Sustainable Development Report ISAL 2011

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Declaration of the Management Committee

All information published in this report is correct and provided according to the best of our knowledge. The report provides a realistic picture of the operation of the Company and has significant value in relation to plans to improve the performance of the Company.

It is our sincere intention to promote continuous improvement, both for ourselves and that of others, in the field of sustainable development.

Green accounting under government Regulation No. 851/2002 is part of this report. A confirmation of the audit of this information is provided on page 44.

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Introduction



This is the third time that Alcan Iceland Ltd. issues its sustainable development report. The report contains the Company's "Green accounting", as well as information on other matters relating to the operation. The report's organisation into sections reflects the Company's operation and main areas of focus. As before, importance is placed on discussing in detail the three key aspects of sustainability, i.e. environmental issues, social issues and economic effects.

2011 was characterised by extensive work on the investment project, the final decision on which was made in autumn 2010. The project, as has been well publicised, involves increasing the plant's potline production within current facilities by 20% and changing the plant's goods range from slabs to billets, with appropriate changes to the casthouse. These changes are nearing completion and we plan to begin the production of billets this year. Trial pots, i.e.booster pots, were installed and brought on-line in potrooms in 2011. The current can be increased in these pots and the effects of higher current on the operation of the pots can be monitored. These experiments were a success and bode well for the future. In 2012 the busbars in potrooms 1 and 2 will be altered and the current subsequently increased to achieve the planned production increase.

Numerous successes were achieved in 2011, the most notable being on 23 December when employees reached the milestone of working 6 million hours free of any serious accident in aluminium production, or almost 6 years. This achievement is unique and quite an accomplishment. Two accidents in short succession at the beginning of 2012, however, remind us that we must remain vigilant. Environmental performance was good and emissions were in all cases well within set limits. The Company has always had the goal of achieving better results than required by laws and regulations, and has, in many cases, realised these goals, although not all. The work carried out in the potrooms, in connection with the current increase project, undoubtedly had an effect.

The Company received five complaints from the community. Three involved excessive noise from unloading equipment at the harbour and were caused by a malfunction in the silencer of the unloading crane and caused inconvenience to our neighbours. The malfunction has been repaired, and the plan is to reconstruct the crane or purchase a new one. A new crane costs hundreds of millions of Icelandic króna and would, therefore, be a substantial investment.

Employees approved a new collective wage agreement in 2011, once changes had been made to a previously rejected agreement. The new agreement was only approved by a small margin even though it was quite clear that the Company had extended itself as far as it could as regards wage increases.

ISAL's aluminium production fell by just under 5,000 tonnes from the previous year and was 185,267 tonnes. The reduction can be traced to the fact that a greater number of pots were not in operation during the year due to work on the investment project. Production figures are expected to fall even further in 2012 due to project executions. Current projections estimate that production will be 172,000 tonnes. Although aluminium prices were somewhat higher on average in 2011 in comparison to the year before, the prices fell considerably from the spring to the end of the year. Such long-term decreases are generally quite difficult for the Company as the prices of a large proportion of resources, particularly that of alumina, are based on older and higher aluminium prices and do not decrease in tandem but after several months of delay.

Following a signature collection drive to request the repetition of the residents' vote on the expansion of the aluminium plant, discussions were held with Hafnarfjördur local authorities as regards the future of the Company. The discussions were on a positive note and strengthened trust between the parties. The decision was made to carry out a detailed survey of local attitudes to the municipality and to the aluminium smelter. The survey revealed extremely positive attitudes toward the Company although opinions on the possible expansion of the plant varied considerably. Following the survey, the Company and the local authorities reached the joint conclusion that holding a new residents' vote at present would not be appropriate. The Company will investigate whether any other arrangements for expansion are realistic and will, as appropriate, submit such arrangements for examination.

Over 700 members of the public came to Straumsvík on organised visits during the year and were given a tour of the Company. There is a great interest in such visits, and the Company barely manages to meet demands, although there is a great will to do so. Grants and sponsorships awarded by the Company to the community amounted to ISK 46m during the year. With respect to 2012, it is clear that we need to keep on our toes as regards maintaining good results and making improvements, as far as is realistically possible. This is an even greater challenge than would otherwise be the case due to the previously mentioned large-scale project that is both technically complex and being carried out while the aluminium smelter is in other respects in full operation. At present, this is a great challenge for our employees, their talents, skills, experience and aspirations.

Kanwe

Rannveig Rist General Manager



ISAL corporate policy

Our role is to produce high-quality aluminium and provide maximum returns in accordance with the wishes of our customers in such a manner that health, safety and environmental matters are kept in the forefront. The Company is committed to excellence in all its activities and determined to maintain continuous improvement as a guiding principle as well as to always operate in harmony with the environment and society. Our future is based on outstanding personnel. We comply entirely with the Company's principles and standards of conduct: The way we work. Our values are Accountability, Respect, Teamwork and Integrity. Our vision for the future is to ensure the longterm growth and competitiveness of the Company.

Health, safety and environmental issues (HSE)

It is our conviction that the focus on health, safety and environment is the prerequisite for excellent performance.

Employees

One of our most important resources are competent, motivated and positive employees that create a safe and preferred workplace. We emphasise strategic educational activities, feedback on performance and good information flow, together with opportunities for career development.

Community and communication

We attach great importance to the operation being in harmony with the environment and the community in the spirit of sustainable development. An important element in this is active dissemination of information and regular two-way communication with stakeholders. We comply with laws and government regulations in all respects, and we strive to lead with a good example in all our activities.

Clients and markets

Our goal is customers who are satisfied and who view ISAL as their first choice.

Growth, technology and development

We wish to maximise technical performance and have resolved to ensure efficiency in all our procedures, through continuous improvement and establishing clear, defined goals.

Operation and financial results

We want to maximise the Company's rate of return and ensure its competitiveness in the future. By streamlining the operation, we improve stability in our operation and prevent waste.



The Company

The aluminium smelter in Straumsvík is operated by Alcan Iceland Ltd., which is part of Rio Tinto Alcan, one of the largest aluminium producers in the world. The name of the aluminium smelter is ISAL.

Rio Tinto Alcan is the aluminium division of the British mining company Rio Tinto, which was established in 1873. The Company places great importance on the health and safety of its employees, sustainable development and fair business practices. The Company's international principles and standards of conduct are called "The way we work" and are accessible in Icelandic on the ISAL website. Rio Tinto has its headquarters in London and employs more than 60 thousand people. The operations of Rio Tinto are divided into five principal product groups: aluminium, copper, diamonds and minerals, energy and iron ore. The Company's aluminium production is approximately 10% of the total world aluminium production, or approximately 3.8m tonnes in 2011.

ISAL produces high-quality aluminium in accordance with customer requests. The Company produces a variety of alloys in different sizes, in total close to 200 different finished products that are ready for rolling. The aluminium from Straumsvík is used in various specialised goods, such as sheets for the construction industry, printing plates, packaging for pharmaceuticals, cosmetics and cars. ISAL's largest customers are in Germany.

The personnel includes mechanics, engineers, electricians, workers, technical engineers, painters, office workers, car mechanics, business administrators, masons, cooks, electronics engineers, carpenters and many more. Furthermore, 157 of the current employees have completed the main level of education in the Company school, or a total of 206 since the founding of the school in 1998. An additional 35 have completed the school's advanced level. The knowledge of these persons, systematic continuous education and continuous technical progress enables the Company to produce high-quality products with a significant added value.

Aluminium production requires a great deal of electricity. ISAL uses close to 3,000 gigawatt hours of electricity per year, or 17% of the electricity used in Iceland. The Company's output of aluminium is approximately 190,000 tonnes annually.

ISAL has a certified quality, environmental and safety management system according to the international standards ISO 9001, ISO 14001 and OHSAS 18001. A systematic commitment to continuous improvement is one of the Company's key pillars. Work on implementing lean operation methodology, moreover, is underway.

The operating permit for Alcan Iceland Ltd. was issued by the Environment Agency of Iceland on 7 November 2005 and is valid until 1 November 2020. The Agency is, moreover, the regulatory body. The Company is classified under enterprise category 2.1 aluminium production, according to accompanying documents to the government regulation on green accounting.

The Company's Board consists of seven individuals. Four members and the Chairman of the Board of Directors represent the owners, while the Government of Iceland has two representatives. Representing the owners are Jean-Philippe Puig, Chairman of the Board of Directors; Arnaud Soirat; Sylvain Bolduc; Jón Sigurdsson; and Katrín Pétursdóttir. Representing the Government are Gunnar Axel Axelsson and Margrét Frímannsdóttir. Two changes were made to the Board on 30 June when Einar Einarsson left and was replaced by Katrín Pétursdóttir, and when Wolfgang Stiller left and was replaced by Arnaud Soirat. Jean-Philippe Puig was appointed Chairman of the Board on the same occasion.

The production process



Aluminium is produced by alumina electrolysis. Alumina is a compound of aluminium and oxygen (Al₂O₃), mostly resembling fine-grained white sand. In addition to alumina, electricity and anodes are the principal raw materials in the production of aluminium. The power is purchased from Landsvirkjun. The alumina is primarily purchased from the US and Brazil and the anodes from the Netherlands; both are transported by sea to Iceland.

Electrolysis takes place in potrooms in specially made pots. ISAL's three potrooms contain a total of 480 pots. Each pot produces approximately one tonne of aluminium per day all year round. To enable electrolysis, an electrical current must be sent through the pots. Each pot contains a fluorine-rich electrolyte that makes the electrolysis possible. Through this process, the strong alumina compound is split into aluminium and oxygen.

Carbon anodes conduct electricity to the pot. This current subsequently exits through the cathodes that are located at the bottom of the pot. When the aluminium separates from the oxygen, it settles to the bottom of the pot, whereas the oxygen moves upwards to the anodes, oxidises their carbon and produces carbon dioxide (CO_{2}).

All the pots in the potroom are closed and have exhaust systems to minimise the emission of fluoride and dust particles into the atmosphere. The exhaust is channelled into a dry adsorption plant where fluoride and dust particles are cleaned from the exhaust gas. Approximately 99.8% of the fluoride is cleaned from the exhaust gas and recycled for use in the production process.

The aluminium is tapped from the pots into crucibles and transported over to the casthouse, where it is poured into furnaces. Various chemicals are added to the aluminium to bring its chemical composition up to customer specifications. When the correct chemical composition has been obtained, the aluminium is cast into slabs. The size of the slab is determined by the wishes of the customer. The aluminium is then transported by sea to Rotterdam. ISAL's customers produce a variety of goods from aluminium, such as sheets for the construction industry, printing plates, packaging for pharmaceuticals and cosmetics, soda cans and car bodies.

2011 key performance indicators

	Unit of	2008	2009	2010	Goals	2011	Goals 20121)
Production and financial aspects	incasure				2011		2012
Production in potrooms	tonnes	187,397	189,533	189,965	>185,100	185,267	172,000
Wages and wage-related expenses	millions	2,834	3,288	3,888		4,169	
Tax and industrial charge	millions	792	348	1,721		1,103	
Goods and services purchased in Iceland	millions	5,469	4,927	6,828		14,279	
The employees							
Average number of employees	number	500	489	487		501	
Employee turnover	%	5.9	2	2.3		4.9	
Proportion of women among new recruits ²⁾	%		44	29		31	60
Accidents							
category 1	number	0	0	0	0	0	0
category 2	number	0	0	0	0	0	0
category 3	number	0	1	0	=<1	0	=<1
category 4	number	30	25	22		15	
Near misses	number	120	152	162		267	
Community							
Complaints from the community	number	1	2	7		5	
General visitors	number		550	664	>600	749	>600
Grants	millions		25	46		45	
Use of raw materials and resources							
Power	Gwh	2,922	2,932	2,914		2,864	
Alumina	tonnes	357,928	365,799	368,059		357,572	
Electrode	tonnes	94,635	93,203	92,434		93,899	
Heavy Fuel oil	tonnes	3,468	3,322	3,305		2,907	
Diesel fuel	tonnes	389	368	375		505	
Propane gas	tonnes	151	122	122		165	
Cold water	m³/t Al	41.7	40.3	44.3	<38	52.5	<38
Use of hazardous materials							
Ramming paste	tonnes	326	256	192		521	
Pot repair materials	tonnes	0.83	0.49	0.76		2.3	
Collar paste	tonnes	2,763	2,778	2,387		2,380	
Emission into the atmosphere							
Total fluoride	kg/t Al	0.67	0.55	0.5	<0.52	0.55	<0.80
Dust particles	kg/t Al	0.88	0.73	0.63	<1.0	0.59	<1.0
Sulphur dioxide	kg/t Al	14.1	14.1	13.6	<15.0	14.2	<15.0
Greenhouse gasses	t/t Al	1.58	1.57	1.59	<1.60	1.59	<1.70
Thereof fluorocarbons (PFC)	kg Al	23	17	20		37	
Discharge into sewage							
Oil and grease	mg/l	<2-3.5	<3	<4	<153)	<4	<153)
Aluminium		<0.05	0.02 - 0.12	0.02 - 0.12	<203)	0.02-0.14	<203)
Fluoride	mg/l	0.1-0.8	0.1 - 3.6	0.1 - 2.1	<50 ³⁾	0.08-0.58	< 503
Suspended solids	mg/l	0.2-2.0	<2.0 - 6.0	<0.25 - 9.0	< 503)	2.0 - 25	< 503
Waste management							
General waste							
Recycled	tonnes	20,514	21,864	18,538		21,471	
Disposed of in seashore landfills	tonnes	842	389	512		399	
Disposed of outside the site	tonnes	235	197	148		152	
Excavation used in landfill	tonnes	3	1	1		3	
Hazardous waste							
Recycled	tonnes	2,796	3,162	3,314		3,170	
Thereof aluminium dross	tonnes	2,752	3,118	3,280		3,090	
Spent potlining disposed of in seashore landfills	tonnes	5,187	3,031	3,223		3,943	
Hazardous waste incinerated							
Waste oil, oil sludge and filters	tonnes	299	241	144		147	
Perchlorate	tonnes	1.5	1	1		0.3	
Other	tonnes	11	1	1		5	
Noise and environmental incidents							
Noise at boundary (highest-lowest)	dB	49-67	48-67	47-67	<70	44-65	<70
Minor environmental incidents	number	2	3	0	≤2	2	≤2

Revised in accordance with Government Regulation No. 851/2002 on Green Accounting Green numbers = goal reached Red numbers = goal not declined Black numbers = goal not defined Financial figures refer to the Icelandic Krona (ISK). ¹ The goals for 2012 are based on the extensive project execution in connection with production increases, etc. and the impact that this will have on the operation of the plant while this work is on-going. $^{\scriptscriptstyle 2}~$ Supports the United Nations Millennium Goals.

³ Limit in the operating permit.



Environment

ISAL places great emphasis on constantly improving the Company's environmental performance. The Company sets challenging environmental objectives and has formed a clear policy in these matters.

Ever since 1997, the Company has had a certified environmental management system in accordance with ISO 14001. ISAL was the first Icelandic company to gain such certification. An environmental management system entails, i.a., the defining of the environmental aspects of the operation, their control and minimising their negative impact. There are constant efforts to improve performance, and the system is reviewed annually by the Company's management. In order to ensure the management of environmental aspects, they must be monitored and measured, the operation must undergo a risk assessment in order to prevent possible environmental incidents and incidents must be investigated to prevent their reoccurrence. The training of the personnel and contractors is also a very important part of environmental management, as is informing the community of the Company's environmental issues.

Environmental aspects

The environmental aspects that may have a significant impact on the environment have been defined as important. Environmental aspects are defined as being important if:

- reference limits are defined in laws and regulations.
- they may have a significant environmental impact, such as greenhouse gasses.
- the results of risk analyses indicate that this is the case.

The results published here are based on the above definition.





Emissions into the atmosphere

The principal substances in emissions are fluorides, dust and sulphur dioxide together with greenhouse gasses, which will be discussed separately. Fluoride and dust particles originate in the electrolysis process. These substances are cleaned from the exhaust in the dry adsorption plants. The cleaning efficiency of the dry adsorption plants is 99.8% for fluoride. However, it has not been considered technically practical to measure the cleaning efficiency for dust. Nevertheless, emissions of fluoride and dust are constantly measured in the stacks of the dry adsorption plants and in the rafters of the potroom. Good results were achieved last year when emissions of dust particles at the plant were the lowest ever recorded. There was some increase in the emission of fluoride between years. The emissions were somewhat higher than the Company's goal of 0.52 kg/tonnes aluminium. Nevertheless, the results were quite good, or 0.55 kg/tonnes aluminium. Work on the execution of the investment project had some effect on the increased fluoride emissions, as did damages of the pot hoods during the summer and increased opening time of pot hoods.

The emissions were well within the limits set in the operating license for fluorides and dust. Increased emissions of fluoride and dust particles are expected in 2012 due to the investment project, as potrooms 1 and 2 must be temporarily taken out of operation, busbars altered and the potrooms restarted.

Sulphur dioxide (SO_2) is created through the burning of anodes during the electrolysis process, whereby the sulphur in the anodes combines with oxygen and forms



 SO_2 , which cannot be cleaned from the pot exhaust by dry adsorption. SO_2 also forms through the burning of fuel oil that is used to heat the furnaces in the casthouse. The total emission is calculated based on a mass balance and, in 2011, was 14.2 kg for every tonne of aluminium produced, or approximately 4% more than in 2010. Emissions however, are comparable to emissions in the years preceding 2010. The reason is a higher proportion of sulphur in the anodes. SO_2 emissions can for the most part be attributed to the anodes, or 90% of the emissions. Approximately 7% can be attributed to aluminium oxide, and 3% are formed through the burning of fossil fuels (heavy fuel oil). The total emissions are well below the limits in the operating license.

Monitoring air quality and vegetation

Air quality is measured at Hvaleyrarholt, where fluoride, sulphur dioxide (SO_2) , hydrogen sulphide, nitrogen oxide and particulate matter are measured. The air quality station is operated in collaboration with the Environment Agency of Iceland. The Innovation Centre Iceland and Vista engineering firm are responsible for measuring, calibration and data collection.

It has been demonstrated that, of the above parameters measured in Hvaleyrarholt, SO_2 and fluoride are attributable to ISAL; hydrogen sulphide originates in geothermal energy power stations, and particulates are primarily caused by traffic and construction projects. The outcomes have been below the air quality limit set for public health and vegetation since the beginning of air quality measurements in 1994, and the measurements indicate that air



quality at Hvaleyrarholt is very good. Environmental limits for the annual average of SO_2 are 20 micrograms per cubic metre ($\mu g/m^3$), and the values at Hvaleyrarholt are always well below 1.

At no time did the 24-hour average for SO_2 exceed the air quality limit for vegetation (50 µg/m³) or public health (125 µg/m³) during the year. The highest 24-hour average was 15 µg/m³, or one-tenth of the public health limit. The one-hour average for SO_2 also never exceeded the air quality limit for public health (350 µg/m³). The one-hour average for vegetation protection has not been defined. The highest one-hour average was 85 µg/m³, which is well below the above limits. The annual average was 0.92 µg/m³, while the vegetation protections limits for the annual average are 20µg/m³. There are no defined public health limits for annual averages.

Fluoride measurements have always been very low, or just above the detection limits for the measuring devices. The year's average was <0.04 μ g/m³ at Hvaleyrarholt, which is similar to previous years. For comparison, the Environment Agency of Iceland uses as a reference a Norwegian limit for vegetation, which is 0.3 μ g/m³.

Airborne dust was rather lower than the year before when there was some dust due to the eruption in Eyjafjallajökull. Airborne dust exceeded health limits on 23 May when there was a strong northerly wind. The cause may be traced to the eruption in Grímsvötn which began on 21 May. In addition to air quality measurements, the fluorine content of vegetation is monitored, as fluoride emissions can have a detrimental effect on delicate vegetation and herbivores. Samples are collected from vegetation (pine, spruce and grass) twice every year, and the fluorine contents are measured to observe and monitor the effects. The Innovation Centre Iceland oversees these measurements. Samples are taken in an area that extends from the aluminium smelter itself to a distance of more than 10 kilometres. The results shown in the accompanying histogram are based on samples taken in a 3.7–6.5 km distance from the potrooms, i.e. outside of the dilution zone. If the concentration of fluorine in vegetation is less than 30 ppm (millionth of a part), it is not believed to cause harm. Measurements show that the concentration of fluorine in vegetation is in all cases below these limits in the above area.

Samples were taken from two locations within the dilution zone. One sample is taken at Gerdi which is located near ISAL's boundary and consists of pine needles. 28 ppm of fluorine was measured in that location. The other sample from inside the dilution zone consisted of grass at the Straumur farmstead. Samples contained 21 ppm in the spring and 30 ppm in the autumn.

Greenhouse gasses

One of ISAL's principal objectives is to minimise the emission of greenhouse gasses. Outstanding success has been achieved in this respect. The greenhouse gasses that form in aluminium production are, on the one hand, carbon dioxide (CO_2) and, on the other hand, fluorocarbons (CF_4 / C_2F_6). Since 1990, the total emission of greenhouse gasses,



measured in tonnes, has decreased by about 50% despite a doubling of production volume. The emissions per tonne of aluminium produced, therefore, have decreased by around 75%. This is primarily explained by the fact that efforts to reduce the emission of fluorocarbons have been successful. ISAL, in fact, achieved the best results among all aluminium smelters in the world in this respect in 2008 according to the report of the International Aluminium Institute (IAI).

Total emissions of greenhouse gasses in 2010 were 1.59 tonnes per tonne of aluminium produced, which is comparable to the two previous years. The emissions were below the Company's goals.

At the same time, it has a great importance that ISAL uses electrical power produced through hydro energy, which causes negligible CO2 emissions. According to the IAI approximately 58% of all aluminium smelters in the world are powered by electricity that has been produced with natural gas or coal.

ISAL has been allocated emission allowances for the period from 1 January 2008 to 31 December 2012. As of 1 January 2013, the emission of greenhouse gases from the aluminium industry in Europe will be subject to the EU's trading system for emissions allowances.

Waste issues

A major part of the waste created by the Company is recycled or reused, but the guiding principle is always of reducing waste formation to the greatest possible extent. Considerable recycling takes place on-site. For example, all slab off-cuts are re-melted in the casthouse. The main waste materials created through the operation consist of anode buttes, spent pot linings and aluminium dross.



Aluminium dross is a mix of aluminium and aluminium oxide that forms in the casthouse. The dross is recycled by the German company Aleris.

Spent pot linings (SPL) are created when pots in the potrooms are relined. This occurs every 4–6 years for each pot. When pots are decommissioned, the linings, i.e. SPL, are disposed of in seashore landfills. SPL is mixed with shell sand which binds the fluorine. The seashore landfills are specifically designed to handle SPL and are regularly monitored and their impact examined. Repeated studies, as regards both bio-diversity as well as the accumulation of heavy metals, fluorine and PAH materials in mussels, indicate that the effects of the seashore landfills on the biosphere is small and the pollution level is low. The most recent study confirms earlier conclusions. The study was performed in 2008 and can be accessed on the Company's website.

Anode butts are the part of the anodes that do not burn and remain behind. On average, this is approximately 18% of each anode. The anode butts are returned to the anode manufacturer for recycling.

84% of the waste generated during the operation of the aluminium smelter is recycled.

Other environmental factors

Drain water from the aluminium smelter is cleaned in two ways before being channelled into the sea, on the one hand in septic tanks and on the other in oil and grease traps. They are monitored regularly and emptied as needed. Samples are taken every year from all outlets and sent away for chemical analysis. The samples are measured for oils and grease contents, fluorine ions, aluminium ions and suspended particulates.



Noise levels from the aluminium smelter are measured at 16 locations on the boundaries of the Company's site. The main sources of noise are the unloading equipment and the dry adsorption plants. Measurements are taken during unloading. The reference limits at the boundary are 70 dB. All measurements during the last 5 years have been within these limits.

Environmental incidents

There were 22 environmental incidents recorded by employees in 2011, six of which were near-misses. Two incidents relating to ISAL's operation are classified as serious.

- On 26 January, approximately 100 litres of oil leaked from a vehicle transporting oil to the site. The route was narrower than normal due to construction activities, causing the vehicle to knock against a concrete beam with the result that its pumping equipment was damaged. The oil spilled for the most part onto tarmac although some spilled onto soil. The leak was stopped, the fire brigade called in and the oil cleaned up. Oil polluted soil was removed and sent to Efna, a waste disposal and recycling company.
- On 12 April, voltage disturbance at ISAL caused all dry adsorption plants to stop operating. Equipment intended to ensure that they automatically restart malfunctioned in dry adsorption plant 3. It took 85 minutes to

restart the plant. Plants 1 and 2, however, automatically restarted and took only 5 minutes to restart.

All incidents were investigated to find their causes and were evaluated for environmental impact. Malfunctions were repaired and oil was cleaned up without delay.

In addition to these incidents, dry adsorption plant 1 was shut down on 8 November in order to relocate exhaust ducts due to the construction of a new driving ramp between the potroom and casthouse. In conjunction with the shutdown, a tie in box was installed to prepare the connection to a new dry adsorption plant. The stoppage was organised and practiced and was supposed to last for one hour. The decision was made to utilise the stoppage to clean exhaust ducts which had the effect of making the stoppage last longer or 70.4 minutes.

2011 at a glance

• In order to increase the reliability of measurements even further, instruments in the potroom rafters were redesigned and more measuring points were added. In addition, a new meter was purchased which allows measurement of fluoride gas under various conditions in the potrooms. The new meter will be useful in seeking new ways of reducing the emission of fluoride gas from individual sources.



- The company Vatnaskil Consulting Engineers prepared dispersion models for sulphur dioxide, fluoride gas and dust particle from the plant. Such models can provide indications on the concentration of pollutants in the environment based on given assumptions. Dispersion models were prepared for the present output as well as for 230,000 tonnes output with new dry adsorption plants. Among the scenarios calculated was the possible stoppage of adsorption plants. The results of the dispersion models showed that the concentration of pollutants would not exceed set environmental limits in any location.
- Efla Consulting Engineers carried out vibration measurements at the boundaries of the plant site to assess whether vibrations from normal operations have disruptive effects in nearby residential areas. The vibrations proved to be so slight as to be hardly measureable and do not, therefore, have any effect on residential areas in Hafnarfjördur.
- The summer of 2011 saw the adoption of new procedures for assessing leakage protection and the storage of hazardous materials at the ISAL site. The assessments will be performed annually and will minimise the likelihood of hazardous materials being released into drains or the soil.
- The use of perchlorate was discontinued in 2011. A new washing machine was taken into use in the Company's laundry facilities which uses traditional detergents instead of perchlorate. Perchlorate is a dangerous chemical that can be hazardous to human health and the environment.

Areas of focus in 2012

ISAL has decided to initiate numerous improvement projects in 2012 to enable the Company to maintain and improve its success in environmental matters. Principal improvements include:

- Closely monitoring the effects of the increased output on fluoride and dust emissions from potrooms by increasing the frequency of measurements and increasing the number of locations measured. The goal is to minimise emissions and ensure that they do not exceed the reference limits contained in the operating permit.
- Installing two new oil pumping stations for vehicles on the site. The oil pumping stations will have better leak protection systems and an oil trap will be added. In addition, absorption materials and mats will be located near the pumps to enable immediate remedial action in the event of an accident.
- Reducing the use of paper in offices and increasing the proportion recycled.
- Making water use measurements more accurate by moving water flow meters and improving their calibration.
- Converting at least one furnace in the casthouse so that it uses electricity instead of oil for heating. This change will reduce the emission of greenhouse gases.

Improved environment partnership



Jóhann Skarphédinsson at the site workshop has promoted the proper collection and recycling of disposables.

Approximately 30,000 tonnes of waste material result from ISAL's operation every year. Around 84% of waste materials are recycled. This percentage was 69% in 1997.

Great importance has been placed on both the correct sorting of waste as well as knowing who the final recipient is and what is done with the waste. This information has been preserved through detailed record keeping for 20 years and is an important part of the Company's waste material management.

At the beginning of 2011, the registration system was expanded with the goal of gaining an even better overview of the waste materials transported from the site. Transporters are now given a form in triplicate by the gatekeeper when they enter the area. The transporters use the form to register the weight and type of waste they remove from the site. The reception facility subsequently

sends confirmation that the waste has been delivered, its volume and information on its disposal. With this new arrangement, ISAL receives confirmation that all the waste registered from the site is delivered to the correct reception facilities.

In addition to recording waste materials, audits of the reception facilities are performed. The object of such audits is to assess the extent to which they focus on environmental, health and safety issues and, at the same time, assess their performance in these fields. Reception facilities have generally been very positive towards these audits and view observations as an excellent opportunity for corrective action. These audits are also performed on suppliers and contractors. The procedure is a part of ISAL's supplier assessment and provides both parties with opportunities for dialogue.

ISAL wishes thereby to encourage increased knowledge in the field of environmental, health and safety issues within ISAL, its suppliers and contractors.



Elfa Gudmundsdóttir, laboratory technician.

Employees

A large number of people with varied backgrounds work at ISAL. The range is wide, and the Company boasts of a pool of knowledge that is an important contributing factor in its success.

Managers, middle management and specialists number close to 100, and more than 80 employees have university degrees. There are approximately 120 employees at ISAL with vocational education – car mechanics, mechanics, electricians, cooks, electronics engineers, painters, masons, etc. In addition, 157 of the current staff have completed the basic level education in the Company school, all in all 206 since the school was established, and an additional 35 have completed the advanced level.

Employee turnover has been very low at ISAL, and the average tenure of employment high, which unequivocally indicates that the employees generally like working for ISAL. The salary is competitive, and in addition, the employees are offered free transport to and from work, meals are free of charge during working hours and work clothes are provided. Fitness training subsidies were provided to employees by the Company in 2011. From the age of 55, the majority of employees can shorten their work quota by up to two months per year while still receiving payment into their pension fund as if they were carrying out full-time work. Employees may also take "early retirement" at the age of 65–67, in which case the Company will continue to pay into the employee's pension fund as if he or she were working full-time.

Feedback on performance is an important aspect of employee career development. All employees participate in employee interviews/performance assessments to ensure that they receive feedback, have a venue to discuss the work, their well-being, last year's performance and expectations for the coming year. In 2011, participation among the general workforce in employee interviews was 98% and participation among management and experts in performance assessments was 100%.

ISAL has always placed great emphasis on education, and the Company school is the largest aspect of its educational activities. The goal of the school is to provide unskilled ISAL workers with an opportunity to further their special training, to increase their possibilities to work their way up within the Company and to strengthen their competitiveness. The school offers specialised vocational training in the aluminium industry. Employees attend the school free of charge. Classes are held either during or after working hours, and employees receive half wages for attending classes that take place outside working hours. Graduation provides the employees with a more than 10% raise in wages and graduation from higher education just under 5%.

2011 at a glance

A new collective wage agreement was signed in 2011 and is effective as of 1 October 2011 to 31 December 2014. One collective wage agreement is in effect at ISAL and applies to general employees and tradesmen. Seven unions are party to this agreement. In addition, the wage agreement with Verkstjórasamband Íslands (the Union of Icelandic Foremen) was renewed and applies from 1 November 2011 to 28 February 2015.

Procedures relating to employee health monitoring were revised in 2011. As a rule, new employees were given a medical examination within 12 months of beginning to work for the Company. New work practices were adopted after the revision. At present, all applicants undergo a medical examination before beginning work for the Company in order to ensure, as far as possible, that all underlying health problems that may have an effect on working competence are identified before an applicant begins working at ISAL.

The procedures for welcoming and training recruits were revised and improved last year. The subject matter of the courses for recruits was revised, keeping in mind the issues of health, safety, environment and quality. The courses are held for all new employees and contractors that work for the Company. The number of courses for recruits was increased and are, as a rule, held once a week. This ensures that employees and contractors know the Company's rules and values before beginning work. The Company has also been committed to ensuring that all new recruits in the plant have a forklift driver's licence before beginning work. The role of mentors who support new recruits was expanded and they now receive extra pay on their salaries the entire year for such work. Mentors receive special training and use a recently revised checklist.

Every year, the Company provides employees with a number of courses that cover various fields. In 2011, the number of course hours taken by employees was approximately 15,000. Great importance has always been placed on education on safety, health and environmental issues. Examples of courses held in 2011 include the annual first aid course, a fall protection course, courses providing certification to operate boom cranes, courses on confined spaces, computer courses and team building courses. Particular attention was paid to leadership training. The



Brynjúlfur Halldórsson, Karen Arna Hannesardóttir, Hrafn Hrafnsson and Helena Sigurdardóttir.

management training system from Rio Tinto, intended for leaders who are in positions of authority, was adopted. This is a very extensive training plan which will take over 6 months to complete per leader. This training schedule will run in 2011 and 2012. All employees, moreover, participate in monthly educational meetings on safety, health and environment issues. In addition, introductions were held on the operation of Rio Tinto and its ethics. In 2011, 13 employees attended classes in the basic level programme of the Company School and 13 employees attended the advanced level.

The results of a Rio Tinto employee survey were published during the year. The object of the survey was to maintain uniform measuring of the experience and well-being of Rio Tinto employees all over the world. The results of the survey were rather poorer than in 2010. Approximately 97.2% of employees participated in the survey. In comparison to other Rio Tinto aluminium companies in Europe, ISAL results were the highest in 7 of the 16 categories. ISAL's best results were in the categories "health and safety", "policy and values" and "engagement".

The results of the survey indicate that ISAL needs to do even better in the categories "rewards and benefits" and "performance, motivation and acknowledgement"

The average number of employees in 2011 was 501, as compared to 487 in 2010. The increase can be traced to an increase in the number of employees in potrooms in connection with the investment project. The personnel turnover was 4.9%.

Areas of focus in 2012

Continued focus will be on management training in 2012. Training and courses for group leaders will be initiated and their education needs met in light of the results of focus groups. There will also be courses for switch operators to increase their knowledge and maintain certification. Considerable importance is placed on LEAN manufacturing in the Company and courses are offered to strengthen such management practices. The Company is preparing for the manufacture of a new and different product which calls for increased education and training. Continued focus will be on training in health, safety, environmental and quality issues in 2012 with, among other things, the implementation of a new course from Rio Tinto entitled "Creating a zero harm culture".

The publication of a manual for superiors is planned. The purpose of the manual is to make it easier for superiors to resolve various personnel issues and to ensure consistent procedures and solutions to issues that might arise.

Increased importance will be placed on equal rights within the Company in 2012. This category will be more closely monitored. Also, goals have been set for the proportion of women among new recruits, for the first time. The goal is that the proportion of women among new recruits will be at least 60% in 2012. The goal is in accordance with the United Nations' Millennium Goals. Rio Tinto has decided that all the Company's operating stations are to set themselves goals that accord with those goals.

Attention will be paid to the mental and physical health of employees in 2012 and particular note will be made of the communication within the workplace. A communications survey will be conducted among employees and, based on the survey's results; further measures will be implemented in this field. In addition, an absences policy will be prepared and adopted. The purpose of such a policy is to intervene earlier and better monitor absences due to illness and to prevent long-term absences and drop-outs from the labour market.

BRAVO!



Jakobína Jónsdóttir, HR manager, presents employees at the canteen with a BRAVO! award.

BRAVO! recognitions provide a venue for Rio Tinto Alcan employees to praise each other for their achievements. Employees can receive a BRAVO! recognition from both the parent company and their own company according to nominations from their colleagues.

ISAL has awarded BRAVO! awards to its employees since 2007 and, until recently, they were awarded once a year. Between one and four were awarded each time. As the number of awards was limited, the largest projects and generally those that had the greatest financial benefits for the Company commonly garnered most of the awards.

Rio Tinto's staff survey, carried out in 2010, indicated that the Group's employees were of the opinion that there was not enough recognition and commendations for a job well done. Among the actions taken was to adopt a new and improved arrangement for BRAVO! recognitions.

On preparing the new arrangements, the decision was made to focus on more diverse tasks and on increasing the number of recognitions. Four recognition categories were defined. Previously, most BRAVO! recognitions at ISAL were awarded for improvement projects. These recognitions now belong to one award category. The other categories are: "Our Values" (for significantly showing, by their actions, support for Rio Tinto's values of Accountability, Respect, Teamwork and Integrity); "Leadership" (for showing initiative, good example and/or significant leadership qualities); and "Community Involvement" (for contributing to a better community by means of voluntary work).

The decision was made to adopt BRAVO! awards in all the different departments of ISAL to increase the number of awards. Such "department awards" are handed out three times a year and are thereafter eligible for an ISAL-BRAVO! award that is awarded once a year. Also, increased importance was placed on encouraging employees to praise each other.

Previously, employees were receiving no information about nominated projects that did not receive awards. At present, however, all nominations are announced to staff, since being nominated by colleagues is a valuable recognition of work well done.

Although the altered arrangements are still very new and being established, the change has been well received. There were 50 nominations in 2011 and 19 department awards were presented.



Bjarni Sævar Róbertsson, site workshop.

Safety

Great importance is placed on safety issues in the operation of ISAL, and work on making the workplace accident free is continuous. Considerable success has been achieved in safety issues. No serious accident occurred at ISAL in 2011 and by 23 December, employees had worked 6 million hours without serious accident.

Work-related accidents include accidents resulting from unexpected and external events that can be attributed to external factors at the workplace. Work-related accidents are categorised into four different categories according to their seriousness. Incidents in categories 1 and 2 are considered serious.

Category 1 includes fatalities and accidents that result in irreversible disability and prevent the individual from returning to the labour market. Category 2 includes workrelated accidents that involve reversible injuries or minor irreversible damage or impairment and result in the employee being temporarily unable, according to medical advice, to fulfil his/her duties. Category 3 includes recoverable physical injury that requires treatment but does not impact the person's duties. Category 4 includes minor and temporary discomfort or symptoms that need first aid but no medical intervention. In addition, there are category 5 incidents, which cover all near misses, i.e. occurrences that could have resulted in an accident. Employees are encouraged to record all near misses, with the goal of being able to prevent similar events from recurring.

In 2003, ISAL became the first company in Iceland to obtain certification that the Company's occupational health and safety management system meets the international standard OHSAS 18001. The standard specifies requirements in the field of safety and occupational health management and is intended to ensure that safety and health issues are an inseparable aspect of the assessment and decision-making process in investments, construction, operations and the purchase of goods and services.

The Company conducts numerous risk assessments every year. They are performed for all construction work, new work procedures, new equipment and materials. All jobs in the plant have been risk assessed, as have all work areas. Moreover, all employees employ a methodology called "Take five", which involves conducting a short risk assessment at the beginning of each task or each shift.

All the Company's personnel attend a safety meeting with their own shift or working group at least once a month. The meetings are used to review the accidents and near misses that have occurred during the past month and to provide information on what improvements were made following such events. There is also a review of the educational material intended to maintain knowledge and safety awareness. Other safety education includes courses for recruits, fall protection courses, heavy machinery courses, boom crane courses, an arc flash safety training course and a course on locking-down hazardous equipment and hazardous energy. Employees are also invited to attend a first aid course that is held every year.

The ISAL emergency response management team has been operated for several years. Emergency drills have been conducted twice every year, with the purpose of exercising responses to emergencies in a systematic and organised manner. The emergency response management team was most recently called out in August 2010 when there was a fire in the casthouse basement. The team had previously been mobilised because of a power outage in potroom 3 in 2006.

ISAL operates its own fire-fighting department, which has its fire station inside the Company's operating area. The ISAL fire-fighting department consists of 42 employees from the production departments and five employees from ISAL security. The role of the fire-fighting department is to react to any circumstances in which the life and health of the employees may be compromised. The principal role of the fire-fighting department is fire fighting, rescuing people from dangerous situations, performing fire prevention inspections, responding to pollution incidents and salvaging valuables.

ISAL conducts its own fire prevention inspection in accordance with an agreement with the Reykjavík-area fire brigade, which performs an audit of the inspection. There are 12 inspections conducted every year where fire prevention is reviewed and a general safety inspection of the work areas is carried out.



2011 at a glance

There were no serious accidents at ISAL in 2011. There were 15 first-aid accidents (i.e. cat. 4) with hand accidents being the most common, of which there were nine. Other accidents during the year included minor crushing, lost footing, dust particles in eyes, etc. The number of reported near misses was 267 during the year.

A new system for the treatment and processing of incidents in health, safety and environmental issues (HSE incidents) was adopted in 2011. With the new system, each step within the whole management procedure will become more systematic, from recording the incident through to corrective action. The system was under continuous development during the year and all incidents and remedies relating thereto were presented to personnel during monthly HSE meetings.

A new method of risk assessment, SQRA (semi-quantitative risk assessment) was adopted in 2010. The approach addresses risks that may cause fatal accidents (i.e. falling from a height, electricity, working in confined spaces, mobile equipment traffic, etc.). Its goal is to reduce the risk levels of the above aspects. The goal for 2011 was to reduce risk levels by 20% by means of various improvements throughout the plant. This goal was achieved through a great deal of work and dedication involving numerous employees from all departments.

On the initiative of the parent company, an approach called "Creating a Zero Harm Culture" was adopted. The adoption and training is well advanced and will be completed this year. Further information on the approach may be found in the section "Creating a Zero Harm Culture". Increased focus was placed on communications relating to the investment project. The project has a great impact on the operation, and it is therefore important that information on all decisions and actions are delivered in a timely manner to ensure safe preparations for all tasks. Increased communications, meetings and transfers of superiors and employees came into effect and communications have increased considerably.

Areas of focus in 2012

During the year, the focus was on educating employees and contractors, both those new to the Company, and the retraining of longer serving employees and contractors. The Company will participate in a project run by Samál (Icelandic Association of Aluminium Producers) the goal of which is to co-ordinate the training of new recruits/contractors in aluminium plants in Iceland. Specialist courses, e.g. for cranes, industrial machines, isolation procedures and fall protection will be revised during the year. An information centre for HSE issues has been established and will be responsible for providing the major part of this education.

The security of the site will be strengthened with the goal of improving the access management of people and goods to the site. An employee will be recruited for this position and will be located in the gate-house.

Attention will be paid to the training of the emergency response management team. There will be co-operation with the fire brigade of the greater Reykjavík area and the Civil Protection Committee in this respect. An extensive field exercise will be held during the year to practice responses to emergencies, from the receipt of the first notification of an emergency until the recovery of operations has been achieved.

Creating a Zero Harm Culture



Ágúst Baldursson, warehouse.

In the autumn of 2011, ISAL initiated a project entitled "Creating a Zero Harm Culture". The approach encompasses the Company's values of ensuring that all employees can return to their homes healthy and whole on completion of a working day and be able to attend to their families, their interests and their leisure time activities.

The project involves further strengthening the Company's managers and employees in creating a workplace where safety and health are ensured and where environmental impact is minimised. The Company keeps HSE issues at the forefront of its operations and has a certified management system to manage such issues. The goal of the project is to elevate HSE issues to the next level, where they no longer revolve around rules, requirements, standards and announcements but rather take account of the manner in which they accord with the Company's values and the personal values of each employee. As soon as safe work practices are linked to each person's set of values, the approach differs.

Directors, foremen and other managers have met in a three day course to discuss the manner in which a safety culture develops, what their role is and how HSE issues can be approached in a positive manner. There is certainly considerable experience, knowledge, interest and willingness among the managers who are ready to do everything they can to achieve better results. A one-day course will be held for all ISAL staff as the key to success is that everyone is an active participant.

The project "Creating a Zero Harm Culture" is a clear example of Rio Tinto's priorities, leaving no stone unturned in achieving its goals of safety and health.



Jón Davíd Pétursson, warehouse.

Health

The purpose of the work performed in the field of health at ISAL is "to promote a healthy lifestyle that provides fulfilment throughout life". The policy is to develop a good and healthy work environment that is not conducive to work-related illnesses and, at the same time, to encourage employees to assume responsibility for their own health and well-being.

It is important to monitor the working environment and to constantly measure it for the purpose of reducing or eliminating risks at their source. This applies to strain caused by chemicals such as fluorine, dust and sulphur dioxide and other strain factors such as noise, vibration and strain on the musculoskeletal system. A measuring plan is prepared annually for the industrial hygiene measurements to be conducted. The risks that risk assessments have indicated are measured at each work area or for each job that must be monitored. The results of the measurements are disseminated among personnel. In addition, managers review the results with respect to possible improvements. Regular medical examinations of the personnel are conducive to the prevention of work-related illnesses. All employees undergo an examination, either annually or every second year. Particular attention is paid to measuring the functionality of the lungs, hearing and vision as well as blood pressure and checking body mass standards. Thus, an effort is made to monitor not only the factors that can be work-related, but also general health. Employees are encouraged to take good care of their health and to obtain advice thereto from the doctor. Annual vaccinations against influenza are offered.

One element of promoting a healthy lifestyle is a fitnesstraining grant offered to employees. On average, more than 200 employees take advantage of the grant. Employees have also been encouraged to participate in the national initiative "Cycle to work" and this has been well received. ISAL has been the winner in this competition over the past eight years in its category. It is safe to say that the competition, held in May of each year, has had a significant positive impact on the lifestyle and health of many employees.

There has also been huge participation in the Reykjavík Marathon among employees. The Company donates funds which the running teams allocate to charitable causes of their choice.

2011 at a glance

Following the adoption of the policy on an alcohol-free and drug-free workplace in 2010, random sampling among employees has been carried out a few times. All the sample taking has been well received as they are a means of ensuring staff safety and health.

Participation in the "Cycle to work" campaign was similar to that of the past few years. Approximately 40% of employees actively participated. ISAL achieved the best success for the number of participation days for the eighth year in a row and was in second place for the greatest number of cycled kilometres.

The Reykjavík Marathon took place as usual with a record number of employees, 135, participating. It is gratifying to see that more and more people choose to run the 10 km, or longer routes, and systematically train for this event. It is also gratifying to see that this interest is catching on and that it is common to see the children and spouses of employees joining in.

Priority was given to measuring dust and noise in the working environment and two summer workers, university students familiar with ISAL's operation, were hired to carry out the task. The method, named PIMEX, involves taking a video of work practices and taking measurements at the same time. Use of the measuring method began in 2010 and the advantages of the method have proved indisputable. This is a valuable addition to earlier measuring methods and shows precisely were the sources are, making it feasible to undertake systematic improvements. An example of improvements after measurements in 2011 is the crucible workshop where we were able to significantly reduce dust pollution. Furthermore, the method is a good educational tool that can be used to teach employees the correct work practices and what consequences different work procedures can have.

The measurement of vibration strain, which affects the hands and arms of employees as a result of working with tools, as well as affecting the whole body as a result of working with heavy machinery, was initiated. Vibration measurements are rather complicated and they have taken longer to implement than expected. The main scope of these measurements, therefore, will be transferred to 2012.

278 employees took advantage of the fitness training subsidies during the year.

Areas of focus in 2012

Considerable changes are planned at ISAL and will have significant impacts on the working environment of employees. All earlier measurements, not least the PIMEX measurements, are useful right at the start of the design phase for reducing stress on employees resulting from pollution and noise. Once the changes have been implemented, the working environment must be re-evaluated. Such reevaluations will characterise 2012 as measurements in the working environment will increase as a new baseline is found. This means that there will be a greater number of measurements taken than when simply comparing similar conditions between years.

Work will continue on measuring vibration, which began in 2011 and we were unable to complete as anticipated. It is assumed that by the end of this year, figures on vibration stress will be available for all positions at ISAL.

Measurements of heat stress in the working environment will be carried out on a regular basis. A dedicated meter has been purchased to perform such measurements. Some time has passed since heat stress measurements were taken and therefore it is vital to remedy this. The measurements will, to a large extent, be carried out during the hottest time of the year. Risk assessments and measurements of heat stress for all positions are expected to be completed this year.

Fatigue management is an issue that must be examined, not least in workplaces where the work is carried in shifts. Increased focus will be on this aspect during the year. An attempt will be made to assess what part fatigue plays in incidents by asking comprehensive questions when incidents are investigated. At the end of the year, a schedule on how to respond efficiently will be available, provided that the investigation shows that there is a problem.

As before, employees will be encouraged to maintain a healthy lifestyle by participating in the "Cycle to Work " campaign and the Reykjavík Marathon, as well as to take advantage of the fitness training subsidy available to all employees.

Running for charity



Every year, a large proportion of ISAL employees participate in the Reykjavík Marathon, an event that marks the beginning of Culture Night and that is well attended by people from all over Iceland. The number of participants in the marathon in 2011 was 12,481, of which 135 were ISAL employees, a participation record within the company.

ISAL staff ran a total of 1,062 km. Two employees ran a whole marathon, 11 ran a half marathon, 58 ran 10 km and 64 ran 3 km. To put this in context, it should be noted that Highway 1, the ring road around Iceland, is approximately 1,300 km.

ISAL encourages its employees to maintain a healthy and balanced lifestyle and the Reykjavík Marathon is among the events that the Company uses to draw attention to the importance of regular exercise. To encourage as many as possible to take part, the Company has sponsored staff who have taken part. Each 10-member team taking part may select a charity, which then receives ISK 100,000 from the Company. It has become a tradition for representatives of charities to attend an event in the aluminium plant in Straumsvík at the end of the marathon and accept their grants and enjoy refreshments. This was also the case this year with eight charities being awarded a total of ISK 1.3m.

The following received grants:

- Styrktarfélag krabbameinssjúkra barna (Icelandic Childhood Cancer Parent Organisation) (three grants)
- Ljósid (cancer support group) (two grants)
- Rjódrid (rest and rehabilitation centre for children with long-term illnesses) (two grants)
- MS félagid (MS Society of Iceland)
- Neistinn styrktarfélag hjartveikra barna (foundation for children with heart defects)
- Félag nýrnasjúkra (Association of Kidney Patients)
- Blátt áfram (grass roots child sexual abuse (CSA) prevention organization in Iceland)
- Karitas, hjúkrunar- og rádgjafathjónusta (nursing and health consultancy services)



Communities

The Company's stated goal is to ensure that its operations are carried out in harmony with the environment and the community. In order to attain this goal, it is important that the Company knows the community in which it operates, clearly disseminates information to stakeholders, listens and responds to the community's justified demands and expectations, embarks on collaboration with the community as appropriate and endeavours to benefit others.

A great deal of importance is placed on informing the public about the Company's operations. ISAL receives numerous requests to visit the Company every year and tries to accommodate as many groups as possible. Guest groups are given a presentation of the Company's operations and tour of the main work areas.

The Company maintains a website containing detailed information about its activities. The sustainable development report is distributed to every home in Hafnarfjördur.

A record is kept of all complaints received by the Company, and efforts are made to ensure that such complaints are correctly handled.

For the purposed of gauging how successful the Company is in achieving the goal of operating in harmony with the community, the public's attitude toward the Company has been regularly surveyed since the summer of 2009.

The Company's single largest sponsorship in the field of social issues is its support of children's and youth activities, which is managed by sports associations in Hafnarfjördur. ISAL has collaborated extensively with Hafnarfjördur local authorities and the Sports Association of Hafnarfjördur as regards this funding since 2001. Alcan's Social Fund was established in 2005. The Fund allocates up to ISK 20m every year to a wide range of projects in five fields, namely: safety, health and exercise, the environment, education and culture, the last of which includes charitable causes. The Company also sponsors incidental projects outside the Social Fund. Moreover, ISAL has been responsible for awarding the Icelandic Optimism Award since 2000. This is a cultural award that has been presented annually since 1981.

In 2010, ISAL and the Wetlands Institute of the Agricultural University of Iceland entered into a four-year partnership agreement on wetlands restoration for the purpose of reducing greenhouse gas emissions. Aluminium production involves significant emissions of greenhouse gases. The wetlands restoration project is the mitigating measure that the Company has decided to invest in. The goal is to restore approximately 5 km² of wetlands and thereby halt annual emissions of approximately 2,500 tonnes of carbon dioxide. The goal of the agreement is also to develop methods to measure and assess, with acceptable certainty, the results of restoration with respect to greenhouse gas emissions. The goal relates to the United Nation's Millennium Goals.

2011 at a glance

As stated earlier, ISAL focuses on working in harmony with the community. A principal measure of success in this respect are the results of regular attitude surveys performed by Capacent Gallup. In 2011, an average of 50.3% Icelanders had a very or rather positive attitude toward the Company, 27.9% were neutral and 21.8% had a very or rather negative attitude. Among Hafnarfjördur residents, 64.8% had a very or rather positive attitude, 17.4% were neutral and 17.8% had a very or rather negative attitude. There was a positive change in the way Icelanders in general view the Company from 2010 to 2011, as those with a positive attitude increased by 1.8% and those with negative views decreased by 1%. At the same time, the number of Hafnarfjördur residents with a positive attitude increased by 0.7% and those with a negative attitude by 1%.

The Company set itself the goal of hosting and presenting ISAL to at least 600 members of the general public in 2011. The result was 749 guests. Only those guests who were given a thorough presentation of the Company and a tour of the main working areas are included in this figure. The majority of guests were university students.

The Company received five complaints from the public, as compared with seven the previous year. There were three complaints of noise, which can all be traced to malfunctions in the silencer of the unloading crane. One complaint came from the public health authorities in the Hafnarfjördur and Kópavogur areas, when a Hafnarfjördur resident called the authorities and complained about the noise. The silencer was repaired and the noise was thereby reduced. In the long term, the unloading crane will either be rebuilt or replaced. This means that noise levels during unloading will be reduced. There were two complaints about emissions. The earlier complaint was received in May and did not relate to any specific event but was rather a general complaint about smoke from the company. The second complaint was submitted to the gatekeeper in October and related to abnormal levels of smoke. The source of the smoke could not be traced. Video footage from the period in question was examined and nothing unusual was seen. The smoke was possibly water vapour from the casthouse. All complaints were responded to and complainants contacted in all cases.

ISAL's grants and sponsorships in 2011 amounted to ISK 46m. The Social Fund awarded ISK 14.3m to 45 entities selected from 222 applications. Support for children's and youth activities managed by the sports associations in Hafnarfjördur amounted to ISK 9.7m, in accordance with a three-way agreement with the Sports Association of Hafnarfjördur (ÍBH) and Hafnarfjördur municipality. The amount associated with the Icelandic Optimism Award was, as before, ISK 1m. Sponsorship agreements with various sport clubs amounted to ISK 8.4m in 2010. ISAL continued to support the community project Frístundabíllinn, a bus service that transports young people aged 6–20 to and from their leisure time activities (music lessons, sports, etc.). This is an ambitious community project with the goal of reducing traffic in Hafnarfjördur and increasing the safety of children and young people as they travel to and from their leisure time activities. The project is run by Hafnarfjördur municipality and Hópbílar, with the support of several companies. ISAL is one of these companies and allocated ISK 3.6m to the project in 2011. In closing, mention should be made of the record number of employees participating in the Reykjavík Marathon and the attendant contributions of the Company to charitable organisations, which received a total of ISK 1.3m in grants. ISAL was a founding member of Festa, a knowledge centre for corporate social responsibility. Festa was awarded a grant of ISK 1.7m to begin operations. In addition, the Company sponsored numerous associations and organisations with smaller grants, advertisements, sponsorship lines in publications, etc. These expenses amounted to a total of ISK 3.6m.

A five-year community multi-year plan (MYP) was prepared and is intended to ensure that the operation of the Company is in harmony with the community and that it leads to mutual benefits. The MYP is based on diverse data on the community; such as the attitude surveys that have been carried out in Hafnarfjördur and assessments of the community in which the Company operates. The MYP contains projects that support the above goals and address economic, employment, environmental, employee, sponsorship and partner projects, as well as more traditional interactions. The MYP contains two goals that relate to the United Nations' millennium goals that Rio Tinto focuses on. One involves greater gender equality. To achieve this goal, the Company plans to ensure that the proportion of women among new recruits is 60% in 2012. The other goal relates to environmental sustainability and involves restoring 5 square kilometres of wetlands, thereby reducing annual emissions of carbon dioxide by 2500 tonnes. The progress of these projects will be published in the Company's annual sustainable development report.

Preparations for the restoration of wetlands, a co-operative project between ISAL and the Wetlands Institute of the Agricultural University of Iceland, were successful. Measurements of gas and water levels were taken in five areas. One of these areas, Mávahlíd in Lundareykjadal, was selected as a focus area, where measurements of gas and water levels are expected to answer the question of whether groundwater level measurements can be used to assess gas release. The measurements are taken in order to be able to assess the progress of wetlands restoration, which will begin in 2012.

Areas of focus in 2012

The aim is to begin wetland restoration at Mávahlíd in Lundareykjadal. The progress will be closely monitored through measurements of gas and water levels as well as by monitoring drainage from the area and chemical composition.

The sustainable development report will be reviewed and the opinion of stakeholders on the content of the present report requested. We encourage the readers of the report to send in their opinion of the report. Comments may be submitted by using a suggestion form on the Company's website.

Plans have been made to receive 600 guests in 2011. The guests will be given a presentation about the operation and a guided tour of the site.

We will continue to monitor attitudes towards the company in accordance with the goal of raising the proportion of those with positive attitudes towards the company and reducing the number of people with negative attitudes.

The possibility of recycling pot linings will be examined and we plan to have reached a conclusion on what the Company intends to do in these matters by the end of the year.

Attitude survey in Hafnarfjördur

The University of Iceland Social Science research Institute performed, at the request of Hafnarfjördur municipality and ISAL, an extensive survey of attitudes towards industrial affairs in Hafnarfjördur and the operation of ISAL. The results showed that three quarters of Hafnarfjördur residents were of the opinion that it was beneficial for the municipality to have the aluminium plant located in Straumsvik.

Hafnarfjördur municipality and ISAL engaged in a dialogue on the Company's position within the Hafnarfjördur community in 2011. There was a positive atmosphere in the discussions and both parties placed great importance on the necessity that all parties agree on the position of the Company in the community and its future plans. The decision was made to find out residents' wishes and attitudes towards numerous aspects that relate to industrial affairs in Hafnarfjördur and the operation of ISAL.

The results were presented in August 2011 together with a joint declaration from Hafnarfjördur municipality and ISAL. The main results were:

- A great majority of residents believes that it is beneficial for the municipality to have Rio Tinto Alcan's aluminium plant in the municipality, or 75% as opposed to 10% who think that it is negative.
- Just over 45% of responders are of the opinion that there are no negative effects from having the aluminium plant in Straumsvík. The main negative impact of the plant in the opinion of residents is pollution and its effect on the environment.
- Three quarters of the residents are pleased with the planned 20% increase in production without any expansion of the plant itself.
- Just under half of the residents approve of a further expansion of the plant although this proportion could increase to 60% if certain conditions are fulfilled.



- Almost 60% of those who would vote on a possible expansion, if the vote were to be held now, would support an expansion of the plant.
- If an enlargement of the plant is taken as given, most residents feel that it is more important to limit pollution and environmental impact than to increase the number of jobs and increase production as much as possible.
- As regards the future of the aluminium plant, a very small proportion of respondents want the plant to reduce production or halt operations, just over 43% want the plant to remain as it is after the production increase and just over 47% want the production increased further.

The representatives of ISAL and Hafnarfjördur local authorities stated that they were in agreement about the importance of the continued acceptance of the operation of the Company in the Hafnarfjördur community, and stated their strong desire to work together to ensure that this is the case.

Rio Tinto Alcan is of the opinion that it is possible to design an expansion option that would take better account of the wishes of the residents as stated in the survey and would therefore enjoy more extensive support.

Hafnarfjördur municipality and Rio Tinto Alcan agreed to continue discussions on the possibility of the normal development of the Company in the town, as stated in the joint declaration.

The complete research report is accessible on the websites of Hafnarfjördur municipality and Alcan Iceland: www.hafnarfjordur.is and www.riotintoalcan.is.



Economic factors

The Company's economic impact is not only in the jobs it creates, but also in all the Company's activities, including the goods and services it purchases in Iceland and the foreign currency income that it brings into the Icelandic economy.

The Company's turnover in 2011 amounted to USD 507m, or ISK 58.4bn. The following is a summary of Alcan Iceland's main expenditures in Iceland, other than electricity purchases.

The average number of employees was 501, as compared to 487 in 2010. The increase is due to increases in the number of employees in the potrooms in connection with the investment project. Wages and wage-related expenses amounted to ISK 4.2bn, as opposed to ISK 3.8bn the year before.

Calculated income tax (payable next year) amounted to ISK 1,103m in 2011. This amount was ISK 1.675m in 2010. The decrease is attributable to lower profits as the price of aluminium fell considerably from the spring to the end of the year.

A new energy tax was collected in Iceland for the first time in 2010. The tax amounted to ISK 344m for the company, or just under ISK 1m per day. As a result, the income tax and the energy tax amounted to a total of ISK 1.4bn. The industrial charge, payable to the Federation of Icelandic Industries, was discontinued in 2011 following the ruling of the European Court of Human Rights

Alcan Iceland purchases goods and services from hundreds of Icelandic companies. Considering only the companies from which the plant bought goods or services for ISK 500,000 or more, the number of companies was 328 in 2011, which is a considerable increase from the year before when they were 246. The total amount of purchased goods and services (excluding electricity) in Iceland in 2011 was ISK 14.3bn, as compared to ISK 6.8bn the year before. This considerable increase can be attributed to the preparations for and the execution of large investment projects involving an increase in production and change in the product mix. This signifies that these activities have clearly had a positive effect on the Icelandic economy. It should be noted that the above amount includes various public levies such as property tax, harbour fees, water levies, customs dues and vehicle taxes.

A considerable proportion of this amount is paid to Hafnarfjördur, or approximately ISK 4.1bn in 2011. Payments to companies and contractors in Hafnarfjördur were just under ISK 3.8bn of this amount, a significant increase or twice as much as the previous year. This increase is, for the most part, attributable to the increased activities relating to the investment project. Payments to Hafnarfjördur municipality amounted to ISK 292m, whereof the property tax was ISK 247m and harbour dues and water levies were approximately ISK 44m.

As the price of electricity paid to Landsvirkjun is confidential, it is not possible to provide an exact figure on how much of the Company's foreign currency income remains in Iceland. For a number of years this proportion has been approximately 40%. It is clear that the proportion was much higher in 2011, due to the investment project, as the above expenses paid in Iceland (wages, taxes and purchases of goods and services) – which do not include energy purchases – amount a total of ISK 20bn. These expenses alone correspond to 34% of the Company's foreign currency income.

Economic impact of the aluminium industry



The direct and indirect contribution from the aluminium industry to gross domestic production (GDP) is approximately ISK 90bn a year. This corresponds to approximately 6-7% of domestic production, i.e. 6-7% of the value of all goods and services manufactured in Iceland for final use.

This is the result of an audit of the importance of the aluminium industry in the economy, which was carried out in 2011 and prepared by the Institute of Economic Studies at the University of Iceland for Samál, the Association of Aluminium Producers in Iceland. A report on the results was published at the beginning of 2012.

Contribution to national production refers to the added value that results from a particular line of business. The added value is calculated by simply adding together the profits of the company in question and the salaries of its employees.

The direct contribution of the aluminium industry refers to the added value that forms in the aluminium industry itself, while indirect contribution refers to the added value that forms in related employment sectors that do business with the aluminium industry.

In addition to direct and indirect contributions, it is also possible to include the induced impact, which is the added value that forms when workers in the aluminium industry and related sectors use their salary to purchase goods and services. This induced impact was not assessed in the report. According to the report of the Institute of Economic Studies, it is possible to estimate that approximately 4,800 people work in the aluminium industry and related sectors, or approximately 2.7% of the Icelandic workforce. Of this number, 2,000 are directly involved in aluminium production.

According to the conclusions of the Institute, the aluminium industry and the energy production industry jointly form a base industry, in the sense that these industries are not dependent on other industries in the country and one could assume that if they disappeared nothing would directly replace them. This, moreover, is the key argument for the appropriateness of including the indirect contribution of the aluminium industry when the industry's overall impact is assessed, instead of only including the direct contribution.

It is interesting to see how large the indirect contribution is, especially when it has often been maintained that it is negligible. Thus the added value created in companies selling goods and services (excluding electricity) to the aluminium plants is estimated to be between ISK 12-14bn every year in the report, calculated according to the supplier method while being twice as much or approximately ISK 25bn when calculated according to the industry method. The authors of the report believe that latter number, i.e. the larger number, is more likely to be correct.

As previously stated, these figures do not include the electricity purchased by the aluminium plants. Added value to electricity sellers from energy sales to the aluminium plants was approximately ISK 29bn in 2010 according to the report, or ISK 24bn if the energy sellers' foreign interest expenses are deducted.

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ISAL investment project

Plans to embark on a large investment project in the aluminium plant in Straumsvík for a total of ISK 57bn were finalised in autumn 2010. The project is the largest investment to be made in Iceland since the economic collapse in 2008.

The project involves a 20% increase in production capacity by increasing the current in the present potrooms, enlarging substations and installing new adsorption plants. Moreover, the aluminium plant's end product will be changed. The production of slabs will be abandoned and the switch made to a more valuable product, i.e. billets, which are round rods used for extrusion. The total investment for the project amounts to ISK 57bn. The project, moreover, involves complicated and extensive changes within ISAL's premises.

The prerequisite for this project was the Company's new energy supply contract with Landsvirkjun, valid until 2036, which involves the purchase of additional electricity as well as the renegotiation of the purchase of the current amount of power. This contract came into effect in the autumn 2010 when it became clear that all conditions precedent had been met.

The majority of the workforce consists of Icelanders

It is assumed that a third of the total investment will be spent in Iceland or over ISK 17bn. In 2011, the cost of the project in Iceland had reached over ISK 8.6bn. At present, the greatest number of contractors working at Straumsvík has been over 250. Working hours on the project in 2011 were approximately 712,000 which includes both engineering services and the actual execution of the work. This corresponds to 375 man-years (based on VR's definition of a man-year which is 1,920 hours per year). Approximately 90% of the work on the project in Straumsvík has been handled by domestic workforce.

Ahead in the projects

A great deal of work has already been completed with most of the construction work in the area completed in 2011. Old buildings had to be demolished, new ones constructed or expanded. The highlight of this process is the new casthouse building that has been taken into use fully equipped with mashinery for ISAL's new production process. It is estimated that production of billets will begin by mid-year 2012. To begin with, ISAL's production will be mixed, i.e. both billets and slabs. The substation has been enlarged and new electrical equipment installed.

2012 will be an important year as there are many large stages in sight. Near the end of the year, we will begin increasing the current to the pots although we will first have to shut down two potrooms during the upgrade of the busbars. Originally it was thought unnecessary to shut down the potrooms. However, the decision was made to do so to better ensure employee safety and separate contractor work from pots in operation.

Key performance indicators

	Unit of measure	2011
Goods and services purchased in Iceland ¹⁾	millions	8,584
Hours worked	hours.	712,431
Accidents		
Category 1	number	0
Category 2	number	0
Category 3	number	6
Category 4	number	9
Near misses	number	43
General waste		
Recycled	tonnes	411
Disposed of outside the site	tonnes	132
Excavation used in landfill	tonnes	19,124
Hazardous waste		
Asbestos (buried)	tonnes	8.8
Spent potlining disposed of in seashore landfills	tonnes	772
Oils (incinerated)	tonnes	0.5
Minor environmental incidents	number	0

1. Financial figures refer to the Icelandic Krona (ISK).



The new product: billets.



A robot handles the wood used for stacking of billets.

The billet saw.

Requirements for environmental protections fulfilled

The increase in production requires more powerful adsorption plants for the two older potrooms. The upgrade involves decreasing fluorine emissions per produced tonne of aluminium and fulfils the requirements of the Environment Agency of Iceland for the future. Two new adsorption plants will be constructed together with two new smokestacks and blowers. This will increase exhaust from the pots and significantly increase the adsorption capacity of the system.

Health, safety and environment policy of the IPU project

Rio Tinto Alcan's future vision in the project is: "To be a leader of health, safety and environmental excellence, in everything we do and everywhere we operate." We make every effort to achieve goals for zero harm and strive for excellence in this field.

Environmental issues

The project's main goals in environmental issues are:

- Meet all requirements of the ISAL Operating License at all times during execution of the project
- Minimize the increase of fluoride emissions during execution

- Address environmental noise issue, dust, sediment, spills and run-off water that will arise during the project execution
- In order to reduce the impact of additional noise and dust on the local community we may limit the working hours.

The project's waste management is in accordance with ISAL's operating systems, the conditions set by the RTA and legal requirements. In 2011, the great majority of the waste resulting from the project was excavation material and concrete resulting from the construction work at the site. This waste corresponds to 93% of the total waste from the project and will all be used for landfills. Approximately 4% of waste is pot linings (linings from old pots) that are buried in specially designed seashore landfills. Other waste, such as asbestos and larger waste is buried in full compliance with requirements and rules established for such burying. Organic waste and metals are recycled.

There were no serious environmental incidents during the execution of the project in 2011. Nine minor environmental incidents were reported, which all involved minor oil leaks onto tarmac and were immediately cleaned up by on-site personnel. 42



Representatives of two charitable organisations receive grants which employees earned by being active in HSE interactions.

Safety issues

There were no accidents in categories 1 and 2 in the project. There were 6 category 3 accidents. The most common were injuries to fingers/hand, of which there were 4 incidents. The other two could be traced to workers losing their footing and injuring their ankles. There were 10 category 4 accidents, the most common being dust in the eyes and workers losing their footing slightly. Personnel on the project, moreover, reported 43 near misses. Considerable importance is placed on providing information on where improvements may be made. In 2011,185 comments on health, safety and environment issues were submitted.

Safety effort has positive effects on the community

Near the end of 2011, a safety campaign began at the project's work site which involved the submission of communication cards on health, safety and environmental issues. This enabled contractors to submit suggestions for actions that could have a positive effect on the safety of those working in the area, as well as on their health and working environment. To encourage employees to think about their own safety and that of their colleagues, Rio Tinto Alcan gives an amount for each communication card submitted. Thus, contractors collect on a monthly basis, funds for charitable organisations in Iceland. The campaign has been a great success among the contractors and has visibly encouraged increased communications about safety issues in the workplace. Submissions of communication cards increased by 80% in the first month following the initiation of the campaign. As a result, the decision was made to continue with the campaign for the duration of the project.

Training for improved safety



The billet assembly line.

The main focus is on the safety and health of all employees during the project. This doesn't only mean avoiding serious and fatal accidents, but all accidents, illnesses and setbacks. It is based on the fundamental condition that the work may not create conditions that could lead to harm to the individual and is geared towards anticipating conditions that could lead to danger. Accidents do not only affect the individual but also his closest environment, home, colleagues, his employer and the community.

Rio Tinto's management system in safety, health and environmental issues is based on decades' of experience all over the world, including incidents and accidents where the cost has been high for individuals and families. In order to prevent the repetition of incidents, monitoring and progress in these issues is continuous, as new circumstances that must be assessed and integrated into standards are always arising. This work never ends.

In the project it is assumed that all employees are entitled to have information on their working environment and information on how they can protect themselves from possible hazards that can form if incorrect procedures are used. To this end, all new participants in the project receive an eight hour presentation on HSE issues at ISAL, which is intended to make them better prepared to assess risks and respond to them. In addition, various additional courses and training sessions are held for specific work components and working areas, e.g. working at a height, confined space entry, etc.

The cornerstone of all education and management systems for HSE issues is the fact that the goal can only be achieved with a co-ordinated effort and the fact that those who have the most interests are the employees themselves and their families. As soon as efforts in safety matters cease to be regarded as external requirements and rules that must necessarily be followed, and they are instead seen as a way to ensure that the worker can return home unharmed, then it becomes easier to work together toward the goal of a zero harm workplace. When this stage has been achieved such changed safety awareness spreads outside the workplace and into the home and other workplaces.

Auditor's report.

We have audited the numerical data in the report of green accounting for Alcan Iceland Ltd. for the year 2011 in accordance with Regulation No. 851/2002.

The audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the report on environmental accounting. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

It is our opinion that the numerical data in the report of green accounting for Alcan Iceland Ltd. for the year 2011 are consistent with information in its financial accounting.

Hafnarfjörður, 30 April 2012

PricewaterhouseCoopers ehf.

7 Gunnar Þór Ásgeirsson State Authorized Public Accountant

Responses to the report

We are continuously seeking ways to improve the report. As a result, your comments are extremely important. We would be pleased to obtain information on:

- whether the report provided you with the information you were looking for
- whether it was understandable
- whether it was properly presented and credible
- what part of the report you found most interesting and what part least interesting
- what could be added to the report
- anything else you wish to comment on

We encourage readers to send in comments on the report by e-mail to samskiptasvid@riotinto.com

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