CS5 Quantitative and qualitative analysis of the engagement of stakeholders

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Summary for publication

Arctic stakeholders are faced with **uncertainty** as to the future development of social, political, economic, and environmental conditions, not least due to the ongoing transformations inflicted by climate change. In Blue-Action, the case study focusing on "Yamal 2040: Scenarios for the Russian Arctic" (CS5) has employed a specific co-design and engagement methodology to support stakeholders of one particular region in the Arctic, the Yamal-Nenets Autonomous Okrug (**YNAO**) in Russia, to respond to this situation of general uncertainty, to develop forward-looking scenarios to better understand the risks and opportunities associated with future transformations in the Arctic. This methodology is the **Foresight Exercise**.

The Foresight Exercise was conducted in the form of a series of three international workshops over 10 months between late 2017 and late 2018. The result thereof were three scenarios for the possible futures of the YNAO, which were co-designed by stakeholders participating in the workshops and representing environmental NGOs, indigenous peoples' organisations, business, media, policy-makers, representatives oflocal communities, and scientists from the natural and social sciences. Results of the workshops were presented in the Blue-Action deliverables D5.20, D5.21, and D5.22 (accessible in https://zenodo.org/communities/blue-actionh2020).
This present deliverable **takes stock of the Foresight Exercise from the perspective of the stakeholder engagement methodology**.

While the scenarios constitute the main result with regards to content, a major aspect of this exercise is also the reflection on the applied Foresight Exercise in order to:

- put the scenarios into the context of their evolutionary history,
- ensure the that the results of the exercise are put into the right perspective and are used accordingly, and
- provide "lessons learned" for the future work of researchers and stakeholders concerned with supporting decision-making under conditions of stark uncertainty in the Arctic and beyond.

This reflection is conducted with this deliverable, delivering both a quantitative (number of contacted stakeholders, participant group size, and distribution of stakeholder groups) and qualitative (challenges, weaknesses and strengths of the stakeholder engagement method, and success factors) analysis of the engagement of stakeholders during this information service case study.

Work carried out

As a collaborative effort between several partners, a **Foresight Exercise** was conducted in the form of three stakeholder workshops between December 2017 and September 2018. This **scenario planning activity** was called "Yamal 2040" and aimed at unpacking possible futures for the Yamal-Nenets Autonomous Okrug (YNAO) by 2040. Ultimately, the exercise enabled stakeholders to make unbiased and more information-based decisions about the future of the YNAO, to prepare for developments they have not considered so far, and thus to reduce risks and identify new opportunities in times of climate change.

The exercise produced **three different scenarios** for the future of the YNAO, which were co-produced with stakeholders from NGOs, indigenous peoples' organisations, business, media, local communities, and scientists from the natural and social sciences. The scenarios are intended to be used by stakeholders for their long-term planning and strategic activities. The details of the Foresight Exercise in general, the methodology used, the scenarios, and the reports of the workshops are outlined in deliverables D5.20, D5.21, and D5.22 and will not be repeated here.

Picture 1: Workshop participants at the third "Yamal 2040" workshop in Potsdam, September 2018. Credits: Kathrin Stephen (IASS)

This deliverable **takes stock of the Foresight Exercise from the perspective of the stakeholder engagement methodology**. During the entire exercise, the partners took notes about both quantitative and qualitative parameters of the stakeholder engagement method used to allow for a thorough reflection of the methodology. The goals are to:

- put the scenarios into the context of their evolutionary history,
- ensure the that the results of the exercise are put into the right perspective and are used accordingly, and
- to provide lessons learned for the future work of researchers and stakeholders concerned with supporting decision-making under conditions of stark uncertainty in the Arctic and beyond.

The quantitative assessment of stakeholder engagement provides data on the number of contacted stakeholders for participation in the workshop series broken down by stakeholder group and contains an analysis as to the number of confirmations, cancellations, and of no reply. Along with that, it gives an overview of the participant group size and change thereof during the workshop series and third, data on the distribution of stakeholder groups during the workshop series. A final quantitative overview shows an anonymous list of the workshops participants according to their stakeholder group and how many workshops they attended.

The qualitative assessment of stakeholder engagement provides an overview of the challenges the research team encountered during preparation, conduct, and finalization of the Foresight Exercise, including challenges related to case study selection, stakeholder selection, involvement, and continued engagement, language, and stakeholder expectations and work mode. From these, we derived a number of general weaknesses and strengths of the stakeholder engagement method, which in turn constitutes the input for success factors for a Foresight Exercise such as the one we used for this case study to deliver an information service for stakeholders.

Main results achieved

Quantitative assessment of stakeholder engagement

The following tables provide data on the number of contacted stakeholders for participation in the workshop series, an overview of the participant group size and change thereof during the workshop series, and data on the distribution of stakeholder groups during the workshop series. In table 4 we provide a list of the workshops participants indicating their stakeholder group and how many workshops the participants attended. This data is then used also for the following qualitative assessment of the Foresight Exercise.

Table 1: Number of contacted stakeholders for participation in the workshop series broken down by stakeholder group: number of confirmations, cancellations, and no reply (includes data from all three workshops).

Stakeholder group	Confirmations	Cancellations	No reply
NGOs	3	3	0
Indigenous peoples' organisations	2	1	0
Local policy-makers/local community	1	2	0
Business	2	6	4
Media	1	0	0
Scientists	9	6	2
Total	**18**	**18**	**6**

Table 2: Participant group size and change thereof during the workshop (WS) series

	Workshop 1 WS1	**Workshop 2 WS2**	**Workshop 3 WS3**
Group size	11	14	11
	Change from WS1 to WS2: **+27%**		
		Change from WS2 to WS3**: -21%**	

Table 3 : Distribution of stakeholder groups during the workshop series

Stakeholder group	**Workshop 1 WS1**	**Workshop 2 WS2**	**Workshop 3 WS3**
NGOs	3	2	3
Indigenous peoples' organisations	2	1	0
Local policy-makers/local community	0	1	1
Business	1	2	1
Media	1	1	0
Scientists	4	7	6

Table 4: List of workshops participants according to respective stakeholder group and workshop attendance (attended: 1, did not attend: 0)

	Workshop participant	**Workshop 1 WS1**	**Workshop 2 WS2**	**Workshop 3 WS3**
1	NGO 1	1	0	1
2	NGO 2	1	1	1
3	NGO 3	0	1	1
4	Indigenous peoples' organization 1	1	0	0
5	Indigenous peoples' organization 2	1	1	0
6	Local policy-makers/local community	0	1	1
7	Business 1	1	1	0
8	Business 2	0	1	1
9	Media	1	1	0
10	Scientist 1	1	1	0
11	Scientist 2	1	1	0
12	Scientist 3	1	0	0
13	Scientist 4	1	1	1
14	Scientist 5	0	1	1
15	Scientist 6	0	1	1
16	Scientist 7	0	1	1
17	Scientist 8	1	1	1
18	Scientist 9	0	0	1

Qualitative assessment of stakeholder engagement

Challenges

Case selection

The selection of the concrete case of the Foresight Exercise surely has a huge impact on the conduct and eventual success of the exercise. In focusing on possible futures for YNAO - one of the leading hydrocarbon production regions in the Arctic accounting for 80% of natural gas and 14% of oil production in Russia and hosting a number of ambitious and complex petroleum investment projects with worldwide export plans – we choose a particular relevant case in terms of transformation pressures and needs in the Arctic but also a politically highly sensitive case. The generally difficult domestic situation for some stakeholder groups in Russia, especially indigenous peoples, and the overall high economic and political importance that the Russian government attributes to its Arctic region generally and its resource potential specifically made the YNAO a challenging endeavour for a stakeholder engagement-focused case study.

Stakeholder selection, involvement, and continued engagement

A particular and decisive challenge is the selection of the stakeholders to be involved in the Foresight Exercise as well as their active involvement and continued engagement through the course of the exercise. A specific challenge is to choose stakeholders carefully since the spots at the workshop are often limited for the exercise to work properly (for the scenario method we used, 12-16 workshop participant slots were available). The probably biggest challenge we encountered was to get stakeholders interested and participate in the exercise. As obvious from the quantitative assessment above (table 1), some (luckily, few in our case) stakeholders did not even respond to the invitation emails (neither the initial email nor the two reminder emails we sent out after one and two weeks, respectively). Some stakeholders did respond but declined their participation either because of limited time/other resources or because of lacking interest. The lack of interest could, at least partly, derive from a perception of distance of our contacted stakeholder groups (especially those based in the YNAO themselves), since we approached them as a non-local institution from pretty far away.

Overall, as table 1 above shows, we experienced a pretty different response rate from various stakeholder groups, leading to the conclusion that some groups are harder to reach than others. The most difficult in our case were business representatives and political decision-makers, which is surely related to the difficult case we chose for the Foresight Exercise (see above). Policy-makers, specifically on the local level, were especially hard to identify in the first place due to the English language requirement (see below). A specific challenge in this relation was that we were often perceived as a foreign actor, cooperation with whom could potentially lead to unwanted consequences. We see this largely due to the highly political nature of the case study topic (see above) and the general alertness in Russia concerning interference in domestic policy issues. Lower level of administration/policy and business representatives were often eager to join our exercise but were usually prevented from doing so

due to prohibition from higher levels. Furthermore, business organization might - unlike other stakeholder - do strategic foresight themselves and are therefore less in need of such an exercise organized outside of their own organization. In addition, to engage in a strategic foresight process bears the risk of laying open their approach to long-term goals, strategies, and risk assessment - all core competitive advantages and hence often highly confidential.

Another challenge was to get stakeholders to participate in the whole exercise process and not just one workshop. In other words, we had to get them "hooked" at the first workshop by convincing them of the high relevance of the exercise for their own activities. But even if stakeholders were "hooked", time constraints and other commitments made it next to impossible that everyone participated in all three workshops. We in the end only had three participants who participated in the entire exercise, s. table 4 above. A further challenge related to stakeholders who confirmed their participation but did not show up at the workshop, these are part of the cancellations in table 1 above. Others only came on one day of the workshop instead of both workshops days or had to leave early on the second day. This related to the challenge of choosing an appropriate venue for the workshop. Since most of our stakeholders were from Russia, we conducted the first workshop in Moscow in order to reduce travel and timing difficulties. However, this had the unwanted effect that many stakeholders did not free up enough time for the workshop and had to follow-up with various commitments from their "everyday" work. After consultation with the stakeholder group at the end of the first workshop, we thus conducted the second and third workshop in Potsdam.
It was also not easy to get participants involved in work tasks between workshops. Stakeholders who were very active during the workshops sometimes did not have time to contribute to the elaboration of workshop results and the preparation for the next workshop. But some participants did take part in the revision of the key uncertainties list and scenario descriptions in-between workshops, which provided a solid foundation for the continuation of the work during the subsequent workshop(s).

Language

A not to be underestimated challenge relates to language. Given the key role of the scenario expert from Foresight Intelligence for the conduct and moderation of the exercise – and their lack of Russian language skills – the workshops had to be conducted in English and all participants had to have a level of English suitable for extensive group work and discussion. Given that we dealt with a Russian case study, one workshop conducted in Moscow, and most stakeholders of Russian nationality, we had to exclude many otherwise suitable stakeholders due to their lack of English language capabilities. A simultaneous translation at the workshop would not have been practical since for the Foresight Exercise to work, direct interaction among all workshop participants is crucial.

Stakeholder expectations and work mode

Given the generic character of a "workshop" and the widespread expectation that this entails the usual format of presentations with question and answer rounds, a crucial challenge is to keep workshop participants' expectations in mind and in sync with the workshop plan. In other words, it has to be

repeatedly stated what the format of the exercise is, what the recent and next steps are, and generally that this is NOT the usual workshop process of presentations and Q&A. The Foresight Exercise is literally a "**work"**shop during which participants have to work and be active all the time. This may be unusual and something to get used to for some participants who are accustomed to idle time during a workshop. The challenge is then to get participants into the right work mode for the workshop in the sense of them being willing and ready to brainstorm, develop ideas and scenario factors, and work in small groups, in tandems, and in the plenary in a very intense working environment over two days.

In more general terms, the foresight exercise is about a specific mode of scientific activity since it is built upon the core idea of building inter- and transdisciplinary knowledge. Foresight methods are nothing more than a structured examination of complex topics, which by definition cannot be empirically explored (uncertain future) in a diverse group in order to create a group product (scenarios). This aspect of generating a "knowledge body" that does not (and cannot) only consist of scientific knowledge is something else than closing knowledge gaps. The process is thus more about understanding than (scientific) explaining.

Weaknesses of stakeholder engagement method

No method is perfect and we feel that as long as one is honest and open about the shortcomings of one's methodology, there is still a good chance to yield good results from the research project and for consumers of the results to put the results into perspective. First, among the weaknesses of the Foresight Exercise are that it is never possible to get *all* relevant stakeholders to the scenario table, both because of the large number of stakeholder groups involved (see the stakeholder map outlined in D5.20) and because of the infeasibility to reach all relevant stakeholders as outlined above.

Second, the key uncertainties that were identified for the concrete case study during the initial phase of the Foresight Exercise (see Environment scanning workshop and report 1, D5.21) are only a selection of a large number of factors affecting the future of the Yamal-Nenets Autonomous Okrug. In other words, we cannot avoid simplifying reality in order to have a workable amount of data. Although the selection of factors is conducted in a co-design, interactive mode by stakeholders themselves, this will not and cannot provide a holistic picture of reality, also because of the necessary limited amount of stakeholders involved as stated before, but can only try through deliberation, iteration, and constant exchange of arguments to approach reality as much as possible. In turn, this reduction of complexity allows the conceivability of a complex issue and to deal with it within a heterogeneous group.

Third, a clear-cut separation between the factors determining or influencing different scenarios is often artificial, since in reality there is a large amount of complexity attached to each factor and various interlinkages between them. For the sake of the methodology to work, these factors were nevertheless treated as separate. However, during the exercise a lot of discussion time was devoted to identifying exactly those factors that are as distinct from each other as possible, and this exercise in the end allowed participants to fruitfully work with the identified key uncertainties.

Fourth, the necessity of all workshop participants to share a common language (see above) may lead to a rather elitist character of the exercise, excluding stakeholder groups who are less likely to possess sufficient English language capabilities.

Strengths of stakeholder engagement method

The strengths of the Foresight Exercise are the following:

- **the iterative character of the research process** with three workshops over the course of one year and inter-workshop exchange between the research group and the stakeholders. For example, it is possible during the exercise and the workshops to reconsider the overall theme of the exercise or the selected key uncertainties and thus to add to or change earlier decisions.

- **The exercise is completely stakeholder driven and owned**, starting from the decision about the concrete focus question of the exercise, up to the strategic implications of the developed scenarios.

- The involvement of Foresight Intelligence as a partner in the project provided for a clear guidance for everyone involved with the exercise never running idle**: having a methodology expert in the room with no in-depth knowledge of the empirical details of the case, provided for the necessary impartiality of the moderator and gave them the chance to be an honest broker** among all participants.

- There is **no specific preparation necessary for the stakeholder groups in order to participate in the exercise beyond their academic, societal, or political expertise that they already possess.** This makes for a generally low hurdle for everyone to join the exercise.

- **Stakeholders see early on that a concrete output will be produced during the exercise, which they are able to shape themselves and thus adjust according to their own strategic needs for future planning**. Related to this, stakeholders take away a concrete output from the exercise (the developed scenarios and the strategic implications thereof), which will even be tailored to their own specific needs.

Success factors

Derived from the above outlined challenges, weaknesses, and strengths of our stakeholder engagement methodology, we have developed the following success criteria for a Foresight Exercise like the one conducted during the “Yamal 2040” case study.

Like probably for any exercise, a good preparation is essential, meaning an early start of the organisation in order to prepare for delays in the process, which are not unusual in stakeholder engagement exercises. Further, it is a big relief one does not have to worry about funding limitations during the exercise, so we recommend to ensure appropriate funding and having enough team members who can devote time to the preparation and conduct of the exercise.

A crucial success factor for us was to have partners on board that are familiar with and geographically closer to the case study location; in our case we had a renowned research institute in Moscow as our key Russian partner. Of further importance is partnership with experts or organisations that provide the methodological expertise for the exercise (if not available in your own team). Related to this, it is crucial to make the role of each partner clear early on in the project to avoid overlapping competences and frustrations about lacking engagement or communication. Especially helpful is the maintenance of a regular flow of information and engagement through keeping everyone constantly in the loop, e.g. through a good file-sharing organization of the project documents.

What has worked very well for us to gather the stakeholder groups needed for the exercise was to write stakeholder group specific invitation letters, e.g. with differing case study questions making sure stakeholders feel addressed and they see the relevance of the project to their work. Related to this, it is important to conduct research about stakeholder group relationships prior to sending invitations, i.e. who already knows each other and where possible conflicts could arise because of previous interactions, in order to avoid transferring unrelated conflicts to your exercise.

Before sending out the invitations to the first workshop, we wrote and published a scientific-popular style article in the Russian media outlet "+1" where we explained in more detail and in simple words the project's goals and the method we used. We also included the link to the article in the invitation e-mails that we sent to the Russian speaking stakeholders. According to the feedback we got from the editor of the media outlet and from the workshops' participants, the article was very frequently read and increased the credibility of the project.

Finally, a critical success factor for us was to first of all draw a detailed stakeholder map (outlined in deliverable D5.20) to get a holistic as possible picture of the stakeholder situation in relation to our case study. This map was used as the starting point for making the workshop invitations lists for the workshop series in the sense of making sure we have as many relevant stakeholder groups represented as possible.

Progress beyond the state of the art

While much transdisciplinary work is demanded see e.g. the recent Call for Applications by the Belmont Forum "Collaborative Research Action on Resilience in Rapidly Changing Arctic Systems", which "aims at bringing together researchers and other expertise across the globe to develop proposals from integrated teams of scientists and stakeholders" and done by EU Arctic Cluster projects, not only Blue-Action, but also Nunataryuk) these days, an explicit reflection on the specific methodology used as done above is still the exception. We especially need experiences of stakeholder engagement methods in terms of their weaknesses, so future projects can be aware of these and do not have to repeat this learning process.

Importantly, on the basis of the experience generated like within the Yamal 2040 case study, future engagement studies can assess up front which stakeholder engagement method could work well for their anticipated work and which they should rather not employ in a certain context; the above outline of the strengths and weaknesses of the method are especially helpful in this regard. Additionally, future studies can use already tested and evaluated stakeholder engagement methods, as the one outlined above, and take precautionary measures informed by the lessons learned and our identified success factors.

It needs to be stated that the above outlined assessment "only" refers to one specific method (Foresight analysis) and in a very specific context (Yamal, Russia). The same method could of course generate very different quantitative and qualitative assessments when conducted in other regions, scales, and cases. Similarly, another engagement method in the same region would probably have generated very different experiences. Thus, this assessment can only be one piece of a much larger puzzle to assess different stakeholder engagement methods in various contexts. However, the set of foresight methods used in our case study is based on various structured communication techniques that are used in other approaches as risk assessment, actor analysis, horizon scanning, strategy development, and others. Therefore, our qualitative assessment - however context-specific - might be valid for similar stakeholder engagement process with workshop components in general.

With this deliverable, we hope to initiate a methodological assessment process that will hopefully also be picked up by other projects in the EU Arctic Research Cluster and beyond to create a pool of knowledge on stakeholder engagement and transdisciplinary research generally that will contribute to the continuous improvement of co-designed research approaches.

Impact

The Foresight Exercise employed in the Yamal 2040 case study has provided the methodological framework for an open dialogue with end-users, including business, policy-makers/local community, NGOs, and indigenous communities, of the results produced within the Blue-Action project. It has further enabled the testing of the value of this information service through the joint scenario-construction and -usage exercise. The employed methodology and the reflection thereof as provided in this deliverable are thus part and parcel of **improving stakeholders' capacity to respond to the impact of climatic change on the environment and human activities in the Arctic**.

The strategic foresight element included in the Foresight Exercise was specifically targeted towards **improving stakeholders' capacity to adapt to climate change** by outlining several futures of the YNAO by 2040 and strategies as how to react to these. The methodological reflection of this exercise with its challenges, weaknesses, strengths, and success factors can further provide a blueprint for other stakeholder engagement methodologies. The aim hereby is to generally improve and spread lessons learned about stakeholder engagement methodologies aimed at advancing climate change adaptation capacities. We targeted stakeholders and their capacity for climate change adaptation from indigenous communities, policy-makers/local community, NGOs, and the business sector.

The open character of the Foresight Exercise and the transparent handling of all data and results generated during the exercise allowed the ownership of the process by participating stakeholders and to align the process with their own needs, interests, and strategies. Thus, the exercise **improved the innovation capacity and the integration of new knowledge**, also by training the stakeholders in the specific methodology used during the workshops. We expect this reflection deliverable to be also of decisive value to those stakeholders aiming at using the methodology in other contexts. Further, the kind of workshops organised for this exercise could also be used to promote data sharing between scientists and disciplines, especially through defining the workshops as deliverables in their own right.

A thorough reflection of the Foresight Exercise employed in the Yamal 2040 case study is not least of immense value for those young researchers and stakeholders engaged in the Blue-Action consortium for sharing and advancing their knowledge. A critical reflection of the research process generally and the employed methodology specifically is a valuable asset for **improving the professional skills and competences for those working and being trained to work within this subject area,** which are useful also for future research projects.

Lessons learned and Links built

In response to the identified challenges of the employed Foresight Exercise as well as the weaknesses and strengths, we have identified the best practices learned from employing this stakeholder engagement methodology:

- **Have a strong local partner** to provide a gateway to stakeholders, especially in politically challenging environments.
- Identify and **invite key stakeholders, consider "proxy" stakeholders** if key stakeholders are not available or reachable, i.e. stakeholders who are not part of the key stakeholder group but who are either close to them or know much about them.
- **Balanced stakeholder representation is important**. Stakeholders can feel isolated if they are the only representatives from their group. Thus, make sure to have equal number of representatives of different stakeholder groups.
- In order to get stakeholders to free up enough time for the workshops, **consider a conference venue that is still relatively easy to reach but still makes stakeholders to step out of their everyday environment**. As one workshop participant put it after our first workshop: "If you take me far enough from my desk [in Moscow], you get my full attention."
- To avoid language challenges in relation to logistics and **ensure communication necessary in the mother tongue of stakeholder**s (in our case Russian), make sure to have staff with the respective language capacities and ideally a partner in the country where most stakeholders are based.

- **Stay flexible in exercising the methodology**, even though this is not ideal from the perspective of the methodology. E.g., allow the later entry of stakeholders. In our case, the enthusiasm from first workshop let to participants suggesting new representatives.
- **Reflect on the process and the methodology**. Be honest about its limitations and weaknesses.
- **Acknowledge biases among stakeholders**. Try not to overcome these but rather make participants aware that these biases exist (and are absolutely normal) but this might help everyone to be more cognizant about their and others' biases.

Contribution to the top level objectives of Blue-Action

This deliverable contributes to the following top-level objectives of Blue-Action:

- **Objective 7 Fostering the capacity of key stakeholders to adapt and respond to climate change and boosting their economic growth**

The ultimate aim of the Foresight Exercise was to increase stakeholders' capacity to adapt and respond in novel and improved ways to climate change and ideally combining this with their strategic goals, among them economic growth. By helping them to develop multiple scenarios for the future development of the YNAO with the help of a rigorous methodology, we hope to have better prepared them for an uncertain future and shared with them the sense of active participation and shaping of the region's future.

- **Objective 8 Transferring knowledge to a wide range of interested key stakeholders**

The Foresight Exercise transferred knowledge to and among various stakeholder groups, both concerning the research approaches and results from Blue-Action research and the co-design methodology used during the exercise. The reflection of the foresight methodology is a crucial part of this knowledge transfer objective in order to make sure that a) the results of the current exercise are put into the right perspective and are used accordingly and b) the future use of this methodology (by researchers and stakeholder groups) in other context can be further refined.

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Dissemination and exploitation of Blue-Action results

Dissemination activities

Type of dissemination activity	Title	Place and date	Type of Audience	Estimated number of persons reached	Link
Communication campaign (e.g radio, TV)	TV broadcasting on Yamal LNG developments: Today and Tomorrow Dr. Michail Grigoriev, Blue-Action invited expert, Interview, TV Yamal-Region	Moscow (RU), 15 March 2019	Civil Society, General Public	2000	http://yamal-region.tv/news/35962/
Communication campaign (e.g radio, TV)	TV broadcasting on Climate change in the Arctic: Prospects for Yamal, Vladimir Semenov, Partner, Interview TV Yamal-Region	Moscow (RU), 15 March 2019	Civil Society, General Public	2000	http://yamal-region.tv/news/35959/
Participation to a conference	Nikitina, Elena (2018), " Sustainable development and climate change in the Arctic: Vision for multilevel governance", 2018 North Pacific Arctic	Honolulu, Hawaii (USA) 15-17 August 2018	Scientific Community (higher education, Research), Industry, Civil Society, Policy makers	100	https://zenodo.org/record/3346821

	Conference "*Arctic 2030 and Beyond – Pathways for the Future*", Session 5. 17 Aug. 2018, Honolulu, East-West Center, Hawaii University, USA				

Peer reviewed articles

We plan to publish an IASS Discussion Paper "Improving stakeholders' capacity for adapting effectively to changing conditions: The case of Yamal region."

Uptake by the targeted audiences

As indicated in the Description of the Action, the audience for this deliverable is the general public.

This is how we are going to ensure the uptake of the deliverables by the targeted audiences:

- Vilena Valeeva will deliver a presentation to the Northern Sustainable Development Forum in Yakutsk, Russia, in September 2019.
- Besides, we plan to translate the main findings of the CS5 including the analysis of stakeholder engagement into Russian.
- We also plan to publish a scientific popular article in a Russian media outlet to reach a broader audience.