitamik sumiiffiit taakku pillugit ilisimariikkannik, Kalaallit Nunaanni tamakkulerisartut, soqutigisaqatigiit, pisinnaatitaaffeqartit aalajangiisartullu pisariaqartissinnaasaannik katersuisussanik pilersitsisoqarsimavoq. Ilisimasariaqartut ilassutissaattut tikkuarneqartut suliareqqinneqartarnissaat siunertaavoq, tamakkulu ilisimatuussutsikkut sulinikkulu ajornaquteqanngikkaangata AACAp suliniutaanut ilanngunnissaat akunerineqartassaaq. Taamaaliornikkut suliniutip Kalaallit Nunaanni soqutiginisinnit aalajangiisartunillu atorineqarsinnaanissaa qularnaarneqartassaaq. Suliniutim tassani suliaasat pingaarnersaattut pingaaruteqavissutullu Kalaallit Nunaanni peqataasussat AACAp suliniutaata qanoq ililluni namminneq paasisutissinneqarnissamik pisariaqartitsinerminnut naleqqulluinnartuunissaa oqaloqatigiissutigissavaat. Pilersaarutaavoq, suliniutim pingaarnersutut paasisat pigineqareersut ataatsimoortinneqarlutillu nalilersuiffineqassasut, suliniutilli aamma ilagissavaa inuiaqatigiit silap allanngoriartornera naapertorlugu naleqqussarnissamut paasisutissanut tunngasunik ilisimasassanillu pisariaqartitsinerannut naapertuuttumik paasisutissiisoqartarnissaa.

Ingerlatsinissami tassani alloriarnerit siullersaattut ilissi tungissinniit isummersuutininik allaganngorlugt allattukkanik tunniussinissarsi qinnutigissavarput. Qaaqqusissut ilanngullugu nassiunneqartoq takuuk.

Suliniutip piviusunngortinnissaanut Danmarkimi avatangiisinut ministereqarfik aningaasaleeqataassaaq.

Appendix C: Workshop attendees. **AACA Workshop, Nuuk, Greenland 2-5 June 2014: List of Participation**
Version: 12 June 2014

Country	First name	Last name	Institute name
Canada	Martin	Fortier	ArcticNet
Canada	Trevor	Bell	Memorial University of New Foundland
Canada	Mickaël	Lemay	University of Laval
Kingdom of Denmark	Mikala	Klint	Danish EPA Danish Ministry of the Environment
Kingdom of Denmark	Anders	Mosbech	Aarhus University, Bioscience, Arctic Environment Danish Center for Environment and Energy, DCE Arctic Research Center, ARC
Kingdom of Denmark	Flemming	Merkel	Aarhus University, Bioscience, Arctic Environment Danish Center for Environment and Energy, DCE Arctic Research Center, ARC
Kingdom of Denmark	Peter Lang	Langen	Danish Meteorological Institute
Greenland	Malene J.	Simon	Greenland Climate research Centre Greenland Institute of Natural Resources
Greenland	Emma	Kristensen	Greenland Institute of Natural Resources
Greenland	Rikke Becker	Jacobsen	Greenland Climate research Centre Greenland Institute of Natural Resources
Greenland	Lene Kielsen	Holm	Greenland Climate research Centre Greenland Institute of Natural Resources
Greenland	Kristine	Arendt	Greenland Climate research Centre Greenland Institute of Natural Resources
Greenland	John	Mortensen	Greenland Climate Research Centre Greenland Institute of Natural Resources
Greenland	Ole	Geertz	Greenland Institute of Natural Resources

Greenland	Josephine	Nymann	Greenland Institute of Natural Resources
Greenland	Fernando	Ugarte	Greenland Institute of Natural Resources
Greenland	Helle	Siegstad	Greenland Institute of Natural Resources
Greenland	Maria	Ackrén	University of Greenland Department of Social Sciences
Greenland	Karen Anne	Arleth	Ministry of Environment and Nature
Greenland	Parnuna	Egede	ICC – Greenland
Stakeholders workshop 1			
Deputy Minister, Ministry of Industry and Mineral Resources (MIM)	Jørn Skov	Nielsen	Ministry of Industry and Mineral Resources
Shell	Nicolas	Fournier	Shell
Nunaoil A/S /GOIA HSE	Signe	Ulfeldt Hede	Nunaoil A/S / Greenland Oil Industry Association
Acting director, Mineral License and Safety Authority (MLSA)	Jørgen	Hammeken-Holm	The Mineral License and Safety Authority
Environmental Agency for Mineral Resources Activities (EAMRA)	Søren Hald	Møller	Environmental Agency for Mineral Resources Activities
True North Gems Greenland A/S	Jens B.	Frederiksen	True North Gems Greenland A/S
True North Gems	Bent	Olsvig Jensen	True North Gems
Tanbreez Mining Greenland A/S	Bolette	Mage Nielsen	Tanbreez Mining Greenland A/S
Stakeholders workshop 2			
KNAPK	Bjarne	Lyberth	The Organization of Fishermen and Hunters in Greenland (KNAPK)
ICC Greenland	Carl Christian (Puju)	Olsen	ICC – Greenland
ICC Greenland	Parnuna	Egede	ICC Greenland
Stakeholders workshop 3			
GA	Bent	Sørensen	Association of Greenlandic Employers (GA)

Royal Greenland	Lisbeth	Due Shönemann-Paul	Royal Greenland
AMAP	Jon L.	Fuglestad	Arctic Monitoring and Assessment Programme Secretariat
AMAP	Jan René	Larsen	Arctic Monitoring and Assessment Programme Secretariat

Appendix D: participants from the planning and technical departments of the four Greenlandic municipalities.

Kujalleq:

Navn	By	Stilling	Ansættelsessted
Birger L. Kristoffersen	Qaqortoq	Planchef	Kommune Kujalleq
Frederik Kristiansen	Qaqortoq	Mijøingeniør	Kommune Kujalleq
Michael Rudy Schrøder	Nuuk	AC-medarbejder	Grønlands Selvstyre. Departement for Finanser og indenrigsanliggender
Pétur Gudmundsson	Nuuk	Miljø, teknik og boligområdet	KANUKOKA

Sermersooq:

Navn	By	Stilling	Ansættelsessted
Bo Top Fisker	Nuuk	Anlægschef	Kommuneqarfik Sermersooq
Henrik Molbech	Nuuk	Driftsleder	Kommuneqarfik Sermersooq
Kaare W. Hansen	Nuuk	Miljøspecialist	Kommuneqarfik Sermersooq
Bilo Høegh Stigsen	Nuuk	Arkitekt	Kommuneqarfik Sermersooq
Bjarke Fogh	Nuuk	Arkitekt	Kommuneqarfik Sermersooq

Qeqqata:

Navn	By	Stilling	Ansættelsessted
Hans Holt Poulsen	Sisimiut	Planchef	Qeqqata Komunian
Tamara W. Henriksen	Sisimiut	Sektionsleder areal og byggesag	Qeqqata Komunian
Jacob S. Lundgaard	Sisimiut	Sektionsleder drift	Qeqqata Komunian
Lone Kristensen	Sisimiut	Miljømedarbejder	Qeqqata Komunian

Martin Jungersen	Sisimiut	Driftsleder	Qeqqata Komunia
Niels Mønsted	Sisimiut	Leder anlægsafdeling	Qeqqata Komunia
Ole Thor Hermansen	Maniitsoq	Teknik- og miljøchef	Qeqqata Komunia

Qaasuitsup:

Navn	By	Stilling	Ansættelsessted
Helle Nielsen	Ilulissat	Miljøingeniør	Qaasuitsup Kommunia
Joakim Svanberg	Ilulissat	Anlægskoordinator	Qaasuitsup Kommunia
Julie Tange	Ilulissat	Byplanlægger	Qaasuitsup Kommunia
Nynne Jørgensen	Ilulissat	Byplanlægger	Qaasuitsup Kommunia
Nîsînguak L. Geisler	Qasigiannnguit	Driftsansvarlig	Qaasuitsup Kommunia
Nukartak Løvstrøm	Ilulissat	Tekniker	Qaasuitsup Kommunia
Otto Sandgren	Aasiaat	Driftsansvarlig	Qaasuitsup Kommunia