

Research permit

The ministry for foreign affairs references an application from Running Tide Iceland ehf. for a permit to conduct research in the territorial waters, the exclusive economic zone, and the continental shelf of Iceland, that was submitted via email on March 10, 2022.

The project is a significant carbon removal project, where the goal is to capture and durably remove up to 500.000 tons of carbon in an area outside of Iceland's jurisdiction. The plan is to use macroalgae that absorbs carbon through photosynthesis for growth. That algae will be grown on substrate / buoys that are being designed and developed but are estimated to be around the size of a basketball and made from, among other things, woody biomass, limestone, and binding agents. A part of the project will take place within the exclusive economic zone of Iceland. It is planned for most of the project to take place outside of Iceland's jurisdiction. It is planned for the substrate to slowly dissolve while the algae grows which leads to negative buoyancy. At a certain point in time the substrate will sink along with the algae and other things that are on the substrate. The goal is to durably remove the carbon that is bound in the substrate and the algae by making sure the substrates sink to at minimum a 1000m depth. The plan is for the substrate to be buried in deep sea sediment.

Research within the territorial waters, the exclusive economic zone, and the continental shelf of Iceland requires the permission of the Icelandic government, according to article 9 of laws nr 41 from 1979 about the territorial waters, the exclusive economic zone, and the continental shelf. The ministry for foreign affairs, as per usual, asked the Marine and Freshwater Research Institute and the Coast Guard of Iceland for their opinion. Due to the type of application, the ministry also asked for the opinion of the Environmental Agency of Iceland and the Ministry for Energy, Environment, and Climate.

In their opinion, the Coast Guard of Iceland mentioned that in the open ocean, and even in sheltered areas around Iceland, are some of the worst seafaring weather conditions known in the world. Therefore, any prams or similar that shall be tethered to the bottom need to be very well tethered. In addition, the applicant should consider seafaring safety and coordinate with the Coast Guard before deployments.

The Marine Research Institute mentioned that the growout of algae in stationary locations within the territorial waters, i.e. the first part of the application, will not have negative effects on the environment or ecosystems, and if they arise, those will be very time and location based around the area where the algae is being grown. Regarding the second part of the application, i.e. the deployment and growout, it needs to be certain that the ingredients of the substrate that will be deployed not be harmful for the environment. To ensure biodiversity, only local species of algae should be used.

The environmental agency mentioned that it was important that the permit would be bound by volume and time, and that the application lacked information about that. There should also be requirements regarding the standard of finish of equipment, like ropes, buoys and anchors once

the research project is over (*note: this is for part of the research that is related to stationary growing sites of algae, not deployments*). The agency mentioned that the source of the algae spores to be outplanted are not clear from the application, and that it's important they be from local sources. The agency also mentioned that the deployment of buoys might fall under article 9 of law nr 33 / 2004 about the protection against pollution in oceans and coastal areas and require a permit.

The ministry for environment, energy, and climate declared their support to the granting of the permit in their opinion, but mentioned that large scale operations in natural carbon removal aren't ready for primetime. International law and scientific knowledge would need to be assessed before a large scale operation would be started. The ministry emphasized that Icelandic scientists and regulatory and research agencies, like the Environment Agency and Marine Research Institute, be updated about progress and their consult requested about next steps, especially if big changes in the scope or size of the project are planned.

Based on the aforementioned, the ministry for foreign affairs, hereby grants Running Tide Iceland ehf. a permit to conduct research in the territorial waters, the exclusive economic zone, and the continental shelf of Iceland. It is noted that the license is bound to Iceland's legal jurisdiction. If there are plans for deployments inside the exclusive economic zones of other countries, those countries' governments will need to be consulted.

This permit is valid for four years from the date of granting, and is limited to 50.000 tons of substrate deployments, with the following requirements:

1. During the time of the permit, the applicant shall share updates on progress with the Marine Research Institute and the Environment Agency.
2. The applicant shall inform the Marine Research Institute and the Environment Agency of progress and share the results of the research.
3. The applicant shall secure all other potentially necessary permits or receive confirmation of a permit not being needed, for example according to article 9 of laws nr 33 / 2004 about protection against pollution in oceans and coastal areas, article 63 of laws nr. 60 / 2013 on the import of foreign plants, and laws nr 132 / 1999 about floating man made objects.
4. Following the project, the applicant shall share results and information about what happens to the material that sinks to the bottom of the ocean, whether it dissolves on the bottom of the ocean or is buried in sediment. These research findings are a precursor for additional permitting.
5. Applicant shall consult with the coast guard and transport authority regarding seafaring safety.