Aalborg Universitet



#### Locating Arctic Sustainabilities Online (LASSO)

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# Locating Arctic SuStainability Online (LASSO) Project results - May 2021

Astrid Oberborbeck Andersen Andreas Birkbak Mathieu Jacomy *all TANTIab* 



The LASSO project was carried out by TANTlab at Aalborg University in collaboration with and with funding from the organisation **Arctic Consensus** (https://arctic-consensus.com/).

Project period: March-May 2021





### The Team

Six people contributed at TANTlab:

- Astrid Oberborbeck Andersen, Associate Professor
- Andreas Birkbak, Associate Professor (Project Manager)
- Mathieu Jacomy, Research Engineer
- Kîsta Bianco Kjær, Student Assistant
- Olivia Tummasard Tummóttir Kruse, Student Assistant
- Lasse Uhrskov Kristensen, Student Assistant

The core research question:

# How do actors in the Arctic understand sustainability?

# Digital methods\*

# We use search engine research tools to answer the question

\*see for instance: Rogers, R. (2013). Digital Methods. MIT Press, or Birkbak, A., & Munk, A. K. (2017). Digitale metoder. Hans Reitzels.

- 1. Which actors are talking about Arctic sustainability online?
- 2. What does a semantic network analysis reveal about the alignment of these actors?
- 3. How to discover and account for actors that are marginally present online?

# What follows: Five sections

- 1. Data collection: The search terms we used.
- 2. Actor catalogue: The actors we found, their localities, and their discourses.
- 3. Topics and actors 1: Semantic network analysis of the English-language search results.
- 4. Topics and actors 2: Semantic network analysis of the Greenlandic, Faroese, and Danish results.
- 5. Cases: Actors and perspectives not made visible by the search engine methods.

# Section 1: Data collection



# What *is* Arctic sustainability?



Section 1/2

# **Sustainability**

How to scope the search for topics related to sustainability?

- 1. Environmental themes
- 2. The UN's Sustainable Development Goals (SDGs)
- 3. Climate change themes
- 4. Green growth and business
- The words "sustainable" and "sustainability"



### Search terms to capture sustainability discourses online

### 1. Environmental themes

("environment" OR "environmental") AND ("waste" OR "pollution" OR "natural resources" OR "recycling" OR "resource depletion" OR "renewable" OR "ecosystem")

#### 2. SDGs

"sustainable development goals" OR "sustainable development goal" OR ("UN" AND ("SDGs" OR "SDG" OR "S.D.G."))

### 3. Climate change

"carbon footprint" OR "global warming" OR "climate change" OR "Paris agreement" OR "carbon calculator" OR "carbon neutral" OR "fossil free"

#### 4. Sustainable business

("sustainability" OR "sustainable" OR "green") AND ("business" OR "growth" OR "innovation" OR "production" OR "potential" OR "optimization" OR "efficiency" OR "opportunities" OR "economy")

### 5. Sustainability

"sustainability" OR "sustainable"

Section 1/4

Methods note: These discourses and search terms were identified by manually reading through the sustainability profiles of a list of companies relevant to the Arctic, provided by Arctic Consensus.

# **The Arctic**

### How to search for something 'Arctic' online?

- 1. Use the word "arctic" = a place seen from the outside
- 2. Use a combination of regions and countries with stakes in affairs north of the Arctic Circle
- 3. Use individual names of nations, peoples, regions, etc.
- 4. Use languages that are specific to the Arctic

### Search strategies for locating the Arctic

- 1. Adding the word "arctic" (referred to as 'arctic' in the results)
- 2. Adding a combination of place names relevant to the Arctic (referred to as 'extended arctic' in the results):
  - a. (""Nunavut"" OR ""Nunavik"" OR ""Yukon"" OR ""Northwest Territories"" OR ""Alaska"" OR ""Greenland"" OR ""Iceland"" OR ""Norway"" OR ""Sweden"" OR ""Finland"" OR ""Chukotka"" OR ""Kamchatka"" OR ""Sakha"" OR ""Arkhangelsk"" OR ""Karelia"" OR ""Faroe Islands"" OR ""Denmark"")")
- 3. Adding a single Arctic place name to allow for comparison:
  - a. Grønland (""Greenland"" OR ""Grønland"" OR ""Kalaallit Nunaat"")
  - b. Færøerne (""Faroe Islands"" OR ""Færøerne"" OR ""Føroyar"")
  - c. Island (""Island"" OR ""Iceland"" OR ""Ísland"")
  - d. Samiske folk (""Sami"" OR ""Saami"" OR ""Sápmi""))"
  - e. Nunavut
  - f. Arktisk Norge (""Svalbard"" OR ""Troms"" OR ""Finnmark"" OR ""Norland"")")
- 4. Searching in languages spoken in areas with specific relevance to the Arctic (see next slide)

# The language

Searching the web in English will provide a partial view on Arctic sustainability Among many potential candidates, we added three languages spoken in areas relevant to the Arctic:

- 1. West Greenlandic
- 2. Faroese
- 3. Danish

These more local search results became what we call Corpus 2.

Section 1/7

### Three more languages (The translations used for the Corpus 2 searches)

	English	Danish (Dansk)	West Greenlandic (Kalaallisut)	Faroese (Føroyskt)
Discourse 1 Environment	("environment" OR "environmental") AND ("waste" OR "pollution" OR "natural resources" OR "recycling" OR "resource depletion" OR "renewable" OR "ecosystem")	("miljø" OR "miljø") AND ("affald" OR "forurening" OR "natur ressourcer" OR "genbrug" OR "udtømning af ressourcer" OR "vedvarende" OR "økosystem")	("avatangiisit" OR "avatangiisit") AND ("eqqagassat" OR "mingutsitsineq" OR "atoqqiineq" OR "ataavarneq" OR "pinngortitami ataqatigiinneq")	("umhvørvi" OR "umhvørvis*") AND ("burturkast" OR "oyðsl" OR "rusk" OR "spilla" OR "spell" OR "dálking" OR "náttúru tilfeingið" OR "minking av tilfeingi" OR "endurnýstla" OR "vistskipan" OR "vistfrøðiskipan")
Discourse 2 UN SDGs	("sustainable development goals" OR "sustainable development goal" OR ("UN" AND ("SDGs" OR "SDG" OR "S.D.G."))	"verdensmål for bæredygtig udvikling" OR ("FN" AND "SDGer" OR "SDG" OR "S.D.G.")	"Nunarsuarmi anguniakkavut" OR ("NP" AND "SDG")	"Tey 17 heimsmálini fyri burðardyggari menning" OR "heimsmál" OR ("ST" AND ("sameindu tjóðum" OR "sameindar tjóðir")))
Discourse 3 Climate change	"carbon footprint" OR "global warming" OR "climate change" OR "Paris agreement" OR "carbon calculator" OR "carbon neutral" OR "fossil free"	"CO2 aftryk" OR "global opvarmning" OR "klimaforandring" OR "Parisaftale" OR "kulstofberegner" OR "CO2 neutral" OR "kulstofneutral" OR "fossilfri"	"CO2-mik aniatitsineq" OR "Kiatsitsikkiartorneq" "silap pissusaa allanngornera" OR "Pariisimi isumaqatigiissut" OR "kulstofberegner" "CO2-qannginneq" OR "kulstofneutral" OR "fossilfri"	"Kolevnisslóð" OR "Kolevni" OR "CO2 útlát" OR OR ("global upphiting" OR "klimabroytingar" OR "veðurlagsbroytingar") OR "París sáttmálin" OR ("lívrunnið" (AND "brennievni"))
Discourse 4 Sustainability as business / Green growth	("sustainability" OR "sustainable" OR "green") AND ("business" OR "growth" OR "innovation" OR "production" OR "potential" OR "optimization" OR "efficiency" OR "opportunities" OR "economy")	("Bæredygtighed" OR "bæredygtig" OR "grøn") AND ("forretning" OR "vækst" OR "innovation" OR "produktion" OR "potentiel" OR "optimering" OR "effektivitet" OR "muligheder" OR "økonomi")	"Piujuartitsilluni" AND ("niuerneq" OR "siuariartorneq" OR "ineriartorneq" OR "nioqqutsissiorneq" OR "naammassisaqarsinnaaneq" OR "periarfissat" OR "aningaasaqarniarneq")	("Burðardygd" OR "burðardygg" OR "grøn") AND "vinna" OR "handil" OR "umseting") OR "vøkstur" OR "nýmenning" OR "framleiðsla" OR "møguleiki" OR "albøting" OR "virkni" "møguleikar" OR "búskapur"
Discourse 5 Sustainability	"sustainability" OR "sustainable"	"Bæredygtighed" OR "bæredygtig"	"Piujuartitsineq"	"Burðardygd" or "burðardygg"

### **Data overview**

English web searches ('corpus 1')

- 8 localisation strategies
- 5 discourses
- 100 top results for each

8 x 5 x 100 = <u>4000 hyperlinks</u>

Local perspectives ('corpus 2')

- 3 languages: West Greenlandic, Faroese, Danish
- 5 discourses, translated
- 100 top results for each
- 52 links added manually by four local experts

In total: <u>1190 hyperlinks</u> (some searches yielded <100 results)

# Section 2: The actor catalogue



# What's in 4000+1190 links?

- **Relevant actors.** Which means we discovered a broad range of interesting organisations and businesses.
- **Duplicates**. Which will be combined, but also used as a sign that an actor is prominent on the web.
- Noise. Which means some search results are simply not relevant to our interest in Arctic sustainability.
- **Grey zones**. Which means some search results challenge our ideas about Arctic sustainability in productive ways.

Consequence: We checked all 5000+ links manually.

# Manually going through the data

English results ('corpus 1')

Local results ('corpus 2')

4000 hyperlinks reduced to <u>825</u> unique internet domains ('actors') 1190 hyperlinks reduced to <u>364</u> unique internet domains ('actors')

Discourse

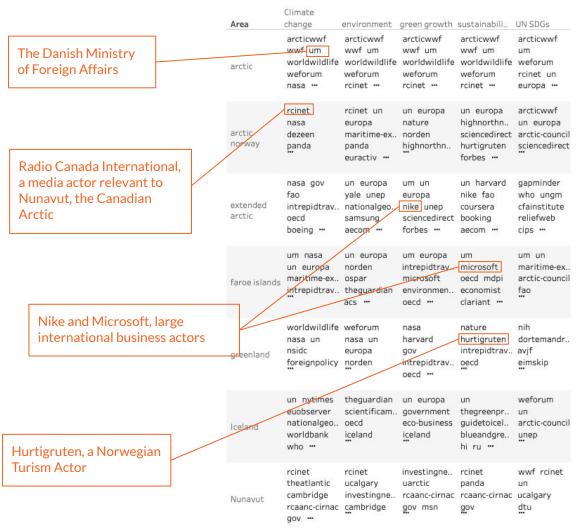
### The actor catalogue (Corpus 1)

To give you an idea about what these 1000+ actors look like, here are some of the top actors we found for each discourse, in each area.

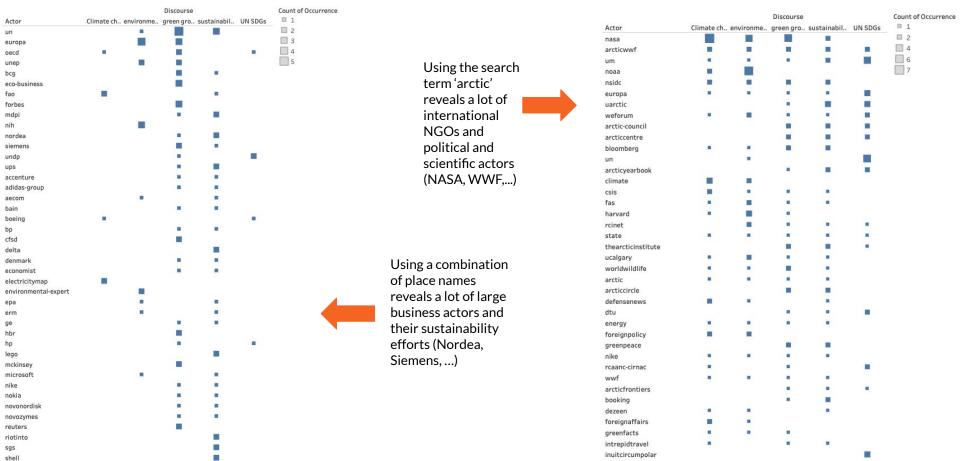
These are the top actors in the sense that they show up most prominently when searching the web in English.

A group of high-level international actors are the most visible when it comes to Arctic sustainability online.

However, there are also more local actors and business actors showing up even in the top results.



A comparison: The list of top actors and discourses is quite different, depending on whether the word **arctic** is the localisation strategy or whether the localisation happens through our combination of **place names**.



# Sum up: The actor catalogue

- Used in combination, our 8 localisation strategies and 5 discourses on sustainability results in an actor catalogue with a broad range of different actors relevant to the international English-language discourse around Arctic sustainability ('corpus 1')
- These can be explored further in the data appendix, including a 96 pages long PDF with all the actors, sorted by localities and discourses.
- The dominance of large international actors motivated us to supplement the English-language data (corpus 1) with searches in other languages relevant to the Arctic (corpus 2).
- In the following, we will first dive into the topics that the English-language actors talk about and how they align with each other (section 3).
- We will then dive into the actors and topics found through web searches in other languages (section 4).

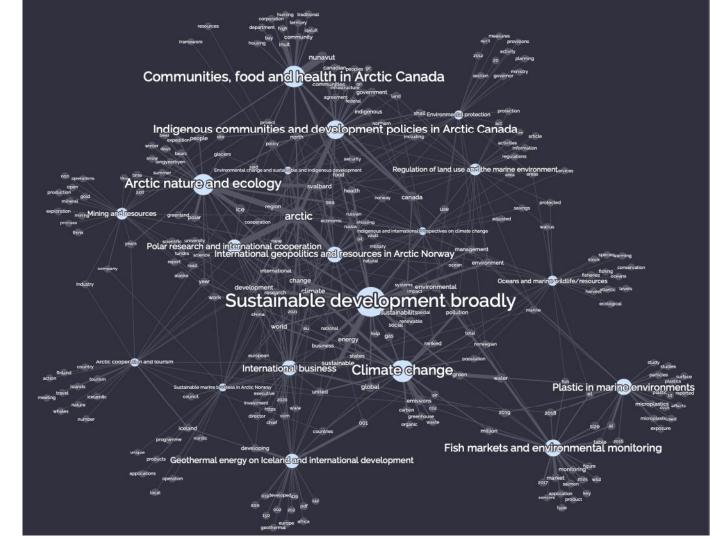
# Section 3: Topics and actors in the English language



#### Overview map of online discourses on Arctic Sustainability

The large light blue dots are topics defined by manual analysis of the words surrounding them (the grey dots), which are identified by a topic modelling algorithm.

This algorithm has read the contents of all the 1000+ websites and found patterns that we have then tried to make sense of.



The previous slide combined data from multiple localisation strategies. Let's look at them one by one.



Section 3/3

This map shows some of the most important individual actors that show up when using the search term 'arctic'. as the localisation strategy.

The actors are close to each other when they tend to talk about the same topics.

In this map, the large top group are united by a climate change discourse, among other things.

The large bottom group are united by a discourse on geopolitics.

We zoom in on that on the next two slides.

Arctic area: Actors seen from the standpoint of a web user



tion 3/4

Climate change

Top 10 actors voicing this topic: nasa, dmi, plos, scientificamerican, mmc, gizmodo, adventure-life, sciencemag, openaccessgovernment, greenfacts

### **Climate change**

arctickingdom adventure-life gizmodo mmc nasa

### weforum climatechangenews



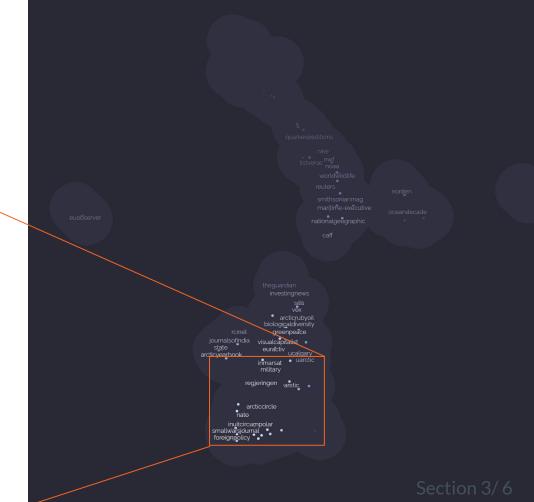
arcticwwf

Section 3/5

### **Geopolitics** Resource frontiers and international security

uarctic inmarsat military regjeringen arctic . arcticcircle 0 nato inuitcircumpolar smallwarsjournal foreignpolicy

#### SOUICE **+IONTLIEIS AND INTEINATIONAL SECUIILY** 10 actors voicing this topic: foreignpolicy, csis, rcaanc-cirnac, foreignaffairs, smallwarsjournal, nationalintere



This map is based on a different localisation strategy. Here, we did not search for the word 'arctic', but used a list of place names related to Arctic activities (including Nunavut, Arctic Norway, Island, etc.).

Many of the important actors here group around a sustainable business discourse.



#### Business and sustainable development

Top 10 actors voicing this topic: bcg, un, forbes, fagerhultgroup, jpmorganchase, shell, springwise, businessfinland, bain, heidelbergcement

thethrivingsmallbusiness mammoet businessfinland

Section 3/7

PEOPLE PLANET PLAY FY20 Impact Report 2025 Targets Impact Portfolio

### ARCTIC SHIPPING CORPORATE PLEDGE

TOGETHER, WE CAN ALL PROTECT THE ARCTIC. IT'S CRITICAL TO EVERYONE'S FUTURE.

BY HILARY KRANE

https://purpose.nike.com/arctic-pledge

#### Zoom in: The case of Nike

On the previous slide, many global companies showed up.

However, on the slides before that, where the word 'arctic' was the search term, the focus was on climate change and geopolitics rather than business.

Nevertheless, Nike managed to show up there.

This blog post is the explanation. It connects Nike to the issue of Arctic shipping routes opening due to global warming.

Note: Zoom in on any actor by searching for the name in the spreadsheet with the full hyperlinks

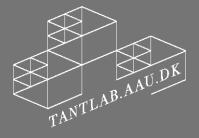


DE&I Approach

Q



What happens if we make separate searches for Arctic countries and regions?



Section 3/9

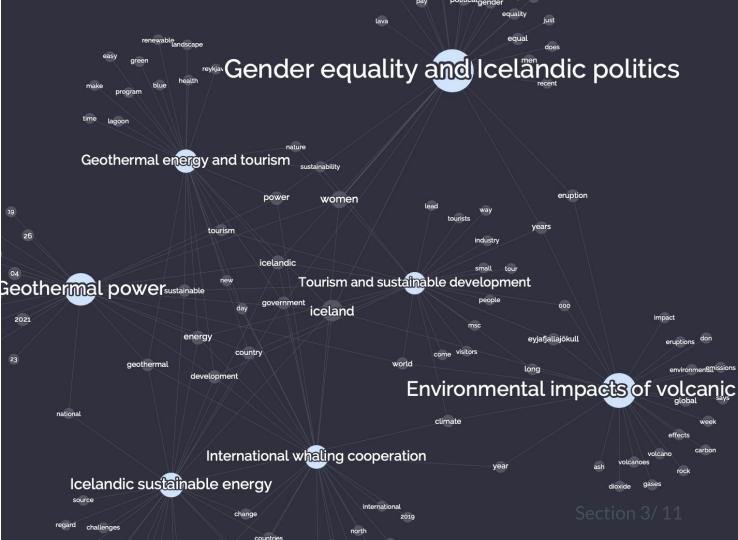
In the previous slides, we approached the Arctic as one thing, either through the word 'arctic' or through a combination of many place names, in one search.

In the following slides, we instead use place names as keywords for separate searches, in order to more clearly show contrasts between sustainability discourses in relation to different parts of the Arctic.



Section 3/10

**Iceland**: Geothermal energy and progressive politics



### Nunavut:

Food security, Inuit communities, territorial politics



Arctic Norway and Sami: Polar bears and tourism

Methods note: The Arctic Norway and Sami results have been combined since the Sami searches yielded very little data.

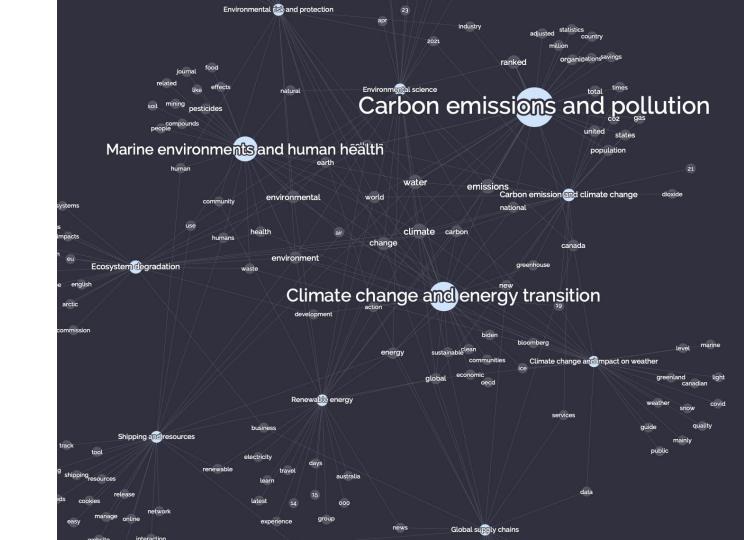


### Faroe Islands: Aquaculture and fishing industry

Note: These topics are highlighted because they appear in numerous smaller topics, and because the larger topics are less specific.



#### **Greenland:** Climate change



## Greenland - a closer look

This map shows individual actors active in the online English-language search results for the word 'Greenland' + the 5 sustainability discourses.

Again, proximity means they talk about similar topics in the search results data.

Note that the actors are mainly international, big actors attending to Greenland from a distance.



### Five Arctic locations seen from the web

The separate searches for specific regions and countries in the Arctic return some quite distinct topics and issues:

**Iceland**: Geothermal energy and progressive politics

Nunavut: Food security, Inuit communities, territorial politics

Arctic Norway and Sami regions: Polar bears and tourism

**Faroe Islands**: Aquaculture and Fishing industry

Greenland: Climate change

## Sum up: Localisations and topics

- The word 'arctic': A contrast/connection between climate change and geopolitics
- A combination of place names in the Arctic: Sustainable business
- 5 separate regions and countries: Distinct local identities
  - Yet, even when localised, the dominating perspective on the Arctic is external / from the outside, as the Greenland actors indicated.

(These are highlights, there is much more to dive into.)

Analytical note: The distinct local identities of the **five Arctic regions** seem based on **English-language** views from the outside.

What happens if we search in local languages instead?

- West Greenlandic
- Faroese
- Danish

This is Corpus 2.

Section 3/19

## Section 4: Topics and actors in local languages



#### The searches in local languages (corpus 2) yield a combination of Danish, Greenlandic and Faroese actors

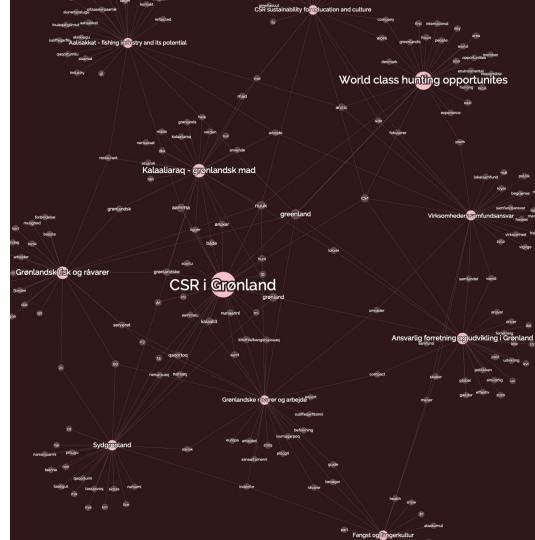


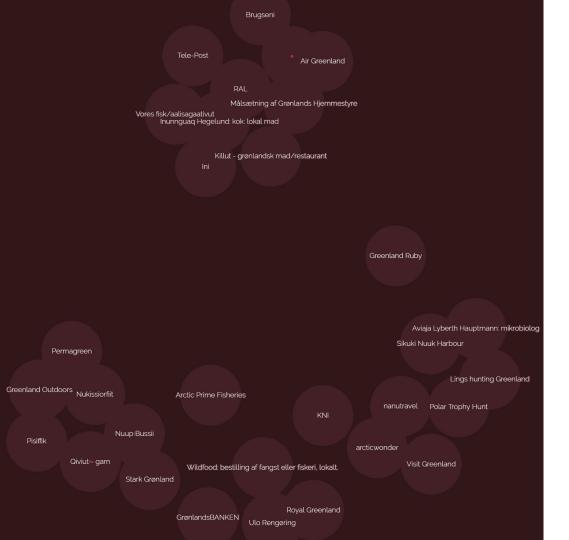
## Greenlandic



#### Topics in the Greenlandic search results

Food, hunting and responsible business are key topics

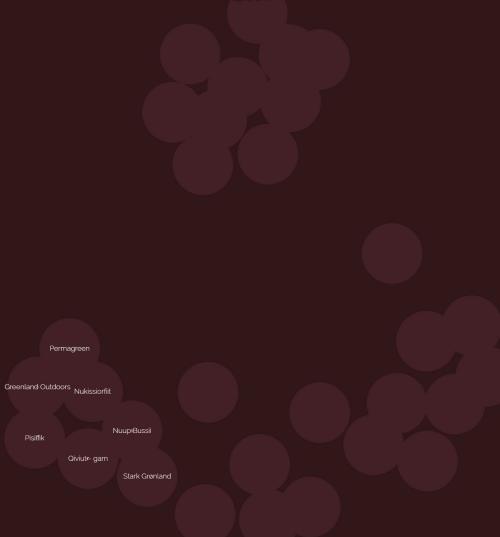




These are most of the actors in the Greenlandic results. Since there are not that many, it is possible to show most of them in the visualisation.

Again, proximity means they talk about some of the same topics.

The next slides take a look at some of the individual topics.



#### **CSR** in Greenland

These actors are aligned by a specific way of talking about Corporate Social Responsibility. It doesn't mean they are the only ones talking about responsible business. Tele-Post and RAL show up in related topics, and the topic on 'raw produce and work' (next slide) also contains CSR elements.



Raw produce and work (Grønlandske råvarer og arbejde)



### Hunting and tourism ('world class hunting opportunities')

The presence of actors like Royal Greenland and Greenland Ruby, which do not seem to have anything to do with hunting, suggests that the way these companies talk about sustainability overlaps with the way tourism actors talk about sustainability.

## Faroese

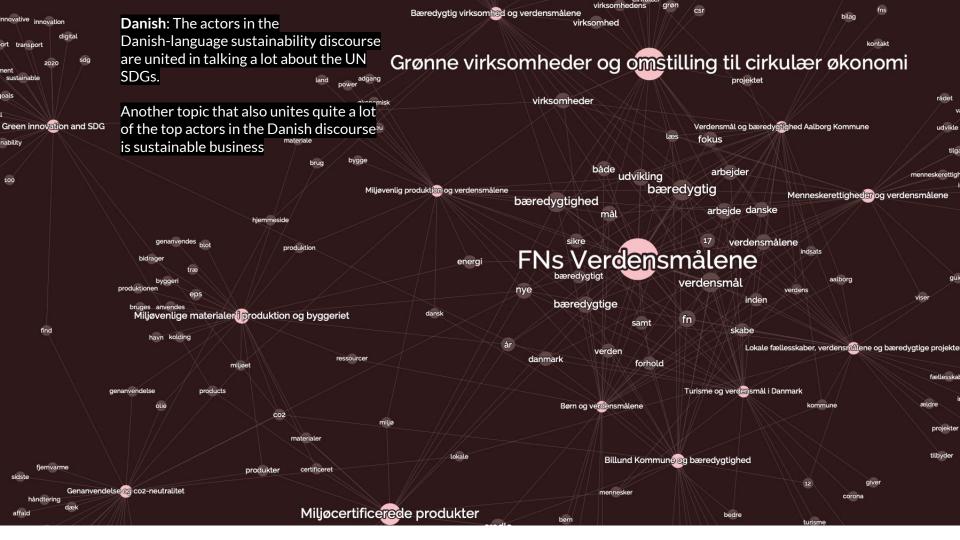
There are also results for Faroese, but these were too few to interpret in a meaningful way with topic modelling algorithms.

The Faroe Islands show up in the next section, however.



## Danish





Some of the most important Danish actors united by the topic of the UN SDGs

Again, proximity means they tend to talk about the same topics overall.

The brighter the dot, the stronger the role they play in the specific topic of the UN SDGs.

The results suggest that the Danish actors have integrated the UN SDGs well into their sustainability discourses.







Here are some of the most important Danish actors united by another topic - that of sustainable business.

We can see that Velux Foundations (bottom left) are talking about both sustainable business and the SDGs (previous slide), but otherwise the overlap is not that great.

Also note the most prominent actors (bright dots) talking about sustainable business in the Danish context are Industriens Fond, the insurance company IF, and the engineering company DGE (all upper right corner). They are located far from the rest, meaning they do not share many other topics with the rest.

veluxfoundations

### Sum up - corpus 1 and 2

- The English online discourse around the term 'arctic' is mostly aligned around climate change and geopolitics.
- The English discourse in relation to separate Arctic regions is quite different depending on the locality.
- The Greenlandic discourse emphasises CSR, work, food and catch.
- The Danish discourse is very much about the UN SDGs and sustainable business.

## **Section 5: Cases**

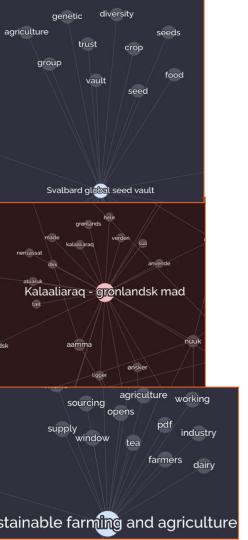


# Cases: Actors and perspectives not made visible by the search engine methods

Qualitative cases show different sustainability discourses "on the ground", as they are articulated and practiced by local actors.

These actors and their sustainability discourses/practices did not show up in a dominating fashion through the search-based digital methods. Whereas the search engine methods show which topics exist, the cases dig deeper into notions of sustainability and their local variations.

The cases point to absences of digital articulations of sustainability discourses, and they are presented here with the purpose of integrating marginalised or vernacular notions of sustainability into the analysis.



## Food/kalaalimerngit/føði/fødevarer

Food showed up as a topic in various ways across the search engine methods, relating to different *notions of sustainability*:

- Nunavut/Arctic Canada: Food insecurity - lack of self-sufficiency, missing sustainability
- Arctic Norway/Svalbard: Global seed vault
  - Securing agriculture-based (Western) food supplies.
- Greenland and Faroe Islands: Fishing / Aquaculture, and local food sources
  - local food as source of health, wellbeing, economy, self-sufficiency

In the following slides we show how a few selected local businesses practice vernacular sustainability discourses in their work with food.



## Veltan (Faroe Islands)

#### EAT LOCAL

We in Veltan believe, that you should be able to eat Faroese greens in the Faroe Islands! Either what you grow yourself, or what you buy from locals.

We grow salad, cabbage, carrots, leek, roots, potatoes, peas – some of these in larger quantities and some as tests. We continuously try to create variation and knowledge about different kinds of crop.

#### ABOUT US

Veltan is a community for people with interest in greens and cultivation. Some members produce for sales and others for their own kitchen. Those who want to sell, can use the brand Veltan, and sell their produce through the community.

The community cooperates about knowledge, sales and marketing.

#### **BUY FROM US**

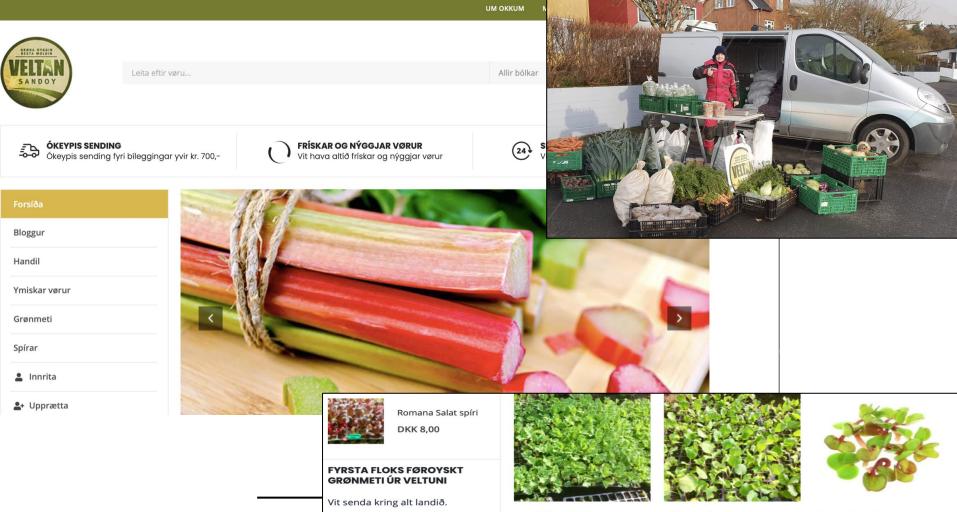
We sell our produce in Vágsbotnur in Tórhavn from time to time (you can see when on our Facebook page), we sell in the grocery shop FK in Tórshavn city centre, from our tunnels in Sandur and to restaurants.

#### **VISIT US**

If you want to know more about us or visit us, you can make arrangements with VisitSandoy.

Please send an e-mail to info@visitsandoy.fo or call +298 222 078.





Bíleggingar, sum eru okkum í hendi á middegi, verða Grønkál spíri DKK 8,00 Kálrabi spíri **DKK 8,00**  Kina Radis spíri DKK 8,00







## Mat & Moldmentanarháskúlin (FO)

"Hjertet i Mat & Moldmentanarháskúlanum slår for selvforsyning og bæredygtighed - alt det vi gør har til formål at undersøge og udvikle vores evner til at leve et frit, smukt, sjovt, stærkt, levende, åndeligt, rigt og selvstændigt liv, i bæredygtigt samspil med alt levende i vores nærmeste og fjerneste miljø."

- from website: https://www.moldmentan.fo/sklan

Højskolen (thee high school) was founded in 2018 by the people behind Veltan. Courses on food, soil, and culture in the Faroese nature are offered.

Digital presence on a website, Facebook, and Instagram.



SUSTAINABLE NORDIC SEAWEED





#### A rainforest in the ocean

Our purpose is to improve people's wellbeing by growing seaweed while making a unique contribution to our blue planet

### **Ocean Rainforest (FO)**

A blue growth company offering a collection of Nordic seaweed products, for food and cosmetic purposes.

Located in Funningsfirði, Faroe Islands.

http://www.oceanrainforest.com





#### Nunatta pissarititai - Råvarer direkte fra kilden

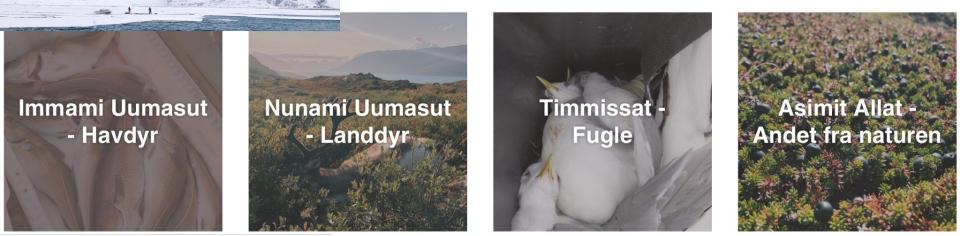
Pisaqartoqartillugu siulliullutit SMS-nnagit. Vær den første til at modtage en SMS, når fangsten lykkes.

Pissarititat nutaarluinnaat Piujuartitsineq Eqqiluisaarneq Fris

Friske Råvarer Bæredygtighed Hygiejne

## Wildfood.gl (Greenland, GL)

A Nuuk-based company that connects people who wish to buy local, fresh, Greenlandic food (Kalaalimerngit) with the hunters that catch it. Hunters announce their upcoming hunting or fishing trips on the website, where customers place their orders via a profile. Upon returning from the hunt the catch is handed over to the customer.





## **FoodLab Nuuk**

#### **Foodlab Nuuk**

Following

Learn More

"We have a desire to improve the conditions for entrepreneurs and food pioneers in Greenland. The endless quantities of fresh ingredients available in our magnificent Greenlandic nature, creates a great foundation for a commercial development of our food culture. Develop new concepts around Greenlandic food and local resources." FoodLab Nuuk



### Sum up: Local sustainability through food

- By tracing the topics found via search engine methods and topic modelling and examining these in a combination of local expertise and handheld digital methods, we can learn about local understandings and variations of "sustainability".
- In Greenland and on the Faroe Islands, we see new business actors emphasising sustainability as a pathway to wellbeing (through healthy, fresh food and taste), to freedom and self-sufficiency, and to future livelihoods. Food connects traditional with innovative local notions of sustainability.
- Food is but one of many topics to be traced and examined as handheld, local cases.

## Conclusions



# 1) Which actors are talking about Arctic sustainability online?

- The answer depends on how you search the web: Which language, which way of defining the Arctic, and how sustainability is operationalised into search terms.
- We have pursued multiple strategies in order to give a broad answer that can be explored in comparative ways.
- The actors include international and local businesses, NGOs, political actors, media outlets, and more.
- It seems crucial to go beyond English terms to get to specific sustainability practices local to Arctic places.
- At the same time, different Arctic regions are talked about in quite different ways even in the global conversation online.

# 2) What does a semantic network analysis reveal about the alignment of these actors?

- NGOs and political actors are aligned around the term 'arctic' itself, which suggests the word is a political category in addition to a place name.
  - There are two main alignments: Climate change versus geopolitical discussions.
- Businesses show up in large numbers once we search for regions and countries in or near the Arctic rather than the word 'arctic', which suggests businesses are not oriented towards the 'arctic' itself as a market or category (with the notable exception of Nike).
- Looking at regions one by one results in place-specific topics such as geothermal energy in Iceland.
  - In general, the English-language results do not show strong topical oppositions within each region, which could indicate that we are tracing a global (media) attention on the Arctic 'from the outside'.
- In the Greenlandic language, many actors align around CSR, and some around local food (kalaalimerngit), hunting and tourism.
- In the Danish language, many actors align around the SDGs, and a smaller group around sustainable business.
  - This indicates that the standardised UN understanding of sustainability has been adopted by many Danish actors.

# 3) How to discover and account for actors that are marginally present online?

- Using search engine methods requires careful, iterative work in order to identify relevant actors. It requires even more work to identify smaller, local actors. Many local or vernacular understandings of sustainability do not make it to the top of the search results.
- We used local languages and place names to go beyond the online surface of large international organisations.
- For example, the English results for Greenland were dominated by the topic of climate change, whereas the Greenlandic results focused on different themes of work, CSR, catch, and tourism.
- We also used local expert knowledge to identify example cases of sustainability practices not found through our search engine methods.

### **Explore further**

- All the data is available in spreadsheet format in the appendix.
- Two PDF files show the actors in relation to localities and discourses.
- There are also 100+ network visualisations and heat maps of topics and actors.
- The hyperlinks that define each actor can be followed in order to understand their sustainability practices better and develop more detailed case studies.

### Put the material into action

- Use the data, visualisations, and results to explore notions, discourses and practices of sustainability among businesses and other actors in workshops.
- Make "sustainability cases" tracing similarities and differences among actors of different sizes working in specific sectors (eg. fishing, tourism, shipping, governance).
- Use these results to start dialogues regarding sustainability and business in the Arctic.

## **Questions? Get in touch.**

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