

Land og Skógur

VALIDATION REPORT



Project Title: **Álfabrekka**

Registry: **Forest Carbon Code**

Project ID: **FCC057**

Client: **Skógálfar**

Date: **28-11-2024**

Revision: **01**

Name of approved verifier/ reference No.	Enviance Services Private Limited
Type of Accreditation	ISO 14065 Accreditation Active Accreditation from Global Accreditation Bureau Valid From: 01-10-2023 till 30-09-2027 https://www.gab.qa/wp-content/uploads/2023/10/003-VVB-Enviance-Scope-ISO14065-and-GCC-Website.pdf
Approved GHG Sectoral scopes for Project Verification	GHG Sectoral Scope: Scope 1 - Energy (renewable/non-renewable sources) (CDM TA 1.1, 1.2) Scope 3 – Energy Demand (CDM TA 3.1) Scope 13 – Waste handling and disposal (CDM TA 13.1. 13.2) Scope 14- Afforestation and Reforestation (CDM TA 14.1) Scope 15- Agriculture (CDM 15.1)
Validity of GHG approval of Verifier	30/09/2027
Name of registry	Forest Carbon Code- Land og Skógur
Title of project	Álfabrekka
ID of project	FCC057
Date of project design document	23/01/2023
Version of project design document	1
Statement by the project proponent/ Manager	The Project Proponent states that he is responsible for preparing and fair presentation of the Project Design Description and all accompanying documentation provided for under the validation.
Client (Project proponent)	Skógálfar
Criteria for validation	☐ CDM ☒ SKOGAR KOLEFNI ☒ ISO 14064-2, 2019 ☐ Applied methodology, please specify. ☐ Other, please specify.
Applied methodologies	Skógarkolefni 2.0 standard
GHG Sectoral scopes linked to the applied methodologies	Scope 14
Name of Entity requesting verification service	Skógálfar

Contact details of the representative of the Entity, requesting verification service	Ásmundur Skeggjason (Project management- Álfabrekka) Blikanes 6, 210 Gardabaer, Iceland Telephone No. 895-3000 E-mail: as@hofdi.is
Country where project is located	Iceland
Validation report prepared by	Enviance Services Private Limited
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Version number of this validation report and date	Version 1.0 Date- 28/11/2024
Independent review	Mr. Vijayanand
Validation team leader	Mr. Pankaj Kumar
Validation and verification Statement	Enviance Services Private Limited has thoroughly examined the Project Description Document, supporting documentations and undertaken additional follow-up actions. This comprehensive validation process has furnished Enviance with sufficient evidence to conclude that the Álfabrekka (FCC057) aligns with the stipulated FCC requirements and Skógarkolefni 2.0 standard. Enviance Services Private Limited holds the viewpoint in accordance with PDD version 1.0 dated 23/01/2023, Project - Álfabrekka meets all pertinent FCC and Skógarkolefni 2.0 standard requirements, adheres to ISO 14064-2, 2019 standards, and follows the guidelines of applied methodologies. The Forest Carbon Calculator on the Icelandic Forest Service website to predict the project carbon sequestration was referred. Enviance Services Private Limited affirms that Skógálfar is capable of implementing the monitoring plan in accordance with FCC requirements, ISO 14064-2, 2019 and the applied methodology. The carbon sequestration calculations presented in the PDD have been accurately computed based on the proposed methodology, resulting in an estimated annual carbon sequestration of 1,042 tCO₂e. Consequently, Enviance Services Private Limited submits this information for the registration request in compliance with FCC Process requirements. Enviance Services Private Limited can certify that the carbon sequestration to be achieved over a period of 50 years as per

	forest carbon calculator amounts to 52,120 tCO ₂ e, for the FCC project activity "FCC057- Skógálfar, Álfabrekka". Therefore, this data is submitted for the issuance request, adhering to FCC Process requirements.
Signature	 Date: 28-11-2024

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A. Executive Summary

The project titled “Álfabrekka” is an afforestation project at Álfabrekka, under municipality Grimsnes- and Grafningshreppur in South Iceland with country land code - 233248. The legal ownership of the project area for the duration of the project lies with Skógálfar ehf. The land area is of 100 ha of which 97 ha are planted with tree seedlings. The project is intended to improve land and air quality as well as generate income for landowners from the sale of carbon credits. The project will also create jobs in the area in the construction and maintenance of the area.

The project is a multi-purpose forest with an emphasis on carbon sequestration, soil protection, outdoor recreation, timber production and other ecosystem services. The project has a wide range of environmental, economic and social benefits. In the baseline scenario, the land was hilly – untouched and had not been cultivated. Land use has been limited to a little sheep grazing from neighboring farms. The project was issued with a construction permit following the local municipal legal procedures on 14/07/2022. The actual start date of planting is 01/06/2022 and the project start date is 01/10/2022. The crediting period of the project is for 50 years.

Tree species	Land area (ha)	Site class	No. of seedlings planted
Black cottonwood	6	AÖ16	15,000
Sitka spruce	43	SG14-19	1,07,500
Lodgepole pine	46	SF15	1,15,000
Downy birch	2	IB8	5,000

The project manager of this project is Ásmundur Skeggjason who along with landowner ensures the project is in accordance with the current laws and regulations on forestry in Iceland. Project developers has used the Forest Carbon Calculator (Skógarkolefnisreiknir) on the Icelandic Forest Service website to predict the project carbon sequestration. As per the final forecast report, the total cost of the project is 4,97,52,500 ISK. The annual average carbon capture at Álfabrekka is estimated to be 1,042 tCO₂e/yr. over a 50-year period. The total carbon capture is estimated to be 52,120 tCO₂e.

Along with carbon sequestration, this project also offers increased opportunities for landowners to increase income opportunities on the land, e.g. through planting and selling certified carbon units. The land has not been cared for very much in recent years and quite a while since it was a permanent residence. With afforestation, landowners want to cultivate the land even further and build up forestry areas and thereby increase the use of the land. This project is therefore important for landowners/occupants so that they can continue to generate income from the land. The policy is to follow this cultivation plan for 50 years (until the end of the carbon sequestration agreement) at least and possibly the part of the forest that is still being sequestered will be allowed to remain, until there is little or no sequestration. Then it will be possible to replant and the trees that will be felled, the aim is to continue to use the best possible so that the carbon remains in the trees/wood for as long as possible. The validation scope is defined as an independent and objective review of the project PDD and other relevant documents. The information in these documents is reviewed against all applicable Forest Carbon Code (FCC). The validation was based on the requirements mentioned in Skógarkolefni 2.0 standard, specification in v1.0 of ISO

14064-03, ISO 14064-02, 2019 and Forest Carbon Code (FCC). The Icelandic Forest Carbon Calculator is used to predict the expected carbon sequestration. The validation is not meant to provide any consulting towards the project owner. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the PDD. The validation scope is given as a thorough independent and objective assessment of the project design including especially the correct application of the methodology, the project's baseline study, additionality justification, local stakeholder commenting process, environmental impacts and monitoring plan, which are included in the PDD and other relevant supporting documents, to ensure that Forest Carbon Code (FCC). project activity meets all relevant and applicable Skógarkolefni 2.0 standard.

The method and criteria for the validation and verification

This process involves conducting an impartial and unbiased examination of the PDD, along with ex-post evaluation of the monitored sequestration in greenhouse gas (GHG) emissions. The validation and verification process encompass an assessment of the project's implementation and operation as documented in the PDD Version 1.0. The validation and verification activities performed by the Validation and Verification Body (VVB) include the following:

- Conduct a strategic analysis
- Identify the potential risks associated with the project
- Check the FCC specific requirements based on the requirements documents (refer annex for FCC requirements documents).
- Out of identified Risks, mitigation activities are planned.
- Team performs the Control, Strategic and the Analytical testing output of which becomes inputs to the Evidence gathering plan.
- These Mitigation activities lead to the evidence gathering activities which becomes input to preparation of evidence gathering plan
- Based on the evidence gathering plan, a Validation/verification plan is prepared that includes Site visit/Remote audit schedule, Sampling plan and activities.
- A complete list of all documents and evidence material reviewed is included in this report below in appendix 3.
- Once the V/V plan has been communicated, to the client, the assessment team conducts the site visit.
- During this stage, any gaps regarding any specific requirements of the FCC programme, un-resolved issues of desk review, and any information management/material misstatements are recorded in the format for Resolution of Corrective Action and Clarification Requests and the same shall be submitted to client.
- All the identified non-conformities and their resolutions have been listed under Annex 4 of this document.
- Once the final response is received Enviance works on the draft report.
- Once the draft report is completed. Enviance shall review the draft report prepared by the team making sure that the reviewer is independent of the validation/verification of the claim
- Once TR is satisfied and he/she recommends his/her approval to the Director for final approval.

- Director signs and approves the V/V report that includes the V/V opinion. After confirmation of the project owners, relevant documents are submitted to the registry.

The number of findings raised during validation and verification totaled 3 CLs and 5 CARs. These issues have been effectively addressed, as outlined in Appendix 4 of this report. Additionally, no FAR was raised by the Validation and Verification Body (VVB).

Regarding uncertainties associated with the validation and verification, the VVB has conducted a thorough audit trail to validate assumptions and claims in the PDD v1.0 and verify monitoring procedures and results presented in PDD version 1.0. A comprehensive crosscheck was performed during the site audit, and an assessment team with relevant technical expertise reviewed documents from both the Project Proponent (PP) and publicly available literature. Consequently, no evident uncertainties associated with the validation was identified.

A summary of the validation and verification opinion

Enviance Services Private Limited has thoroughly examined the Project Description Document, supporting documentations, and undertaken additional follow-up actions. This comprehensive validation and verification process has furnished Enviance with sufficient evidence to conclude that the project- Álfabrekka (FCC057) aligns with the stipulated FCC requirements.

Enviance Services Private Limited holds the viewpoint that, in accordance with PDD version 1.0 dated 23/01/2023, Álfabrekka meets all pertinent FCC requirements, adheres to ISO 14064-2:2019 standards, and follows the guidelines of applied methodologies. The monitoring plan outlined in the PDD effectively addresses ex-post monitoring procedures for the project's carbon sequestration. Enviance Services Private Limited affirms that Skogalfar ehf. capable of implementing the monitoring plan and in accordance with FCC requirements, ISO 14064-2, 2019 and the applied Skógarkolefni 2.0 standard.

The carbon sequestration calculations presented in the PDD have been accurately computed based as per the proposed Skógarkolefni 2.0 standard, resulting in an estimated annual reduction of 52,120 tCO₂e. Consequently, Enviance Services Private Limited submits this information for the registration request in compliance with FCC Process requirements.

Enviance Services Private Limited holds the viewpoint in accordance with PDD version 1.0 dated 23/01/2023, Álfabrekka meets all pertinent FCC requirements, adheres to ISO 14064-2 standards, and follows the guidelines of applied methodologies. The monitoring plan outlined in the PDD effectively addresses ex-post monitoring procedures for the project's carbon sequestration. Enviance Services Private Limited affirms that Skogalfar ehf. is capable of implementing the monitoring plan and has implemented (during the current monitoring period) it is in accordance with ISO 14064-2, and the applied Skógarkolefni 2.0 standard.

B. Project Validation team, technical reviewer and approver

B.1 Project Validation team

S.no	Role	Type of resource	Name	Affiliation	Involvement in			
					Desk/ document review	On-site inspection	Interviews	Project Validation findings
1.	Team Leader	IR	Mr. Pankaj Kumar	Enviance Services Private Limited	yes	-	-	yes
2.	Technical Expert	ER	Mr. Debojyoti Chakraborty	Enviance Services Private Limited	yes	-	-	yes
3.	Technical Reviewer	ER	Mr. Vijayanand	Enviance Services Private Limited	yes	-	-	yes
4.	Validator-Verifier Technical Expert in Trainee	IR	Mr. Vipul Jain	Enviance Services Private Limited	yes	-	-	yes
5.	Validator-Verifier Technical Expert in Trainee	IR	Ms. Ritika Yadav	Enviance Services Private Limited	yes	-	-	yes
6.	V-V Trainee	IR	Mr. Prakhar Shastri	Enviance Services Private Limited	yes	-	-	yes
7.	Team Member	ER	Mr. Jón Karlsson	Enviance Services Private Limited	yes	yes	yes	yes

B.2 Technical reviewer and approver of the Project Validation report

No.	Role	Type of resource	Last name	First name	Affiliation
1.	Technical reviewer	ER		Vijayanand	Enviance Services Private Limited
2.	Approver	IR	MuraliKrishna	Vidhya	Enviance Services Private Limited

*ER- External resource

*IR- Internal resource

C.1 Validation Planning

Pre- Engagement and Engagement	☒
Planning	☒
Desk review: Strategic analysis, Risk assessment and Evidence gathering Activities	☒
Validation plan	☒
Validation/verification execution: data review, drafting of Resolution of Corrective Action and Clarification Requests and validation review report	☒
Independent Review of report	☒
The conclusions reached and opinions by the validator	☒
Final Approval	☒

C.2 On-site inspection

Duration of on-site inspection:				
No.	Activity performed on-site	Site location	Date	Team member
1.	During the field inspection, the land was examined and especially the area under cultivation, planting was examined and photos taken.	Álfabrekka	15/06/2023	Mr. Jón Karlsson

C.3 Interviews

No.	Interview			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Skeggjason	Ásmundur	Skógálfar	15/06/2023	Site inspection. Information about the project, planting, etc.	Mr. Jón Karlsson
2.	Basnett	Emma	Skógálfar	15/06/2023	Planting	Mr. Jón Karlsson
3.	Jones	Mitchell	Skógálfar	15/06/2023		Mr. Jón Karlsson
4.	Heiðarsson	Vignir	Skógálfar	15/06/2023		Mr. Jón Karlsson

C.4 Sampling approach

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C.5 Validation finding

As an outcome of the validation process, the assessment team raised different types of findings.

Clarification request (CL): The project reporting lacks transparency and further information is needed to determine if a material discrepancy is present. Where a non-conformance arises, the verifier raised a Corrective Action Request (CAR). A CAR is issued, where: The VVB has identified a material discrepancy or no-conformance that the project proponent must address.

Forward Action Requests (FARs) may be raised during assessment process for actions where the monitoring and reporting require attention and/or adjustment for the next verification period

Irrespective of the nature of findings, all of these were given to PP in a separate finding document.

In this document, the project proponent(s) is given the opportunity to respond to the findings. Based on the responses that will be received from PP along with relevant supporting documents/evidence, the validation team will determine whether the findings are resolved or not. The findings may also raise at a later stage e.g., during internal technical review process and these are also communicated/dealt in the same manner as described above.

In summary, the type and total number of findings that were raised are indicated below;

Type of Finding	CAR	CL	FAR
Total Findings	05	03	00

All the findings raised during this joint validation & verification of the project are included under appendix 4 of this report.

D. Project Validation findings

D.1 Eligibility

D.1.1 Key project dates

Means of Project Validation	The estimated start date of planting and estimated end date of planting/ start date of project activity were 01/06/2022 and 30/09/2024 respectively, which are found to be consistent with the Afforestation plan submitted by PP. However, in actual scenario the seedlings were available from 16/05/2022 which was verified by delivery slips from the nursery (reference bill no. 2410) due to which the planting was completed 2 years prior to the estimated end day of planting.
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	Thus, the actual start date of planting is 01/06/2022 and the project start date is 01/10/2022 which was cross checked with the final forecast report.
Findings	CAR 02 was raised and closed successfully.
Conclusion	The project validation team assessed the details mentioned in the PDD for the section “key project dates” by cross verifying the afforestation plan, seedling delivery slips and final forecast report. The project validation team also confirms that all the required means of validation for the section were in line with Skógarkolefni standard v.2.0

D.1.2 Eligible activities

Means of Project Validation	The land to be planted has been deforested for past 25 years which was verified by the aerial photo at LMÍ from 1996, aerial photo of 2020 and drone videography provided by the PP.
Findings	No finding was raised.
Conclusion	The project validation team assessed the details mentioned in the PDD for the section “eligible activities” by cross verifying aerial photo at LMÍ from 1996, aerial photo of 2020 and drone videography provided. The project validation team also confirms that all the required means of validation for the section were in line with Skógarkolefni standard v.2.0

D.1.3 Eligible land

Means of Project Validation	The legal ownership of the project area for the duration of the project lies with Skógálfar ehf which was cross checked with the Skógarkolefni Information on landowner, certificate from company register, mortgage overview (Specification according to the registration book) and real state overview. While the project manager of this project is Ásmundur Skeggjason, which was verified by the Skógarkolefni Information on landowner, certificate from company register, final forecast report and Afforestation Plan.
Findings	No finding was raised.
Conclusion	The project validation team assessed the details mentioned in the PDD for the section “eligible land” by cross verifying Skógarkolefni Information on landowner, certificate from company register, mortgage overview (Specification according to the registration book), real state overview, final forecast report and afforestation Plan. The project validation team also confirms that all the required means of validation for the section were in line with Skógarkolefni standard v.2.0

D.1.4 Compliance with the law

Means of Project Validation	The project is found to be in accordance with the current laws and regulations on forestry in Iceland. This was verified by the declaration to Skógarkolefni “1.4.4 project manager’s statement regarding compliance with the law”, which states compliance with the forestry act, planning act, environment impact assessment act, nature conservation act and heritage act.
Findings	No finding was raised.
Conclusion	The project validation team assessed the details mentioned in the PDD for the section “compliance with the law” by cross verifying the “1.4.4 project manager’s statement regarding compliance with the law”. The project validation team also confirms that all the required means of validation for the section were in line with Skógarkolefni standard v.2.0

D.1.5 Conformance to the with LOGS regulations

Means of Project Validation	The project is found to be comply by the Icelandic Forestry goals and regulations, which was cross- checked with the declaration to Skógarkolefni “1.5.1. forestry sustainability criteria” provided by the project manager.
Findings	No finding was raised.
Conclusion	The project validation team assessed the details mentioned in the PDD for the section “Conformance to the with LOGS regulations” by cross verifying the declaration provided by the project manager citing forestry sustainability criteria. The project validation team also confirms that all the required means of validation for the section were in line with Skógarkolefni standard v.2.0

D.1.6 Additionality

Means of Project Validation	Legal test: There is no legal requirement for establishment of afforestation project, also this project is not of compensation nature for another forest area that has been lost. Contribution of carbon finance test: As per the Skogarkolefni standard 2.0, carbon finance payments shall equate to at least 15% of the project’s planting and establishment costs. As per the project Idea Note, the percentage of income generated from carbon units in first 10 years to total project cost was 23.63%, which were based on the initial assumptions considered in the report. The financial summary as given in PIN report is given below:
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Verkefni: Álfabrekka		
Summary	Unit	Scenario
About the project		
Duration	Years	50
Total Area	Ha	100
Black Cottonwood	Ha	6
Sitka Spruce	Ha	30
Lodgepole Pine	Ha	62
Downy birch	Ha	2
Planting time	Duration	2022
Carbon capture		
Black Cottonwood	tCO ₂ e/ha/yr	15,01
Sitka Spruce	tCO ₂ e/ha/yr	11,14
Lodgepole Pine	tCO ₂ e/ha/yr	10,37
Downy birch	tCO ₂ e/ha/yr	4,33
Estimated mean C sequestration (per ha/yr)	tCO ₂ e/ha/yr	10,63
Estimated total annual C sequestration (ár)	tCO ₂ e/yr	1.063,07
Estimated total C sequestration over 50 years	tCO ₂ e	53.153,44
Pending carbon units	tCO ₂ e	37.207,41
Pending carbon units to the project	tCO ₂ e	29.765,93
Security carbon units kept aside	tCO ₂ e	7.441,48
Seedlings		
Black Cottonwood	Number	15.000
Sitka Spruce	Number	75.000
Lodgepole Pine	Number	155.000
Downy birch	Number	5.000
Costs		
Land rent	ISK	0
Management and monitoring	ISK	3.800.000
Seedlings	ISK	18.150.000
Planting	ISK	11.325.000
Site preparation	ISK	11.860.000
Registration and certification	ISK	1.300.000
Total cost	ISK	46.435.000
Income		
Carbon units	ISK	265.767.200
Timber sales	ISK	239.000.000
Total Income	ISK	504.767.200
Income - costs	ISK	458.332.200
Assets/ha (carbon credits)	ISK	2.657.672
Assets/ha (timber)	ISK	2.390.000
Assets/ha (total)	ISK	5.047.672
Cost/ha (total)	ISK	475.350
Cost per carbon unit	ISK	894
Estimated sale price per carbon unit	ISK	5.000
Proportion of establishment costs returned year 10	%	23,63%

Now, comparing it with the final forecast report and excel sheet data:

The estimated number of carbon units generated in first 10 years as per final forecast excel sheet is given below.

Estimated carbon credits generated in first 10 years (data abstract from final forecast excel sheet)						
Year	Black Cottonwood	Sitka Spruce	Lodgepole Pine	Downy birch	Total	Cumulative
1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0
5	0	0	0	0	0	0
6	35.22	198.66	156.86	6.9	397.64	397.64

7	38.94	206.83	168.82	6.98	421.57	819.21
8	43.38	217.58	180.78	7.12	448.86	1268.07
9	48.42	227.04	195.96	7.2	478.62	1746.69
10	53.94	238.22	211.14	7.34	510.64	2257.33

The estimated sales price per carbon unit = 5000 ISK

Then, the total estimated income from carbon units in first 10 years = cumulative carbon units at end of 10 years * estimated sales price per carbon units

= 2257.33 carbon units × 5000 ISK /carbon units

= 1,12,86,650 ISK

Now,

The total project cost as per final forecast sheet = 4,97,52,500 ISK

Costs	Cost/h a	Number of units	Cost/un it	Total cost	% of total
Administration fee/contracting	1,031	1	1,00,00 0	1,00,000	0.20%
Project Idea Note	3,093	3	1,00,00 0	3,00,000	0.60%
Afforestation plan	8,247	1	8,00,00 0	8,00,000	1.61%
Project management	20,619	1	20,00,0 00	20,00,00	4.02%
Planning permission	2,062	2	1,00,00 0	2,00,000	0.40%
Archaeological survey	8,247	1	8,00,00 0	8,00,000	1.61%
Land rental	0	52,120	0	0	0.00%
Seedlings	1,70,8 76	2,42,500	68	1,65,75, 000	33.31%
Planting	1,37,5 00	2,42,500	55	1,33,37, 500	26.81%
Fencing	1,03,0 93	5	20,00,0 00	1,00,00, 000	20.10%
Site preparation	39,588	80	38,40,00 0	38,40,00	7.72%
Access trails	5,155	5	1,00,00 0	5,00,000	1.00%
Certification	10,309	1	10,00,0 00	10,00,00	2.01%
Registration	3,093	2	1,50,00 0	3,00,000	0.60%
Total cost	5,12,9 12			4,97,52, 500	100.00 %

So, the percentage of income generated from carbon units in first 10 years to total project cost

= (1,12,86,650 ISK ÷ 4,97,52,500 ISK) × 100%

	= 22.685% [i.e. 22.69%] Therefore, the carbon finance payment is any ways found to be greater than the threshold value of 15% of the project's planting and establishment costs. Barrier test: As the project is fully financed by the project owner and has claim over the carbon finance, there is no barrier. Hence, this test is not found to be applicable. Hence, the project is found to be additional.
Findings	CAR05 was raised and closed successfully.
Conclusion	The project validation team assessed the details mentioned in the PDD for the section "Additionality" by cross verifying the PIN report and final forecast excel sheet. The project validation team also confirms that all the required means of validation for the section were in line with Skógarkolefni standard v.2.0.

D.2 Project governance

D.2.1 Commitment of landowners and project/group managers

Means of Project Validation	Both the land owner of the land Álfabrekka in Grímsnes- and Grafningshreppi (land no. 233248) and the project manager Ásmundur Skeggjason, Id 140771-4659 have confirmed their commitments regarding the carbon sequestration project in Skógarkolefni with their signatures. These have been verified by the declaration made by them to Skógarkolefni with the document title "2.1.2. Declaration of landowners" and "2.1.2.1 Project manager's statement", dated 01.02.2023.
Findings	CL 01 was raised and closed successfully.
Conclusion	The project validation team assessed the details mentioned in the PDD for the section "Commitment of landowners and project/group managers" by cross verifying 2.1.2. Declaration of landowners" and "2.1.2.1 Project manager's statement", dated 01.02.2023. The project validation team also confirms that all the required means of validation for the section were in line with Skógarkolefni standard v.2.0

D.2.2 Management plan

Means of Project Validation	An afforestation plan is a fundamental document prepared before construction begins on a specific project. It contains information about the forestry land along with a plan for the project and instructions for owners and developers.
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	An afforestation plan for establishment period of Álfabrekka, Grímsnes and Grafningshrepp project was prepared by Jón Þór Birgisson, dated March 22, 2022. As per afforestation plan, Álfabrekka is a new country out of Þóroddstaður, the land lies on the SA low slopes at about 75-100 m above sea level. The land, which is hilly and untouched, has not been cultivated. The main goal of forestry in Álfabrekka is to sequester carbon along with soil protection, outdoor activities, timber production and other ecosystem services. The project has diverse environmental, economic and social benefits. The country code is 233248 under municipality Grímsnes-og Grafningshreppur with total site area and plantation area of 100 ha. The estimated start of planting was 01/06/2022 and estimated end of planting was 30/09/2024, with a cycle length 50 years. It is expected to plant 289,049 plants in 100 ha in the years 2021-2024 which includes black cottonwood, Sitka spruce, Lodgepole pine and Downy birch. The afforestation plan also states processes involving tillage, planting and fertilization which are carried out during planting. The afforestation plan also includes information on vegetation, soils, slope, rockiness, site preparation, tree species, their number, maps, planting density, risk assessment and mitigation. The financial analysis of cost and revenue has been mentioned in the “Project Idea Note” prepared by Gunnlaugur Guðjónsson in august 2022. As per the Project Idea Note (PIN), the total cost of project is 47,535,000 ISK and the estimated percentage of income generated from carbon units in first 10 years to total project cost is 22.63%. The estimated mean C sequestration/ha is 1,063 tCO2e and the total number of C units is 53,153 tCO2e. The key members associated with the project are given in below table: <table><tr><td>Project Manager</td><td>Consultant</td><td>Consultant</td></tr><tr><td>Ásmundur Skeggjason</td><td>Gunnlaugur Guðjónsson</td><td>Haflíði H. Haflíðason</td></tr></table> The project manager was verified by the Skógarkolefni Information on Landowner, Certificate from company register, Final forecast report and Afforestation Plan. While the role of consultancy with relevant skills was verified by the CV’s provided by the PP. The validation team found that the afforestation plan deals with all the issues as mentioned in the means of validation of Skógarkolefni standard v.2.0	Project Manager	Consultant	Consultant	Ásmundur Skeggjason	Gunnlaugur Guðjónsson	Haflíði H. Haflíðason
Project Manager	Consultant	Consultant					
Ásmundur Skeggjason	Gunnlaugur Guðjónsson	Haflíði H. Haflíðason					
Findings	CL 02 and CAR 01 were raised and closed successfully.						
Conclusion	The project validation team assessed the details mentioned in the PDD for the section “Management plan” by cross verifying the afforestation plan, PIN report and CVs. The project validation team also confirms that						

all the required means of validation for the section were in line with Skógarkolefni standard v.2.0

D.2.3 Management of risks and permanence

Means of Project Validation	All the possible risks to permanence of the project along with its probability, risk category and mitigation plan has been mentioned below. The details have been cross checked with the afforestation plan provided.					
	Risk category	Potential risks	Event probability (L/M/H)	Event Impact (L/M/H)	Mitigation plan	Accessible data for each risk type
	Legal/social (including land ownership, project management, and funding)	Change in ownership	L	M/H	Commitment of landowners and project managers	Signed declaration
	Natural Disorder: Fire	Spring wildfires in the immediate vicinity	L	M	Fire safety plan, Easy access to water	Fire safety plan
	Natural Distortion: Wind	Windfall	L	M	Not needed	Not needed
	Natural Disorder: Drought/Flood	Unusually severe droughts	L	L	Not needed	Not needed
	Natural Disorders: Pests and Diseases	Rusts and insects	L	M	Forest will be mixed tree species composition	Management Plan
	Suitability of species in current and future climates	Tree species not adapted to warming winter	L	M	Mixed species and provenance selection, relatively short rotation forestry	Management Plan
	Livestock	Sheep browsing on small seedlings	L	M/H	Protection by constructing fence	Not needed
Findings	No finding was raised.					
Conclusion	The project validation team assessed the details mentioned in the PDD for the section "Management of risks and permanence" by cross verifying the afforestation plan. The project validation team also					

	confirms that all the required means of validation for the section were in line with Skógarkolefni standard v.2.0.
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D.2.4 Consultation

Means of Project Validation	The project was issued with a construction permit based on local municipal legal procedures. The procedure involves a public consultation process where stakeholders can make suggestions to the project and for this project the mayor of Grímsnes and Grafningshrepp was consulted. As per minutes of local council of Grímsnes and Grafningshrepp of the day. 1.6.2022 (mentioned in the construction permit, dated 14/07/2022), an application was submitted from Skógálf ehf. regarding the construction permit for forestry on the land of Álfhól. The total area covered by the application was 100 ha in accordance with the submitted supporting documents. The local council approves the issuance of a construction permit based on paragraph 5. Article 13 planning law no. 123/2010 and that the forest management forms be communicated to the owners of the adjacent land. There were no concerns or issues that arose from the issuance of construction permit and this was cross- checked with the Planning Committee – Meeting no. 240 – May 25, 2022¹.
Findings	CL 03 was raised and closed successfully.
Conclusion	The project validation team assessed the details mentioned in the PDD for the section “Consultation” by cross verifying references and construction permit provided by the PP. The project validation team also confirms that all the required means of validation for the section were in line with Skógarkolefni standard v.2.0.

D.2.5 Monitoring

Means of Project Validation	Monitoring is required to demonstrate successful forest establishment and assess actual tree growth and carbon sequestration rates. The project manager- Ásmundur Skeggjason is responsible for project monitoring as verified by declaration to Skógarkolefni - 2.1.2.1 Project manager's statement. As per Skógarkolefni standard v.2.0, the first monitoring and verification should be completed 5 years after the start date. Subsequent monitoring and verification should be completed as a minimum at year 15 and then every 10 years throughout the project duration. Monitoring should begin up to 12 months before the ‘due date’. FCC year 5 survey protocol was followed for project carbon calculator. The Year 5 Survey Protocol and Verification will be used at year 5 and also at year 10 (optional), if seedlings are slow growing. The Year 15+ Full monitoring and verification will be applied at year 15 and also at
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¹ <https://www.utu.is/fundargerdir/skipulagsnefnd-fundur-nr-240-25-mai-2022/>

	year 10 (optional), if seedlings are growing well. The methodological basis for the monitoring plan is referred to the WCC survey protocol ² .
Findings	CAR05 was raised and closed successfully.
Conclusion	The validation team assessed the details mentioned in the PDD for the section “monitoring” with the Skógarkolefni standard v.2.0 and the WCC reference provided.

D.2.6 Registry and avoidance of double counting

Means of Project Validation	The project has not been certified or approved by another carbon standard and it follows the rules of use of Icelandic Climate Registry. The same has been found consistent in project idea note and verified by the declaration signed by project manager to Skógarkolefni, dated 01/02/2023.
Findings	No finding was raised.
Conclusion	The project validation team assessed the details mentioned in the PDD for the section “Registry and avoidance of double counting” by cross verifying the declaration signed by project manager to Skógarkolefni, dated 01/02/2023 and the PIN report. The project validation team also confirms that all the required means of validation for the section were in line with Skógarkolefni standard v.2.0.

D.2.7 Carbon statements and reporting

Means of Project Validation	As per Skógarkolefni standard v.2.0, landowners and/or project developers shall make carbon buyers aware of the FCC guidance on carbon claims. Any carbon statement by the landowner, the project developer or the carbon buyer shall be true and accurate and conform with recommended wording. The project manager through signed “2.1.2.1 Project manager's statement” declaration to Skógarkolefni ensured that prospective buyers of Skógarkolefni units will be introduced to Skógarkolefni's instructions on carbon accounts and record them in contracts for the sale.
Findings	No finding was raised.
Conclusion	The project validation team assessed the details mentioned in the PDD for the section “Carbon statements and reporting” by cross verifying the 2.1.2.1 Project manager's statement. The project validation team also confirms that all the required means of validation for the section were in line with Skógarkolefni standard v.2.0.

²

https://www.woodlandcarboncode.org.uk/images/Clarifications/WCC_SurveyProtocol_Year_5_and_Year_15plus_Version2.1.1_April_2024.pdf

D.3 Carbon sequestration

D.3.1 Carbon baseline

Means of Project Validation	As per the afforestation plan, the land considered for this afforestation project was hilly – untouched and had not been cultivated. Land use has been limited to a little sheep grazing from neighboring farms. The same has been verified by the aerial photo at LMÍ from 1996, aerial photo of 2020 and drone videography provided by the PP. The changes to baseline are not significant if they are assumed to be less than 5% of the project carbon sequestration over the duration of the project. The carbon baseline is estimated according to the Carbon calculator and UNFCCC and UNFAO instructions.
Findings	CAR 05 was raised and closed successfully.
Conclusion	The project validation team assessed the details mentioned in the PDD for the section “Carbon baseline” by cross verifying the aerial photo at LMÍ from 1996, aerial photo of 2020 and drone videography provided by the PP. The project validation team also confirms that all the required means of validation for the section were in line with Skógarkolefni standard v.2.0.

D.3.2 Carbon leakage

Means of Project Validation	Leakage is GHG emissions outside the project boundary but within the country as a result of the project (e.g. displacement of agricultural activities might result in deforestation or intensification of use of non-wooded land elsewhere). Leakage is significant if it results in GHG emissions of magnitude $\geq 5\%$ of the project carbon sequestration over the duration of the project. There is no significant leakage from the project activity.
Findings	No finding was raised.
Conclusion	The project validation team assessed the details mentioned in the PDD for the section “Carbon leakage” by cross verifying the afforestation plan. The project validation team also confirms that all the required means of validation for the section were in line with Skógarkolefni standard v.2.0.

D.3.3 Project carbon sequestration

Means of Project Validation	Project developers has used the Forest Carbon Calculator (Skógarkolefnisreiknir) on the Icelandic Forest Service website to predict the project carbon sequestration.
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Factors that can cause sequestration or release in afforestation project at Álfabrekka.

1. Emissions from soil due to site preparation

Mechanical site preparation can result in emissions from soil and litter (dead vegetation). No direct measurements have been carried out in Iceland on this, but the method used to assess soil sequestration includes emissions from tillage i.e. comparing the carbon reserves of areas adjacent to forests with areas under forestry where site preparation was applied. The carbon reserves of forested areas have been found to store more carbon than comparable forest-free areas, and the carbon reserves increase with increasing age of the forest. Although the net carbon sequestration for the first years after afforestation is positive for dryland sites, the first 5 years is not included in the calculations for cautionary reasons, to accommodate possible higher initial emissions due to site preparation than assumed in the Forest Carbon Calculator. The Forest Carbon Calculator uses three different coefficients for soil sequestration. The coefficients include the emissions that occur as a result of site preparation. The different coefficients for soil carbon sequestration in excess of emissions for different sites are the following:

Type of site	Carbon sequestration per year in excess of emissions (tonnes/ha/year)	Total carbon sequestration over 50 years in excess of emissions (tonnes/ha)
Sparsely vegetated dry land (<20-30% vegetation cover)	1,881	94,05
Semi- to fully vegetated dry land (>20-30% vegetation cover)	1,340	67,0
Drained mires	- 2,187	-109,35

2. Sequestration in litter

Litter is defined as a small dead organic material accumulating on the forest floor. Research in Iceland shows that during afforestation, carbon storage in litter averages around 0.517 tons CO₂ per ha per year following planting. Hence, litter storage in the project in Álfabrekka is estimated 97 ha x 0.517 = 50 tons CO₂e.

3. Emissions from dead wood

When the forest grows and is not thinned, some trees die due to competition for light. The carbon that belonged to biomass becomes

dead wood. This also happens when forests are thinned. Dead wood can be both above-ground parts of standing dead trees or logs lying on the forest floor. Dead wood can also be underground in the stumps and thick roots of dead and felled trees. The carbon reserves in dead wood usually increase with the age of forests as more dead trees and stumps are added to the reserve. However, the reserves are also being depleted due to decomposition. It is our experience from measurements in cultivated forests in Iceland that new forests that are not thinned to any extent usually have no or very little dead wood. Zero emissions are therefore expected from dead wood in the project in Álfabrekka.

4. Emissions due to fertilizer applications

Fertilizer application with nitrogen fertilizer (nitrogen = N), can result in evaporation of N in the form of N₂O. The international emission index is 0.01 kg N₂O-N per kg N in synthetic fertilizer. One ton of N in fertilizer is therefore releasing 10 kg of N in the form of N₂O. This corresponds to 4.68 tons of CO₂ emissions. In Iceland the recommended application rate is 10-12 grams of fertilizer per seedling (see the blue spoon). The recommended planting density is around 2,500 seedlings per hectare, which makes around 30 kg of fertilizer per hectare, of which 20% is N. The project in Álfabrekka covers 97 hectares, and uses around 2,910 kg fertilizer, which makes around 0.58 tons N, which is equivalent to 2,71 tons CO₂ emissions.

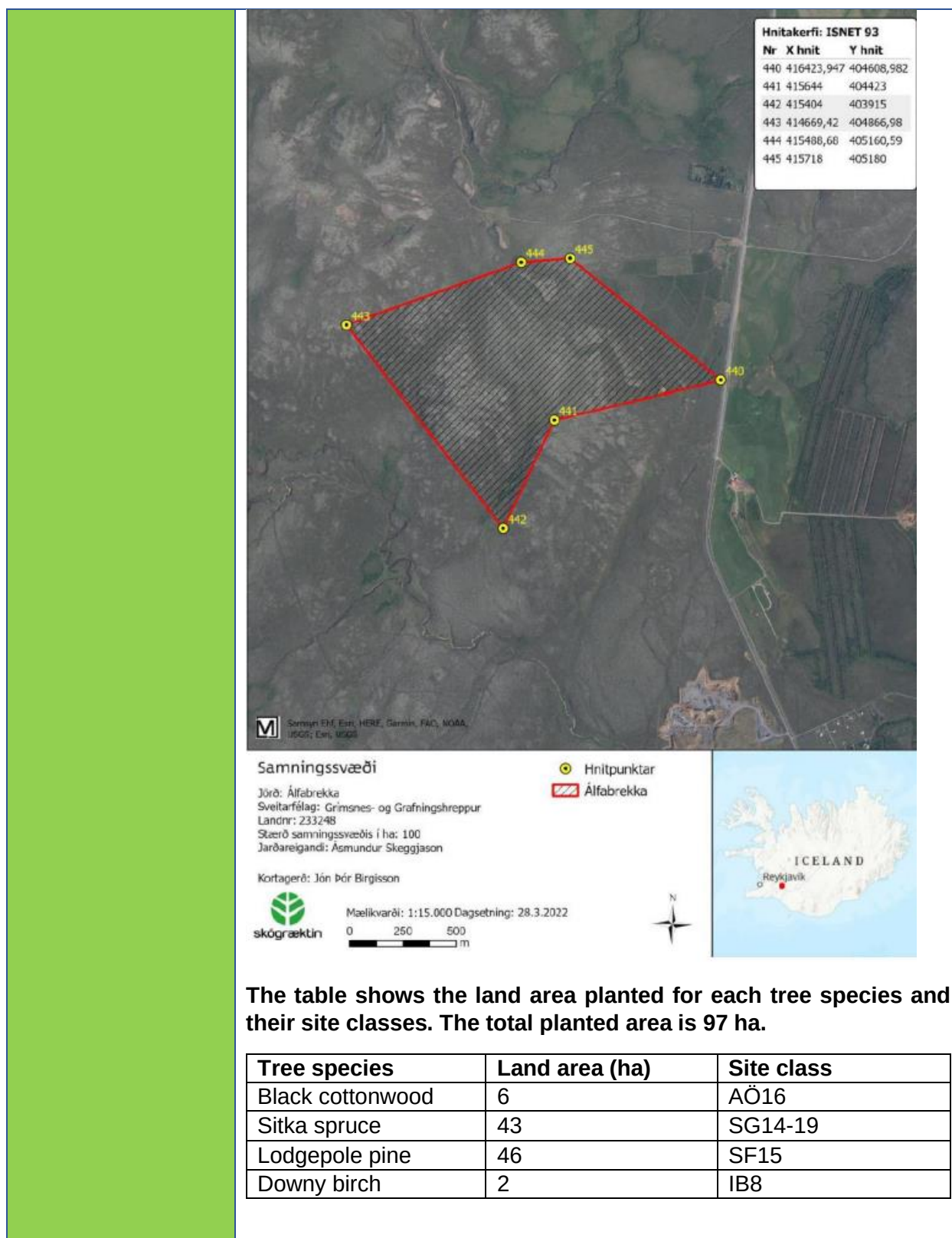
5. Sequestration/release in vegetation other than trees

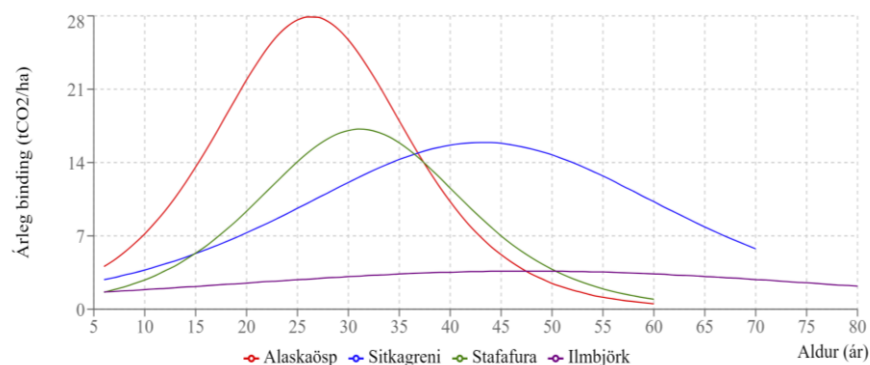
Icelandic studies have shown considerable fluctuations in carbon reserves in vegetation other than trees during afforestation, but in the long term (50 years) there has been neither an increase nor a decrease in the carbon reserves of vegetation other than in the trees in forests. Therefore, neither sequestration nor emissions from vegetation other than trees are expected.

Summary for Álfabrekka (50 years)	
1. Emissions from soil due to site preparation:	N/A
2. Storage in litter:	50 tons CO ₂ e
3. Emissions from dead wood:	N/A (Estimated close to zero)
4. Emissions from fertilizer application	-2.7 tons CO ₂ e
5. Sequestration/release in vegetation other than trees:	0.0 tons CO ₂ e

The prerequisites of the carbon capture forecast as mentioned in the final forecast report are given below.

Project location:

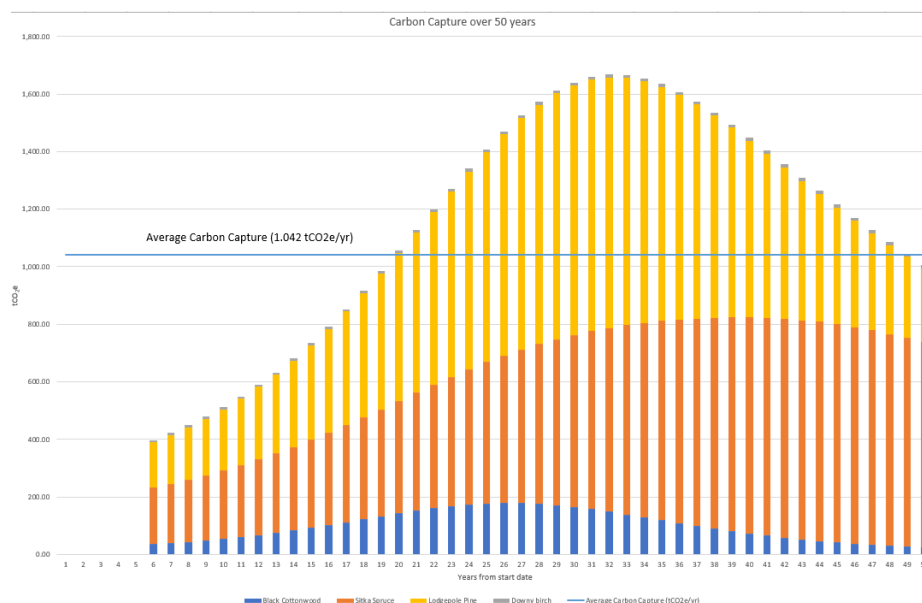


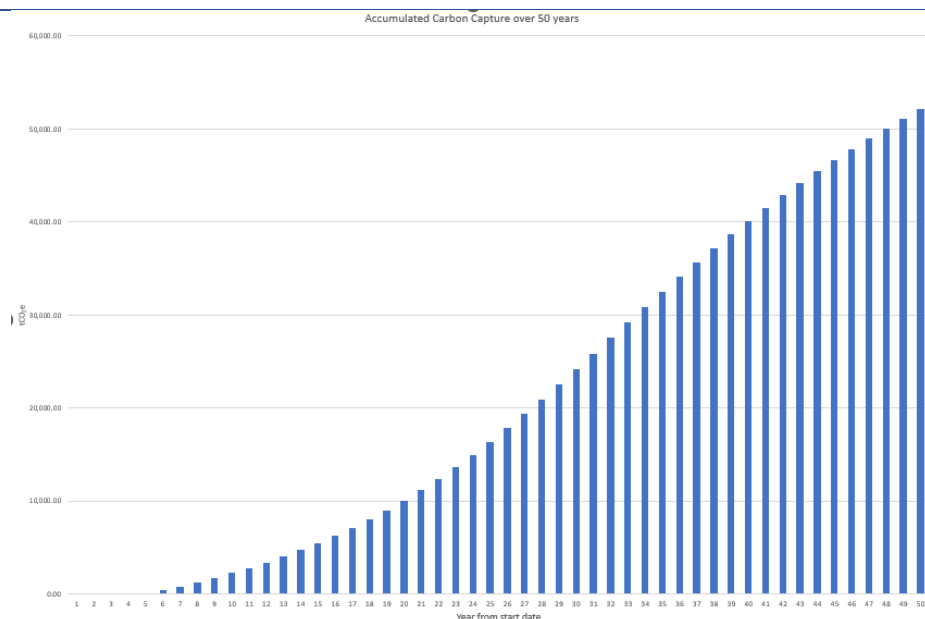


The figure above shows the annual carbon capture over 50 years at South Iceland inland sites, elevation 0-150 m a.s.l., for black cottonwood (alaskaösp), Sitka spruce (sitkagreni), lodgepole pine (stafafura) and downy birch (ilmbjörk).

Carbon capture for the first five years after project start date is presently omitted from the final forecast. This is due to possible initial risks to tree seedlings and the rate of soil recovery after site preparations at the site. This omission will be re-evaluated on the forthcoming verification at year five.

The annual average carbon capture at Álfabrekka is estimated to be 1,042 tCO₂e/yr. over a 50-year period. The total carbon capture is estimated to be 52,120 tCO₂e (see figures below).





Summary of carbon capture as per final forecast excel sheet

Year	Black Cottonwood	Sitka Spruce	Lodgepole Pine	Downy birch	Total	Accumulated	Average Carbon Capture (tCO ₂ e/yr)
1	0.00	0.00	0.00	0.00	0.00	0.00	1,042.40
2	0.00	0.00	0.00	0.00	0.00	0.00	1,042.40
3	0.00	0.00	0.00	0.00	0.00	0.00	1,042.40
4	0.00	0.00	0.00	0.00	0.00	0.00	1,042.40
5	0.00	0.00	0.00	0.00	0.00	0.00	1,042.40
6	35.22	198.66	156.86	6.90	397.64	397.64	1,042.40
7	38.94	206.83	168.82	6.98	421.57	819.21	1,042.40
8	43.38	217.58	180.78	7.12	448.86	1,268.07	1,042.40
9	48.42	227.04	195.96	7.20	478.62	1,746.69	1,042.40
10	53.94	238.22	211.14	7.34	510.64	2,257.33	1,042.40
11	60.30	250.69	229.54	7.48	548.01	2,805.34	1,042.40
12	67.14	263.59	251.62	7.56	589.91	3,395.25	1,042.40

	13	74.82	276.06	273.24	7.70	631.82	4,027.07	1,042.40
	14	83.16	290.25	300.38	7.86	681.65	4,708.72	1,042.40
	15	92.22	306.16	328.90	7.92	735.20	5,443.92	1,042.40
	16	101.64	321.64	359.26	8.08	790.62	6,234.54	1,042.40
	17	111.54	337.55	394.68	8.22	851.99	7,086.53	1,042.40
	18	121.92	354.75	431.94	8.36	916.97	8,003.50	1,042.40
	19	132.00	372.38	470.58	8.44	983.40	8,986.90	1,042.40
	20	142.14	391.30	512.90	8.58	1,054.92	10,041.82	1,042.40
	21	151.38	410.22	556.60	8.74	1,126.94	11,168.76	1,042.40
	22	159.96	429.14	600.76	8.88	1,198.74	12,367.50	1,042.40
	23	167.22	449.35	644.46	8.96	1,269.99	13,637.49	1,042.40
	24	172.74	469.99	688.16	9.10	1,339.99	14,977.48	1,042.40
	25	176.46	491.92	730.48	9.24	1,408.10	16,385.58	1,042.40
	26	178.20	512.56	769.12	9.32	1,469.20	17,854.78	1,042.40
	27	178.02	534.49	803.16	9.46	1,525.13	19,379.91	1,042.40
	28	175.56	555.13	831.68	9.62	1,571.99	20,951.90	1,042.40
	29	171.18	577.06	853.76	9.68	1,611.68	22,563.58	1,042.40
	30	165.00	597.70	867.10	9.84	1,639.64	24,203.22	1,042.40
	31	157.32	618.34	874.00	9.90	1,659.56	25,862.78	1,042.40
	32	148.50	638.55	870.32	10.06	1,667.43	27,530.21	1,042.40
	33	139.08	657.47	858.82	10.12	1,665.49	29,195.70	1,042.40
	34	128.94	675.10	839.96	10.20	1,654.20	30,849.90	1,042.40
	35	118.62	692.30	813.28	10.34	1,634.54	32,484.44	1,042.40
	36	108.48	706.49	781.08	10.42	1,606.47	34,090.91	1,042.40
	37	98.58	720.68	743.82	10.50	1,573.58	35,664.49	1,042.40

	38	89.34	733.15	701.96	10.56	1,535.01	37,199.50	1,042.40
	39	80.52	742.61	659.64	10.64	1,493.41	38,692.91	1,042.40
	40	72.42	750.78	614.10	10.64	1,447.94	40,140.85	1,042.40
	41	64.92	756.80	570.40	10.72	1,402.84	41,543.69	1,042.40
	42	58.08	760.24	526.24	10.78	1,355.34	42,899.03	1,042.40
	43	52.14	761.53	484.38	10.78	1,308.83	44,207.86	1,042.40
	44	46.68	761.53	443.90	10.86	1,262.97	45,470.83	1,042.40
	45	42.06	758.52	404.80	10.86	1,216.24	46,687.07	1,042.40
	46	37.86	752.07	369.38	10.86	1,170.17	47,857.24	1,042.40
	47	34.14	744.33	337.64	10.86	1,126.97	48,984.21	1,042.40
	48	30.84	734.87	308.66	10.86	1,085.23	50,069.44	1,042.40
	49	28.20	723.69	281.98	10.86	1,044.73	51,114.17	1,042.40
	50	25.56	711.22	258.06	10.86	1,005.70	52,119.87	1,042.40
	Average	89.30	473.61	471.09	8.41	1,042.40		
Findings	CAR 05 was raised and closed successfully.							
Conclusion	The project validation team assessed the details mentioned in the PDD for the section "Project carbon sequestration" by cross verifying the final forecast report and excel sheet. The project validation team also confirms that all the required means of validation for the section were in line with Skógarkolefni standard v.2.0.							

D.3.4 Net carbon sequestration

Means of Project Validation	Net Project Carbon Sequestration is the total amount of carbon sequestered by the project which can be converted into carbon units. These are divided between the proportion that will contribute to the shared FCC Buffer (20%), and the claimable carbon sequestration which is the amount the project can sell (80%).
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Net project carbon sequestration shall be calculated using the Forest Carbon Calculator (Skógarkolefnisreiknir) on the Icelandic Forest Service website adjusted for leakage and baseline status if applicable.

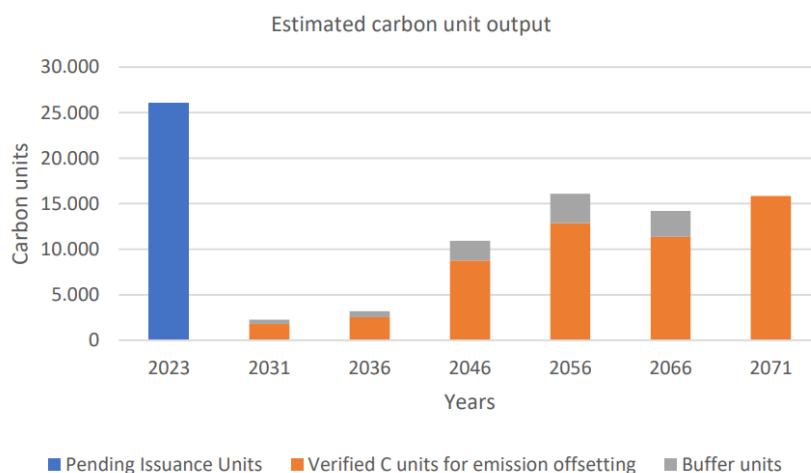
The baseline carbon is included in the forest carbon calculator's estimation and there is no significant leakage from the project, hence both the parameters have been taken care off.

As per the final forecast report, a summarized table of estimates of carbon units produced in the afforestation project Álfabrekka is given below:

Years from project start date (Note: year 10 is optional)	Start of certification period	Project verification dates	Total Pending Issuance Units per certification period (50%)	Buffer units (20%)	Verified C units for emission offsetting per certification period (80%)	Total carbon units
5	1.10.2022	1.10.2026	0,0	0,0	0,0	0,0
10	1.10.2027	1.10.2031	1.128,7	451,5	902,9	2.257,3
15	1.10.2032	1.10.2036	1.593,3	637,3	1.274,6	3.186,6
25	1.10.2037	1.10.2046	5.470,8	2.188,3	4.376,7	10.941,7
35	1.10.2046	1.10.2056	8.049,4	3.219,8	6.439,5	16.098,9
45	1.10.2057	1.10.2066	7.101,3	2.840,5	5.681,1	14.202,6
50	1.10.2067	1.10.2071	2.716,4	1.086,6	2.173,1	5.432,8
Totals			26.060	10.424	20.848	52.120

As per information on Skógarkolefni site, the carbon units that are specified in the prediction of sequestration in a specific project and have been confirmed by a certification body are called pending units while the sequestration has not yet taken place. Projects are allowed to sell up to half of these units to raise capital, but those units may not be used for carbon offsets until they have been verified.

A total of 26,060 Pending Issuance Units are issued to the project following validation. At each verification, 80% of the verified carbon units can be used for emission offsetting. The rest, 20%, is withheld as buffer units until the project's last date.



The figure above illustrates carbon units issued to the project. Following validation in 2023, half of the estimated total C units are issued as Pending Issuance Units. The verified C units produced are shown in verification years. Also shown are non-tradable buffer units, which are withheld until the last project date in case of any losses of verified C units from a project.

Vintage	Estimated total carbon units (tCO ₂ e/yr)	Pending Issuance Units (50%) (tCO ₂ e/yr)	Estimated verified carbon units (tCO ₂ e/period)	Buffer units (20%) (tCO ₂ e/period)	Estimated carbon units for emission offsetting (tCO ₂ e/period)
2022	0	0			
2023	0	0			
2024	0	0			
2025	0	0			
2026	0	0	0	0	0
2027	398	199			
2028	422	211			
2029	449	224			
2030	479	239			
2031	511	255	2.257	451	1.806
2032	548	274			
2033	590	295			
2034	632	316			
2035	682	341			
2036	735	368	3.187	637	2.549
2037	791	395			
2038	852	426			
2039	917	458			
2040	983	492			
2041	1.055	527			
2042	1.127	563			

	2043	1.199	599			
	2044	1.270	635			
	2045	1.340	670			
	2046	1.408	704	10.942	2.188	8.753
	2047	1.469	735			
	2048	1.525	763			
	2049	1.572	786			
	2050	1.612	806			
	2051	1.640	820			
	2052	1.660	830			
	2053	1.667	834			
	2054	1.665	833			
	2055	1.654	827			
	2056	1.635	817	16.099	3.220	12.879
	2057	1.606	803			
	2058	1.574	787			
	2059	1.535	768			
	2060	1.493	747			
	2061	1.448	724			
	2062	1.403	701			
	2063	1.355	678			
	2064	1.309	654			
	2065	1.263	631			
	2066	1.216	608	14.203	2.841	11.362
	2067	1.170	585			
	2068	1.127	563			
	2069	1.085	543			
	2070	1.045	522			
	2071	1.006	503	5.433	1.087	4.346
	Total	52.120	26.060	52.120	10.424	41.696
Findings	CAR04 and CAR 05 were raised and closed successfully.					
Conclusion	The project validation team assessed the details mentioned in the PDD for the section "Net carbon sequestration" by cross verifying the final forecast report and excel sheet. The project validation team also confirms that all the required means of validation for the section were in line with Skógarkolefni standard v.2.0.					

D.4 Environmental quality

Means of Project Validation	The afforestation project in Alfabrekka has a total planting area of 100 ha which has been verified by land records. As per Environmental Impact Assessment Act 2000 no. 106 May 25 (Icelandic law 13 April 2021. Version 151b) Reforestation on an area of up to 200 ha, which
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changes the previous land use falls under category C of appendix and does not require an environmental impact assessment³.

The other environmental parameters and impacts of project on them are given below.

Environmental parameters	Impact of project on the parameters
Biodiversity	The area is not protected according to any law and does not fall into the category of land types that enjoy special protection according to the Nature Conservation Act No. 60/2013.
Rare/endangered species or conservation areas	No rare species have been reported in the area. However, the emergence of forests creates habitats for a large number of organisms. The biodiversity of soil organisms, fungi, insects and birds is likely to increase. The biodiversity of other groups of organisms is likely to remain unchanged.
Landscape	The area or surrounding area has not been registered on the Nature Conservation Register or as an important bird area. Due to the project, an endemic forest that was mostly deforested, increased the landscape diversity.
Historic Landscape and Archaeology	The areas or surrounding areas have not been registered according to the Heritage Act. Historically, the area was forested, but the forest was destroyed, and grazing shaped vegetation after that. There is no reason to preserve that history. A better goal is to rebuild the forest.
Water Benefits	The forest is partly on a slope and will reduce the surface flow of water with associated pollutants.
Environmental benefits of project	The carbon sequestration of the forest will be measured regularly

³ <https://www.althingi.is/lagas/151b/2000106.html>

	while other environmental benefits will not be monitored.
	As per Skógarkolefni standard v.2.0, it is optional to monitor the environmental benefits of project over time.
Findings	CAR 03 and CAR05 were raised and closed successfully.
Conclusion	The project validation team assessed the details mentioned in the PDD for the section “Environmental quality” by cross verifying the law regarding requirement of environmental impact assessment and consideration from afforestation plan. The project validation team also confirms that all the required means of validation for the section were in line with Skógarkolefni standard v.2.0.

D.5 Social responsibility

Means of Project Validation	Forest and Community: Please highlight any community benefits of each project.		
	Element	Project(s) where benefit occurs	If benefits occur, please provide further explanation
	Located in area deficient in accessible natural green space?	Álfabrekka	There is little forest on the land and the plan is to improve the land quality of the area by afforestation.
	Promoting use of woodland to a range of groups across the community?	Not applicable	
	Designed in a way that supports community activities?	Álfabrekka	Increases the income potential of landowners as well as contributing to increased biodiversity.
	Community involved in the design of the woodland?	Álfabrekka	The willingness of landowners to participate in the development of the forest and select species.
	Helps to regulate air quality or temperature?	Álfabrekka	With increased forestry on the land, it can be expected to improve the air quality.
	Other	Álfabrekka	The forest is on private land and not close to urban areas or other settlements. Social benefits are not among the main objectives of forestry in this area.
	Forest and Economy: Please highlight any economic benefits of each project.		
	Element	Project(s) where	If benefits occur, please provide further explanation

		benefit occurs	
	Designed with timber production as an aim?	Álfabrekka	The cultivation of trees is likely to yield timber for various uses in a few decades, although the main goal of this project is carbon sequestration. In addition, when it comes to felling, it can be expected that value will be created through wood production. Responsible wood production will also be kept in mind, which is about making good use of the wood in the future.
	Expected to produce wood fuel or other non-timber products?	Álfabrekka	Numerous side effects are created by afforestation and it is clear that opportunities will come. Efforts will be made to make the best use of them when they arise (e.g. outdoor activities, food production, etc.) Wood will be processed by processing companies.
	Expected to support local enterprises in the future?	Álfabrekka	It promotes innovation with this first certification of a forestry project. There are already forest production plants in close proximity to the earth. It is clear that they will benefit from increased forestry in the area. There are also opportunities for small-scale food production (e.g. mushrooms and berries) that could be utilized.
	Expected to contribute to rural diversification or urban regeneration?	Álfabrekka	Unsure
	Provide opportunities for volunteering?	Álfabrekka	no
	Will be used as a place to deliver training and skills?	Álfabrekka	Possibly, but uncertain
	Other		
	As per Skógarkolefni standard v.2.0, it is optional to monitor the social benefits of project over time.		
Findings	No finding was raised.		
Conclusion	The project validation team assessed the details mentioned in the PDD for the section "Social responsibility" by cross verifying the consideration		

	from afforestation plan. The project validation team also confirms that all the required means of validation for the section were in line with Skógarkolefni standard v.2.0.
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E. Independent review

The Final project validation report prepared by the validation team was reviewed by an independent technical review team to confirm if the internal procedures established and implemented by Enviance Services Private Limited were duly complied with and such opinion/conclusion is reached in an objective manner that complies with the applicable FCC rules/requirements. The technical review-team is collectively required to possess the technical expertise of all the technical area/ sectoral scope related to the project activity. All team members of technical review team were independent of the validation team. The technical review process may accept or reject the validation opinion or raise additional findings in which case these must be resolved before requesting for registration. The technical review process is recorded in the internal documents of Enviance Services Private Limited, and the additional findings gets included in the report. The final report passed by technical reviewer is approved by the authorized personal of Enviance Services Private Limited and issued to PP and/or submitted for request for registration, as appropriate on behalf of Enviance Services Private Limited.

F. Project Validation opinion

Enviance Services Private Limited has performed a validation of the “Álfabrekka”. The validation is performed on the basis of Skógarkolefni 2.0 standard and FCC guidelines. The review of the final version of PDD and the subsequent Onsite Visit / follow-up interviews has provided Enviance Services Private Limited with sufficient evidence to determine the fulfilment of stated criteria. In our opinion, the project meets all relevant Skógarkolefni 2.0 standard for the FCC. The project will hence be recommended by Enviance Services Private Limited for registration with the FCC. The project is a multi-purpose forest with an emphasis on carbon sequestration, soil protection, outdoor recreation, timber production and other ecosystem services. The project has a wide range of environmental, economic and social benefits. The annual average carbon capture at Álfabrekka is estimated to be 1,042 tCO₂e/yr. over a 50-year period. The total carbon capture is estimated to be 52,120 tCO₂e. The validation has been performed following the requirements of the latest version of Skógarkolefni 2.0 standard, ISO- 14064-2,2019 and FCC guidelines.

The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation.

Appendix 1. Abbreviations

Abbreviations	Full texts
PIU	Pending issuance Unit
PP	Project proponent
IFCC	Icelandic Forest Carbon Code
PDD	Project Design Document
PIN	Project Idea Note
tCO ₂	Tonnes of CO ₂
ha	Hectares
PP	Project Proponent
VVB	Validation and Verification Body
GHG	Green House Gases
N ₂ O	Nitrous oxide
WCC	Woodland Carbon Code
ISK	Icelandic krona

Appendix 2. Competence of team members and technical reviewers

- Mr. Pankaj Kumar worked as team leader – Bihar for South Asia Climate Proofing and Growth Development (CPGD) – Climate Change Innovation Programme (CCIP) supported by DFID that seeks to mainstream climate change resilience into planning and budgeting at the national and sub-national level in India, Pakistan, Nepal, and Afghanistan. Pankaj Kumar has worked previously with IL&FS Infrastructure Development Corporation and BUIDCO (Bihar Urban Infrastructure Development Corporation), Govt. of Bihar as Environmental Specialist for WB & ADB funded projects. Prior to this, he worked with Carbon Check (UNFCCC accredited DoE), Johannesburg, RSA, Applus certification as Team Leader for validation, verification of around 200 GHG projects in Asia, Africa, USA, Asia Pacific & Americas. Pankaj is accredited Lead Auditor, Validator, Verifier and Technical Expert for Sectoral Scope/Technical Area – 1.1, 1.2, 3.1, 4.1, 13.1 by Enviance. on roster of UNICEF's WASH experts. He is an experienced, qualified and result oriented Environment Professional having more than 19 yrs. of relevant experience in Climate Change (Mitigation & Adaptation), Environmental Due Diligence, Disaster Risk Reduction, Validation and Verification of GHG project under CDM, Verified Carbon Standard, Gold Standard & Social Carbon Standard, Brazil. He provides technical support for environmental investigative, consultative and remedial projects involving air, water and soil, Waste management, EIA, Environmental Compliance, ISO 14001, OHSAS 18001, ESG, Sustainability, GHG accounting (ISO 14064) and Carbon foot printing. Pankaj Kumar is Masters in Environment Management from Forest Research Institute (University), I.C.F.R.E, Dehradun, which is Centre of Excellence in South East Asia for Forestry education & research and PGDEL from National Law School of India University, Bangalore (India).
- Mr. Debojyoti Chakraborty is a Principal Scientist and holds positions at the Austrian Research Centre for Forests (BFW) in Vienna, Austria, as well as the University of British Columbia, Canada, where he serves as a Visiting

Professor. His research and academic pursuits center around several key areas, including the adaptation of forests to climate change through the utilization of intraspecific genetic variations, the development of models for tree species and forest ecosystem responses under changing climatic conditions, proficiency in big data analysis for downscaling regional climate models, and dedicated supervision of PhD students in related fields. Currently he is engaged as a sectoral expert as for the sector 14.1.

- Mr. Vijayanand is an experienced professional, a strategic HSE expert with 16 years of leadership in environmental consulting, audit, and regulatory compliance. He has successfully implemented HSE/ESG rules across Asia and Europe, managing corporate and site-level HSE functions. His roles have involved EIA, waste management, and policy development. He is leading HSE and ESG efforts at Hero Future Energies, demonstrating budgeting, due diligence, and international standard implementation skills. He has contributed to impactful projects like ESIA, renewable energy initiatives, and audits. He is also having accreditation as a Lead Auditor in CDM and Verra by various DOEs/VVBs, he is qualified by Enviance as a TL, TR and Technical expert in Sector 1.2, 3.1, 14.1.
- Vipul holds Bachelor of Technology from VIT University Vellore in 2020. He has gained valuable work experience as a site engineer at Light House Energy Developers, where he was employed from May 2020 to August 2022. Vipul holds an IRCA certification as an ISO 9001 Lead Auditor, demonstrating his expertise in quality management systems. He is well-versed in ISO 14064-1, ISO 14064-2, and ISO 14064- 3, which are standards for greenhouse gas accounting and reporting. Furthermore, Vipul has received training in ISO 17029 and ISO 14065, highlighting his proficiency in environmental auditing and conformity assessment. He has also completed Clean Fuel Regulation training from Environment and Climate Change Canada, demonstrating his expertise in environmental management and sustainability.
- Ritika Yadav, a Chemical Engineering graduate from Government Ujjain Engineering College, Ujjain, is currently residing in Indore. She pursued her Masters in Environmental Management from Rajiv Gandhi Prodyogiki University. With a background in Foam and Mattress industry, having worked at Duroflex Pvt. Ltd., she brings over a year of experience in the climate change and Sustainability domain. During her tenure at True Quality Certifications Pvt. Ltd., an outsourced entity for LGAI Technological Center, S.A. (Spain), Ritika actively contributed to supporting audit teams. Her responsibilities included the validation and verification of project activities, both renewable and non-renewable, under various greenhouse gas (GHG) schemes such as CDM, VCS, GS, and GCC.
- Mr. Prakhar Shastri, has done Bachelor of Technology in Electronic Communication Engineering from Medicaps University, Indore. Currently, He is working in Enviance Services Private Limited and has been involved in supporting Audit teams for Verifications of Project Activities (Renewable and non-Renewable projects) under various registries like GCC.

- A highly ambitious and positive professional, Jon has been the CEO and Lead Auditor at iCert ehf. since 2018, specializing in IST 85:2012 (Equal Pay Standard) and various ISO standards. Previously, he was a Lawyer at the Central Bank of Iceland, where he headed the Exemption Department in the Capital Control Surveillance Unit. Jon co-founded BATTAR ehf., a startup innovating football training methods. Fluent in Icelandic and English, he excels in leadership, auditing, legal expertise, and entrepreneurship, with a proven track record of independent and collaborative work.

Appendix 3. Document reviewed or referenced

S.No.	Documents
1.	Afforestation Plan
2.	Seedling delivery slips
3.	Aerial photo at LMI from 1996
4.	Aerial Photo of 2020
5.	Information on Landowner, Landlord and Agent under Skógarkolefni
6.	Certificate from company register
7.	Mortgage overview (Specification according to the registration book)
8.	Real estate overview
9.	Final Forecast for Forest Carbon Capture
10.	1.4.4. Project Manager's Statement under Skógarkolefni
11.	1.5.1 Forestry sustainability criteria under Skógarkolefni
12.	Project Idea Note for Forest Carbon Capture
13.	Final forecast excel sheet
14.	2.1.2. Declaration of landowners under Skógarkolefni
15.	2.1.2.1 Project manager's statement under Skógarkolefni
16.	Construction Permit
17.	CVs
	ISo

Appendix 4. Clarification requests, corrective action requests and forward action requests

Classification	☐ CAR ☒ CL/CR ☐ FAR	Number:	01
Raised by:	Pankaj Kumar	Document Reference	PDD
Finding Description		Date:	21/10/2024
On the Cover page of the PDD, it is mentioned that the PDD was completed and submitted to registry on 23/01/2023. However, the document 2.1.2 "Signed declaration from the landowner" was signed on 1/02/2023. PP to clarify.			
Client/Responsible Party/Project Proponent Response		Date:	15/11/2024
This document was finished later as it was missing in the first submission due to human error.			

Validation/Verification Team Assessment	Date:	22/11/2024
Justification provided by the PP found reasonable by the validation team. Hence CL is closed.		

Classification	☐ CAR ☒ CL/CR ☐ FAR	Number:	02
Raised by:	Pankaj Kumar	Document Reference	PDD
Finding Description	Date: 21/10/2024		

1. In the Section 2.2.4, it is mentioned that 'forty hectares that are planned to be planted.' The PP needs to clarify whether the planned land to be planted is 40 hectares or 100 hectares. PP to clarify.
2. PP to clarify the project is self-funded or secured-funded.

Client/Responsible Party/Project Proponent Response	Date:	15/11/2024
1. This was a typo-error and it is now corrected. To cross check the land planned to be planted afforestation plan and final forecast report has been submitted. Hence, this part of comment is closed. 2. The project is self-funded and same information has been made consistent throughout the PDD.		

Validation/Verification Team Assessment	Date:	22/11/2024
1. The verifier found that the typo- error has been corrected now and the PDD has been revised for the same. 2. The verifier found that PP has made clear in the PDD that the project is self -funded and same has been considered for the barrier test under section 1.6 of additionality. Hence CL is closed.		

Classification	☐ CAR ☒ CL/CR ☐ FAR	Number:	03
Raised by:	Pankaj Kumar	Document Reference	PDD
Finding Description	Date: 21/10/2024		

PP to submit supporting documents for the consultation and public organisation.

Client/Responsible Party/Project Proponent Response	Date:	15/11/2024
The project was issued a planning permit based on local municipal legal procedures. The procedure involves a public consultation process where stakeholders can make suggestions to the project. Document FSK2.4.1.1 confirming the planning permit is submitted to you.		

Validation/Verification Team Assessment	Date:	22/11/2024
Clarification provided by the has been verified as correct by the validation team. Additionally, the PP has submitted document FSK2.4.1.1, which confirms the planning permit. Hence, CL is Closed.		

Classification	☒ CAR ☐ CL/CR ☐ FAR	Number:	01
Raised by:	Pankaj Kumar	Document Reference	PDD

Finding Description	Date:	21/10/2024
1. PP to update PDD as per the latest PDD version 1.0, November 2023. 2. Under the "Description of the project activity", details found inconsistent as per the instruction.		
Client/Responsible Party/Project Proponent Response	Date:	15/11/2024
1. The 1.2 version is the Icelandic PDD template version already in use on January 17th 2023 and therefore the version the project developer used. The English version was not updated until later. 2. Description of the project activity under the PDD is now updated with all the required information as per the instruction.		
Validation/Verification Team Assessment	Date:	22/11/2024
1. PP has provided an explanation for not updating the version of the PDD, which has been verified and deemed accurate by the validation team. 2. The PP has updated the PDD, ensuring that the description of the project activity now includes all required details in accordance with the instructions. Hence, CAR is Closed.		

Classification	☒ CAR ☐ CL/CR ☐ FAR	Number:	02
Raised by:	Pankaj Kumar	Document Reference	PDD
Finding Description		Date:	21/10/2024
The start date of the planting and end date of planting as it is found inconsistent with the dates mentioned in the afforestation plan and other supporting documents. Corrective action sought.			
Client/Responsible Party/Project Proponent Response		Date:	15/11/2024
The planting started on June 1st 2022 and ended on October 1st 2022 whole 2 years ahead of schedule due to seedlings being available sooner than expected. The final forecast report has been revised and updated.			
Validation/Verification Team Assessment		Date:	22/11/2024
Verifier found that the final forecast report is now updated and the actual start date of planting and project start date is found to be consistent with the supporting documents provided. Hence, CAR is Closed.			

Classification	☒ CAR ☐ CL/CR ☐ FAR	Number:	03
Raised by:	Pankaj Kumar	Document Reference	PDD
Finding Description		Date:	21/10/2024
In Section 4.1, it is stated: "No, cf. Act No. 106/2000 on Environmental Impact Assessments, where the area is less than 200 hectares and not in a protected area." The PP is requested to attach a reference for this statement in the footnote.			
Client/Responsible Party/Project Proponent Response		Date:	15/11/2024

Reference link for the same has been attached in the footnote.		
Validation/Verification Team Assessment	Date:	22/11/2024
PP has now attached the reference link in the footnote. Hence, CAR is Closed.		

Classification	☒ CAR ☐ CL/CR ☐ FAR	Number:	04
Raised by:	Pankaj Kumar	Document Reference	PDD
Finding Description		Date:	21/10/2024
Data under Section 3.4.1 is found to be inconsistent with the final forecast for the forest carbon capture report. Corrective action sought.			
Client/Responsible Party/Project Proponent Response		Date:	15/11/2024
Please refer to the updated Final Forecast for the Álfabrekka project. The table has been updated in the FF with the correct calculations according to seedlings planted.			
Validation/Verification Team Assessment		Date:	22/11/2024
Verifier found that the section 3.4.1 has been revised and made consistent with the final forecast for the forest carbon capture report. Hence, CAR is closed.			

Classification	☒ CAR ☐ CL/CR ☐ FAR	Number:	05
Raised by:	Pankaj Kumar	Document Reference	PDD
Finding Description		Date:	21/10/2024
- Section 3.4 found inconsistent with the section 3.4 of the SKÓGARKOLEFNI 2.0 standard. PP to mention the details as per the standard. - Section 3.3 is not found as per the requirements specified in Section 3.3 of the SKÓGARKOLEFNI 2.0 standard related to project carbon sequestration. - Under section 3.1, Details and requirement found inconsistent as per the SKÓGARKOLEFNI 2.0 standard 's section 3.1 for carbon baseline status. - Section 1.6.3 is identified as inconsistent with the requirements outlined in Section 1.6 of the SKÓGARKOLEFNI 2.0 standard. - Under section 2.5.1, details mentioned found inconsistent with the section instruction.			
Client/Responsible Party/Project Proponent Response		Date:	15/11/2024
- The PDD has been updated to reflect all relevant changes. Sections 3.4 is now revised to include the necessary details and requirements in compliance with the SKÓGARKOLEFNI 2.0 standard. - The PDD has been updated to reflect all relevant changes. Sections 3.3 is now revised to include the necessary details and requirements in compliance with the SKÓGARKOLEFNI 2.0 standard.			

3. The PDD has been updated to reflect all relevant changes. Sections 3.1 is now revised to include the necessary details and requirements in compliance with the SKÓGARKOLEFNI 2.0 standard.
4. The PDD has been updated to reflect all relevant changes. Sections 1.6.3 is now revised to include the necessary details and requirements in compliance with the SKÓGARKOLEFNI 2.0 standard.
5. Section 2.5.1 is now revised as per the section instructions. The option to monitor the project in year 10 is missing in the section instructions. Monitoring at year 10 is optional. Regarding the methodological basis for the monitoring plan, we refer to the WCC survey protocol:
https://www.woodlandcarboncode.org.uk/images/Clarifications/WCC_SurveyProtocol_Year_5_and_Year_15plus_Version2.1.1_April_2024.pdf and
https://www.woodlandcarboncode.org.uk/images/Spreadsheets/2021.05.28_Year_15PLUSMonitoringDataCollectioAndCalculationSheet_PILOTV2.1.xlsx The Year 5 Survey Protocol and Verification will be used at year 5 and also at year 10 (optional), if seedlings are slow growing. The Year 15+ Full monitoring and verification will be applied at year 15 and also at year 10 (optional), if seedlings are growing well.

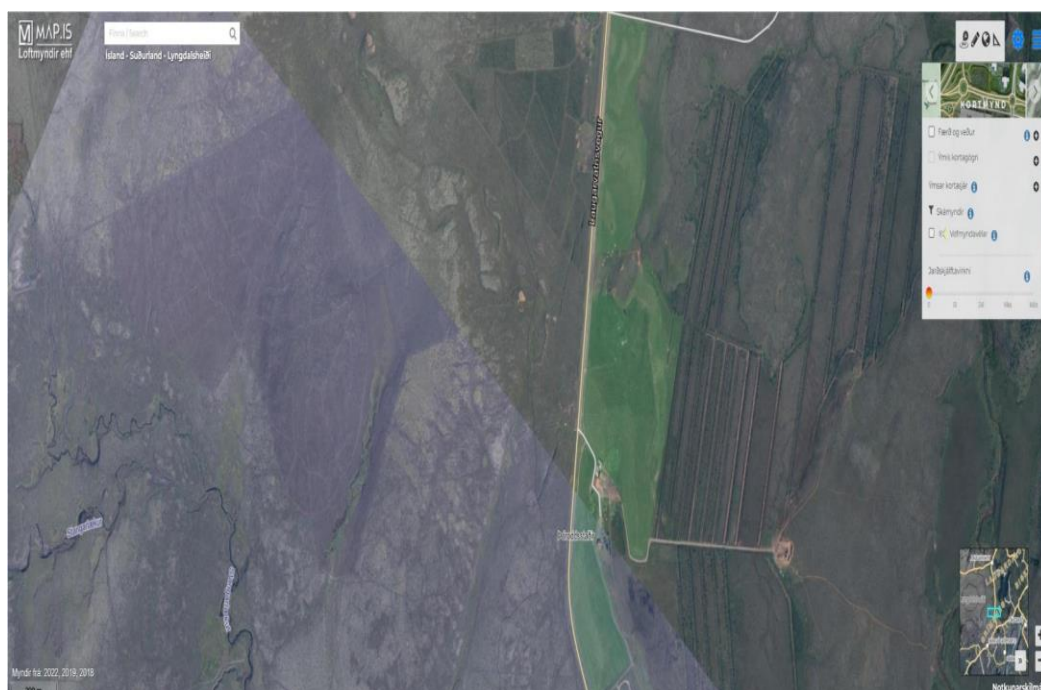
Validation/Verification Team Assessment	Date:	22/11/2024
1. Verifier found that the section 3.4 of the PDD has been revised and the details regarding consideration of carbon baseline and leakage has been stated in the section. 2. Verifier found that the section 3.3 of the PDD has been revised and the details regarding parameters that can cause removal or sequestration of emission and their assumptions have been stated in the section. 3. Verifier found that the section 3.1 of the PDD has been revised and the details of carbon baseline has been stated in the section. 4. Verifier found that the section 1.6.3. of the PDD has been revised and the financial summary as per project idea note report has been mentioned in the section. 5. Verifier found that the section 2.5.1 has been revised with the required details mentioning the monitoring procedure. Hence, CAR is Closed.		

Appendix 5. Maps

1. Aerial photo at LMI from 1996



2. Aerial Photo of 2020



3. Planting sites at Álfabrekka 2019 and 2023.

The site in 2019.



The site in 2023.



See: <https://www.map.is/base/@415769,404572,z10,0>