GREEN ACCOUNTING

2024

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Employees, raw materials and resource consumtion

Quantity	2020	2021	2022	2023	2024	Unit
Employees	581	601	631	606	675	♂/♀
Female employees	131	141	134	131	145	
Male employees	450	460	497	475	530	
Electricity	4,626,000	4,669,000	4,566,844	4,622,751	4,575,045	MWh
Oil	466,822	440,690	387,619	373,898	331,552	Litres
Gas	33	32	22	21	26	Tonnes
Fresh water	180,611	177,116	163,733	158,937	171,117	m^3
Sea water	7,884,000	7,884,000	7,884,000	7,884,000	7,884,000	m^3
Total raw materials used	2.37	2.39	2.38	2.38	2.36	t/t Al
Imported raw material	2.37	2.39	2.38	2.38	2.36	t/t Al
Hazardous substances (solid)	605,101	614,410	592,526	600,816	593,469	Tonnes
Hazardous substances (liquid)	493,990	466,947	417,715	407,506	362,856	Litres
Misc, packaging	< 400	< 400	< 400	< 400	< 400	Tonnes

Waste

Quantity	2020	2021	2022	2023	2024	Unit
Atmospheric emissions						
Fluoride (gaseous and particles)	0.38	0.38	0.40	0.35	0.32	kg/t Al
Sulphur dioxide SO_2	8.64	10.62	11.69	9.76	10.24	kg/t Al
Dust	0.70	0.71	0.71	0.75	0.74	kg/t Al
Carbon Dioxide CO_2	1.50	1.53	1.55	1.54	1.50	t/t Al
Fluorocarbons. PFC CO_2 equivalents	0.14	0.15	0.13	0.12	0.08	t CO_2 eq. /t Al
Polyaromatic hydrocarbons PAH_{16}	0.000058	0.000056	0.000079	0.000072	0.000078	kg/t Al
Release into surface water/groundwater/sea						
Sludge	0.07	0.05	0.05	0.09	0.06	kg/t Al
Oil/fat in cooling agents from casthouse and rectifiers	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	ppm
Release into municipal sewage system						
From septic tanks	0.07	0.05	0.05	0.09	0.06	kg/t Al
Waste disposal						
Compactable waste	0.50	0.40	0.45	0.42	0.50	kg/t Al
Seashore repository	36	33	28	29	30	kg/t Al
Recyclable waste						
Anode waste and coal dust	109	111	114	113	115	kg/t Al
Aluminum slag	8.8	9.2	8.5	8.4	10.7	kg/t Al
Wood	1.0	1.1	0.9	0.9	1.1	kg/t Al
Scrap metal	2.1	2.6	2.1	1.9	2.0	kg/t Al
Cardboard	0.12	0.12	0.12	0.09	0.13	kg/t Al
Plastic	0.04	0.03	0.05	0.08	0.06	kg/t Al
Hazardous waste for disposal						
Total waste	0.02	0.01	0.03	0.03	0.01	kg/t Al

Emissions and waste management

Quantity	2020	2021	2022	2023	2024	Unit
Material from the sewer						
Sludge	21.2	16.4	14.9	29.4	19.0	Tonnes
Other waste (from septic tanks)	8.4	6.6	3.2	2.5	-	Tonnes
From sandtraps	20	-	9	9	-	Tonnes
Recyclable waste						
Anode butts	32,769	33,750	33,429	33,759	34,028	Tonnes
Carbon dust	1,266	1,302	1,409	1,455	1,478	Tonnes
Aluminum dross	2,888	1,823	2,982	3,917	2,338	Tonnes
Busbars	2,762	2,890	2,603	2,617	3,303	Tonnes
Anode stub metal	1,986	1,714	1,341	1,560	1,723	Tonnes
Scrap iron	645	830	640	585	612	Tonnes
Timber	307	362	273	276	328	Tonnes
Cardboard	38	37	36	29	40	Tonnes
Plastic	13	10	14	24	17	Tonnes
Waste oil	29	4	7	20	6	Tonnes
Rubber tires	1.7	9.8	9.4	12	5	Tonnes
Batteries and electronics	5.1	3.9	5.7	4.6	6.7	Tonnes
Textile	4.1	2.9	1.9	1.4	3.4	Tonnes
Light bulbs	0.20	0.17	0.26	0.26	0.19	Tonnes
Oil contaminated waste	9	8	9	19	13	Tonnes
Hazardous waste						
Electronics – hazardous waste	0	0,4	-	0,2	-	Tonnes
Hazardous waste	4	2	7	9	1	Tonnes
Paint	0.8	0.4	0.8	1.1	0.6	Tonnes
Substances in flood pits						
Spent potlining	8,289	7,008	5,793	6,571	7,446	Tonnes
Carbon from rodding shop	1,275	1,409	1,221	1,046	1,032	Tonnes
Carbon from pot rooms	1,224	1,242	1,110	1,065	604	Tonnes
Dust from sweeper	498	413	274	311	273	Tonnes
Residual refractory material	121	127	51	145	114	Tonnes
Earth materials	-	75	-	-	-	Tonnes
Dross sand	1,845	1,041	1,796	3,377	1,294	Tonnes
Solid waste						
Waste for compacting	157	125	138	130	154	Tonnes
Organic waste	8	10	13	17	17	Tonnes

Emissions to air

Quantity	2020	2021	2022	2023	2024	Unit
Substances						
CO_2	467,721	481,595	474,498	478,319	463,385	Tonnes
CF_4/C_2F_6	43,137	46,860	38,753	37,463	25,753	t CO_2 eq.
SO_2	2,700	3,348	3,580	3,028	3,161	Tonnes
Polyaromatic hydrocarbons	18.1	17.6	24.2	22.4	24.1	Kg
Total fluoride	120	121	122	109	98	Tonnes
Dust (PM10)	218	222	216	234	228	Tonnes

Use of hazardous chemicals (Xn, T, Tx, C, Xi, E, Fx, F, O, N)

Quantity	2020	2021	2022	2023	2024	Unit
DAG 2671 (O, T, N)	-	-	-	-	-	Litres
DAG 554/20 (C, N, Xn)	19,540	18,937	20,027	22,730	20,426	Litres
Plicast strong mix	152	-	97	107	91	Tonnes
Ramming paste (T)	758	660	535	567	678	Tonnes
Flange paste (T)	1,452	1,219	1,417	1,410	1,459	Tonnes
Propane (Fx, F, E)	33	32	22	21	26	Tonnes
Diesel oil (Xn, O)	466,822	440,690	387,619	373,898	331,552	Litres
Hydraulic oil	7,628	7,320	10,069	10,878	10,878	Litres
Sodium hydroxide (Xi)	249	227	297	231	227	Tonnes
Aluminum fluoride (Xn)	4,551	4,233	4,306	4,648	4,369	Tonnes
Aluminum oxide (Xn)	597,881	608,015	585,833	593,809	586,595	Tonnes
Ferromanganese (Xn)	10	10	10	10	13	Tonnes
Ferrophosphorus (Xn)	15	13	9	12	11	Tonnes

Production and raw material consumption

Quantity	2021	2022	2023	2024	Unit
Aluminum production					
Primary aluminum production	315,182	306,267	310,421	308,355	Tonnes
Aluminum oxide	608,015	585,833	593,809	586,595	Tonnes
Aluminum fluoride	4,233	4,306	4,648	4,369	Tonnes
Prebaked anodes (net consumption)	133,658	131,222	133,646	128,610	Tonnes
Propane	32	22	21	26	Tonnes
Diesel oil	440,690	387,619	373,898	331,552	Litres
Sodium hydroxide	227	297	231	227	Tonnes
Flange paste	1,219	1,417	1,410	1,459	Tonnes
Cast iron	836	581	704	750	Tonnes
Anode rods	596	509	501	434	Tonnes
Electricity	4,669,000	4,566,844	4,622,751	4,575,045	MWh
Industrial water	106,269	98,240	95,362	102,670	m^3
Drinking water	70,847	65,493	63,575	68,447	m^3
Sea water	7,884,000	7,884,000	7,884,000	7,884,000	m^3
Silicon	4199	4656	4111	3762	Tonnes
Magnesium	153	176	167	263	Tonnes
Titanium	65	73	66	58	Tonnes
Strontium	18	21	17	15	Tonnes
Hydraulic oil	7,320	10,069	10,878	10,878	Litres
Oil for cooling	3,057	1,709	1,850	1,343	Litres
Oil removing chemicals	2,035	1,800	1,895	1,670	Litres
Lubricating oil	2,820	5,899	3,765	2,956	Litres
Ferrosilicon	20	17	22	21	Tonnes
Ferromanganese	10	10	10	13	Tonnes
Ferrophosphorus	13	9	12	11	Tonnes
Carbon	53	48	60	60	Tonnes
Steel pellets	86	34	37	33	Tonnes
Wood sticks	12,250	12,250	17,650	15,700	Pcs,
Batteries	67	58	62	70	Pcs,

Statements

Auditor's Statement

I have reviewed and audited the information presented in Norðurál's green accounting for 2024. The books have been reviewed to determine whether it contains the information it is required to contain according to Regulation No. 990/2008 on environmental information, and whether the numerical data presented are consistent with data from the financial accounting and the company's monitoring of key environmental indicators.

After reviewing the documents, it is my opinion that the green accounting complies with the requirements of Regulation No. 990/2008 and provides a good representation of the environmental impacts of the operations in 2024.

HERA HARÐARDÓTTIR

Hera Harðardóttir
B.Sc. í umhverfisfræði

Board's Statement

All information in the company's green accounting for the year 2024 is provided according to the best knowledge. Emission control equipment is of best available technology and is efficiently maintained. The findings of internal measurements are used for making improvements aiming to minimize environmental impact.

Proper handling of the environment is a cornerstone in the company's responsible operation and a constant monitoring of environmental factors aims to ensure that the set goals are achieved. The company's environmental activities were generally successful during the year, with active monitoring carried out in accordance with the monitoring schedule and the requirements of the license.

Gunnar Guðlaugsson
Managing Director

Sigrún Helgadóttir
Plant Manager

Norðurál keeps green accounting in accordance with regulation no. 990/2008 and delivers its audited green accounts to the Environment Agency of Iceland before May 1 every year. Emissions accounting is kept in accordance with regulation no. 990/2008. Norðurál's operations fall under company category 2.01 - Aluminum production according to regulation no. 851/2002 on green accounting. Norðurál operates under a license from The Environment Agency of Iceland. The current operating license was issued in 2015 and is valid until December 16, 2031.

Please send any questions and comments to umhverfi@nordural.is and we shall reply to the best of our ability.

NORÐURÁL

UMHVERFISVERÐLAUN ATVINNULÍFSINS 2022

Jafnlaunaúttekt PwC 2020