



මୋହିର ଏକ୍ଷଣାରେଜ୍ସ୍ଯୁଲ୍ ବୁଲଟିନ୍ୟୁର୍ ପର୍ମିଜ୍ କେମ୍ବର୍ ରିପୋର୍ଟ୍ #125616

Qikiqtani Marine Renewable Energy Resource Assessment

କେମ୍ବର୍ କେମ୍ବର୍
ନେୟାମାର୍କିଯାନ୍ସ୍:

New

ଅନୁକୂଳତାରେଜ୍ସ୍ଯୁଲ୍
ନେୟାମାର୍କିଯାନ୍ସ୍:

Marine Based Activities

ଦିନାବର୍ଷା କେମ୍ବର୍ ପର୍ମିଜ୍: 5/30/2021 7:26:03 PM

Period of operation: from 0001-01-01 to 0001-01-01

ବେଶ୍ୟାଦାରୀରେଜ୍ସ୍ଯୁଲ୍ ପର୍ମିଜ୍: from 0001-01-01 to 0001-01-01

ଅନୁକୂଳତାରେଜ୍ସ୍ଯୁଲ୍:

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Canada

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፩፻፲፭፻፭፡ IntroductionNunavut Nukiksautit Corporation (NNC) is conducting a marine renewable energy (MRE) resource assessment for the Qikiqtani Region in Nunavut. The project aims to assess the MRE potential for the 13 hamlets in the Qikiqtani region from a social, technical, and environmental lens. It is part of a larger initiative to reduce diesel use and greenhouse gas emissions while improving energy security for Northern communities. TimelinesPhysical data collection for the envisioned project will take place in two distinct phases occurring in Summer 2021 and Summer 2022. The first phase will gather ocean/river current data and transects in five communities to assess the flow characteristics for MRE potential. The second phase will gather additional ocean/river current data over the entire open water season for the two communities determined to have the highest potential for MRE.Project MethodologyThe physical data collection component of the project includes the use/deployment of temporary equipment in open water areas. The equipment includes marine vessels, acoustic doppler current profilers (ADCP), vessel mounted ADCPs and other equipment (echo sounder and global positioning unit) to perform transect measurements.For the first phase of the physical data collection program, vessel mounted ADCPs and other equipment will be used to perform transect measurements in five communities to determine the flow characteristics and MRE potential. This will allow the project team to determine the two locations with the highest potential to be further investigated in the second phase.The second phase of the physical data collection program will deploy bottom mounted ADCPs in two of the highest potential areas to collect additional ocean/river current data over a longer time period. At the end of the data collection period, the equipment will be recovered.All data collected will be analyzed to determine the MRE resource potential and the findings will be included in a final report.Environmental, Social, & Wildlife InteractionThe equipment being deployed for the physical data collection phases of this project will have no environmental, social, or wildlife impacts. The equipment is both temporary and non-invasive and will therefore have no impact on the surrounding environment, the people, or the wild/marine life. Data ManagementAll data will be collected and analyzed for MRE potential. The results will be summarized and presented in a final report for the project. Raw and processed data will be stored in an electronic format and maintained by NNC.Local BenefitsThe physical data collection campaigns will be completed using locally hired vessels and crew members, with the campaigns being facilitated by qualified consultants. Results of the data collection campaigns will be shared with local stakeholders for review and determination of interest on future potential deployment of a hydrokinetic turbine. Distribution of ResultsAll results will be summarized and available for viewing through the final report for the overall project. This is expected to be completed by March 31, 2023.

፩፻፲፭፻፭፡ IntroductionNunavut Nukiksautit Corporation (NNC) fait une évaluation des ressources des énergies marines renouvelables pour la région Qikiqtani, à Nunavut. Le projet vise à déterminer le potentiel de 13 hameaux dans la région Qikiqtani, du côté social, technique et environnemental. Ceci fait partie d'une plus grande initiative visant à réduire l'usage de diesel et des émissions à effet de serre, tout en améliorant la stabilité d'énergie pour les communautés du Nord. CalendrierLe recueil des données physiques pour le projet envisagé aura lieu en deux phases distinctes, en septembre 2021 et à l'été 2022. Pendant la première phase, on va recueillir des données actuelles des océans/des rivières de cinq communautés pour évaluer les caractéristiques d'écoulement afin de déterminer le potentiel d'énergies marines renouvelables. Pour la deuxième phase, on va recueillir les données actuelles supplémentaires des océans/des rivières pendant la saison d'eau libre entière pour les deux communautés ayant le plus haut potentiel d'énergies marines renouvelables. Méthodologie du projetLa partie de ce projet qui recueille des données physiques inclut l'usage/le déploiement de l'équipement temporaire dans l'eau libre. L'équipement inclut des vaisseaux marins, les profileurs de courant à effet Doppler (ADCPs), les ADCPs montés sur les vaisseaux et d'autres équipements servant à prendre des mesures, et ce, en utilisant la méthode de transect. Pour la première phase du recueil des données physiques, les ADCPs montés sur les vaisseaux et d'autres équipements vont être employés servant à prendre des mesures, et ce, en utilisant la méthode de transect aux cinq communautés pour évaluer les détails d'écoulement, afin de

déterminer le potentiel d'énergies marines renouvelables. Ceci va permettre à l'équipe de déterminer les deux locations ayant le plus haut potentiel d'énergies marines renouvelable, qui seront explorés plus profondément pendant la deuxième phase. Pour la deuxième phase de recueil des données physiques, les ADCPs montés en bas des vaisseaux vont être déployés aux deux endroits ayant le plus haut potentiel, afin de recueillir les données actuelles des océans/des rivières sur une période plus longue. À la fin de la période de recueil des données, l'équipement sera récupéré. Toutes les données seront analysées pour déterminer le potentiel des ressources d'énergies marines renouvelables et les conclusions seront incluses dans un rapport final. Les interactions environnementales, sociales et de la faune sauvage L'équipement qui sera déployé pour la phase de collecte des données physiques pour ce projet n'aura aucun impact environnemental, social, ni sur la faune. L'équipement est temporaire et non invasif, donc il n'aura pas de répercussion sur l'environnement, les personnes qui y habitent, ni sur la faune. Gestion de donnéesToutes les données seront recueillies et analysées pour son potentiel d'énergies marines renouvelable. Les conclusions seront résumées et présentées dans un rapport final pour le projet. Les données brutes et traitées seront gardées en format numérique par le NNC. Bénéfices locaux La période de collecte de données sera effectuée par les bateaux et les membres d'équipage locaux. Cette collecte sera facilitée par des consultants qualifiés. Les conclusions de cette collecte de données seront partagées avec les acteurs locaux pour qu'ils puissent les réviser, afin de déterminer le futur potentiel d'une turbine hydraulique.Distribution des conclusionsToutes conclusions seront résumées et disponibles pour la révision dans le rapport final à la fin du projet. Nous prévoyons terminer le projet à la fin de mars 2023.

Innuinaqtun: Given Innuinaqtun is mostly spoken in the Kitikmeot Region and this project focuses on locations in the Qikiqtani Region, the project does not appear to be applicable to Innuinaqtun speakers.

Personnel

Personnel on site: 4

Days on site: 25

Total Person days: 100

Operations Phase: from 2021-06-01 to 2022-10-31

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Rivers/Near Shore Ocean Areas Near Kimmirut	Marine Based Activities	Marine	No known site history - specific locations are not yet identified but known historical sites will be avoided for data collection activities.	There is no known archeological/paleontological value - specific sites are not yet identified but known areas of value will be avoided.	Specific locations are not yet identified but all protected areas will be avoided and all data will be collected using non-invasive equipment & techniques.
Rivers/Near Shore Ocean Areas Near Iqaluit	Marine Based Activities	Marine	No known site history - specific locations are not yet identified but known historical sites will be avoided for data collection activities.	There is no known archeological/paleontological value - specific sites are not yet identified but known areas of value will be avoided.	Specific locations are not yet identified but all protected areas will be avoided and all data will be collected using non-invasive equipment & techniques.
Rivers/Near Shore Ocean Areas Near Cape Dorset	Marine Based Activities	Marine	No known site history - specific locations are not yet identified but known historical sites will be avoided for data collection activities.	There is no known archeological/paleontological value - specific sites are not yet identified but known areas of value will be avoided.	Specific locations are not yet identified but all protected areas will be avoided and all data will be collected using non-invasive equipment & techniques.
Rivers/Near Shore Ocean Areas Near Pangnirtung	Marine Based Activities	Marine	No known site history - specific locations are not yet identified but known historical sites will be avoided for data collection activities.	There is no known archeological/paleontological value - specific sites are not yet identified but known areas of value will be avoided.	Specific locations are not yet identified but all protected areas will be avoided and all data will be collected using non-

					invasive equipment & techniques.
Rivers/Near Shore Ocean Areas Near Qikiqtarjuaq	Marine Based Activities	Marine	No known site history - specific locations are not yet identified but known historical sites will be avoided for data collection activities.	There is no known archeological/paleontological value - specific sites are not yet identified but known areas of value will be avoided.	Specific locations are not yet identified but all protected areas will be avoided and all data will be collected using non-invasive equipment & techniques.
Rivers/Near Shore Ocean Areas Near Clyde River	Marine Based Activities	Marine	No known site history - specific locations are not yet identified but known historical sites will be avoided for data collection activities.	There is no known archeological/paleontological value - specific sites are not yet identified but known areas of value will be avoided.	Specific locations are not yet identified but all protected areas will be avoided and all data will be collected using non-invasive equipment & techniques.
Rivers/Near Shore Ocean Areas Near Pond Inlet	Marine Based Activities	Marine	No known site history - specific locations are not yet identified but known historical sites will be avoided for data collection activities.	There is no known archeological/paleontological value - specific sites are not yet identified but known areas of value will be avoided.	Specific locations are not yet identified but all protected areas will be avoided and all data will be collected using non-invasive equipment & techniques.
Rivers/Near Shore Ocean Areas Near Grise Fiord	Marine Based Activities	Marine	No known site history - specific locations are not yet identified but known historical sites will be avoided for data collection activities.	There is no known archeological/paleontological value - specific sites are not yet identified but known areas of value will be avoided.	Specific locations are not yet identified but all protected areas will be avoided and all data will be collected using non-invasive equipment & techniques.

Rivers/Near Shore Ocean Areas Near Resolute Bay	Marine Based Activities	Marine	No known site history - specific locations are not yet identified but known historical sites will be avoided for data collection activities.	There is no known archeological/paleontological value - specific sites are not yet identified but known areas of value will be avoided.	Specific locations are not yet identified but all protected areas will be avoided and all data will be collected using non-invasive equipment & techniques.
Rivers/Near Shore Ocean Areas Near Arctic Bay	Marine Based Activities	Marine	No known site history - specific locations are not yet identified but known historical sites will be avoided for data collection activities.	There is no known archeological/paleontological value - specific sites are not yet identified but known areas of value will be avoided.	Specific locations are not yet identified but all protected areas will be avoided and all data will be collected using non-invasive equipment & techniques.
Rivers/Near Shore Ocean Areas Near Igloolik	Marine Based Activities	Marine	No known site history - specific locations are not yet identified but known historical sites will be avoided for data collection activities.	There is no known archeological/paleontological value - specific sites are not yet identified but known areas of value will be avoided.	Specific locations are not yet identified but all protected areas will be avoided and all data will be collected using non-invasive equipment & techniques.
Rivers/Near Shore Ocean Areas Near Hall Beach	Marine Based Activities	Marine	No known site history - specific locations are not yet identified but known historical sites will be avoided for data collection activities.	There is no known archeological/paleontological value - specific sites are not yet identified but known areas of value will be avoided.	Specific locations are not yet identified but all protected areas will be avoided and all data will be collected using non-invasive equipment & techniques.
Rivers/Near Shore Ocean Areas Near	Marine Based Activities	Marine	No known site history - specific locations are not yet identified but known historical sites	There is no known archeological/paleontological value - specific sites are not yet identified but	Specific locations are not yet identified but

Sanikiluaq		will be avoided for data collection activities.	known areas of value will be avoided.	all protected areas will be avoided and all data will be collected using non-invasive equipment & techniques.
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ጀመሪያ ገዢ	Mayor Eric Lawlor	Hamlet	2021-05-20
ጀመሪያ ገዢ	SAO Joanasie Evik	Hamlet	2021-05-20
ገብር ሂደት	Mayor Joshua Arreak	Hamlet	2021-05-20
ገብር ሂደት	SAO David Stockley	Hamlet	2021-05-20
ገብር ሂደት	HATO Manager Molleen Anaviapik	Hamlet	2021-05-20
የየዕስ ሂደት	Mayor Alookie	Hamlet	2021-05-20
የየዕስ ሂደት	SAO Geela Kooneelusie	Hamlet	2021-05-20
የይንበል ሂደት	Mayor Mark Amarualik	Hamlet	2021-05-20
የይንበል ሂደት	SAO Steve Piercy	Hamlet	2021-05-20
የይንበል ሂደት	HTO Manager Nancy Angmarualik	Hamlet	2021-05-20
የየዕስ ሂደት	Mayor Johnnie Cookie	Hamlet	2021-05-20
የየዕስ ሂደት	SAO Ronald Ladd	Hamlet	2021-05-20
የየዕስ ሂደት	President Joel Heath	Eider Duck Society/Hamlet	2021-05-20
የየዕስ	Mayor Audlakiak	Hamlet	2021-05-20
የየዕስ	SAO Louie Primeau	Hamlet	2021-05-20
የየዕስ	HTA Manager Lizzie Qanatsiaq	Hamlet	2021-05-20
አዲስ ሂደት	Mayor Merlyn Recinos	Hamlet	2021-05-19
አዲስ ሂደት	SAO Greg Morash	Hamlet	2021-05-19
Clyde River	Mayor Natanie	Hamlet	2021-05-19
Clyde River	CAO James Arreak	Hamlet	2021-05-19
Clyde River	HTO Chair Apiusie Apak	Hamlet	2021-05-19
የለም	Mayor Maliktoo Lyta	Hamlet	2021-05-20
የለም	SAO John Mabberi-Mudoni	Hamlet	2021-05-20
የሙሉ ሂደት	Mayor Timoon Toonoo	Hamlet	2021-05-20
የሙሉ ሂደት	SAO John Hussey	Hamlet	2021-05-20
የይንበል ሂደት	SAO Marjorie Dobson	Hamlet	2021-05-19
የይንበል ሂደት	HTO Chair Amon Akeeagok	Hamlet	2021-05-19

Δ ^b ΛΔ ^s Δ ^b	Mayor Mosesie Oyukuluk	Hamlet	2021-05-19
Δ ^b ΛΔ ^s Δ ^b	SAO Deborah Johnson	Hamlet	2021-05-19
Δ ^b ΛΔ ^s Δ ^b	HTA Chair Oaumayuq Oyukuluk	Hamlet	2021-05-19
Δ ^s Δ ^b Δ ^c	Mayor Kenny Bell	Hamlet	2021-05-20
Δ ^s Δ ^b Δ ^c	CAO Amy Elgersma	Hamlet	2021-05-20

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North Baffin

South Baffin

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Project transportation types

Transportation Type	Location Description	Length of Use
Water	Marine vessels will be used to deploy temporary equipment and transit around areas and collect data	

Project accommodation types

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የኢትዮ ዲጂزاይነር	የመልካም በኩል	የብር ስራው	ሻኑያ አገልግሎት	ቤትታ	ሻኑያ ተገናሚያ	የኢትዮ ዲጂزاይነር
Diesel	fuel	25	100	2500	Liters	Diesel fuel will be used for the marine vessels throughout the survey. Quantities are estimated based on 25 vessel days over the entire two season program. Vessel

				selection will take place at a later date and therefore the fuel usage is only an estimate.
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ለመስጠና ስራውን የሚያስፈልግ ነው	የመልካም የሚያስፈልግ ነው	የመስጠና የሚያስፈልግ ነው	የመልካም የሚያስፈልግ ነው	የመስጠና የሚያስፈልግ ነው
Information is not available				

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There are no envisioned impacts that will result from the project given that all data will be collected using non-invasive techniques and there will be no permanent equipment installed during project activities.

Additional Information

SECTION A1: Project Info

SECTION A2: Allweather Road

SECTION A3: Winter Road

SECTION B1: Project Info

SECTION B2: Exploration Activity

SECTION B3: Geosciences

SECTION B4: Drilling

SECTION B5: Stripping

SECTION B6: Underground Activity

SECTION B7: Waste Rock

SECTION B8: Stockpiles

SECTION B9: Mine Development

SECTION B10: Geology

SECTION B11: Mine

SECTION B12: Mill

SECTION C1: Pits

SECTION D1: Facility

SECTION D2: Facility Construction

SECTION D3: Facility Operation

SECTION D4: Vessel Use

SECTION E1: Offshore Survey

SECTION E2: Nearshore Survey

SECTION E3: Vessel Use

SECTION F1: Site Cleanup

SECTION G1: Well Authorization

SECTION G2: Onland Exploration

SECTION G3: Offshore Exploration

SECTION G4: Rig

SECTION H1: Vessel Use

Marine vessels will be used to collect data during the initial site surveys, where they will transit around identified areas to collect data using vessel mounted equipment. For the detailed site surveys, the marine vessels will be used to deploy and recover temporary equipment. There are no impacts or waste associated with these activities.

SECTION H2: Disposal At Sea

There will be no disposal at sea as part of the project.

SECTION I1: Municipal Development

There will be no municipal development.

There will be no municipal development.

There will be no municipal development.

Miscellaneous Project Information

There are no impacts envisioned as a result of this project. All data will be collected using non-invasive techniques and temporary equipment.

Cumulative Effects

There will be no cumulative impacts (effects) as a result of this project. All data will be collected using non-invasive techniques and temporary equipment.

Impacts

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($P = \{b_1, b_2, \dots, b_n\}$, $N = \{b_1, b_2, \dots, b_n\}$, $C = \{b_1, b_2, \dots, b_n\}$, $M = \{b_1, b_2, \dots, b_n\}$, $S = \{b_1, b_2, \dots, b_n\}$, $U = \{b_1, b_2, \dots, b_n\}$)

אַתְּלָעִים אֲמֹנְדָּה



List of Project Geometries

- | | | |
|----|-------|---|
| 1 | point | Rivers/Near Shore Ocean Areas Near Kimmirut |
| 2 | point | Rivers/Near Shore Ocean Areas Near Iqaluit |
| 3 | point | Rivers/Near Shore Ocean Areas Near Cape Dorset |
| 4 | point | Rivers/Near Shore Ocean Areas Near Pangnirtung |
| 5 | point | Rivers/Near Shore Ocean Areas Near Qikiqtarjuaq |
| 6 | point | Rivers/Near Shore Ocean Areas Near Clyde River |
| 7 | point | Rivers/Near Shore Ocean Areas Near Pond Inlet |
| 8 | point | Rivers/Near Shore Ocean Areas Near Grise Fiord |
| 9 | point | Rivers/Near Shore Ocean Areas Near Resolute Bay |
| 10 | point | Rivers/Near Shore Ocean Areas Near Arctic Bay |
| 11 | point | Rivers/Near Shore Ocean Areas Near Igloolik |
| 12 | point | Rivers/Near Shore Ocean Areas Near Hall Beach |
| 13 | point | Rivers/Near Shore Ocean Areas Near Sanikiluaq |

