



OVER
25 YEARS OF
EXCELLENCE
TOGETHER

2016 SUSTAINABLE DEVELOPMENT REPORT
2016 IN PICTURES: VISIT ALOUETTE.COM



A WORD FROM THE PRESIDENT

Dear Readers,

It is my pleasure to present Aluminerie Alouette's 2016 Sustainable Development Report. Celebrating the company's **25th anniversary** bears witness to the incredible team that forms the Alouette family. Every members are working together to excel, whether it is from health and safety to the environment, from operations to social and financial responsibility. These achievements will become obvious as you read the results in this report. As in 2015, aluminium production once again reached record levels attaining almost 609,000 tons. Operational results however, are challenging and require that we continue searching for solutions. Although this turbulent period certainly impacted our results, we nonetheless managed to fully maintain environmental norms thanks to good practices of all our employees. The same can be said for health and safety, where our performance continues to improve. In the context of adverse market conditions, we must continue our team efforts to ensure the sustainability of our plant.

Good reading!

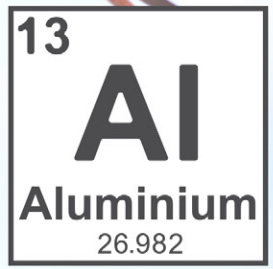
Louise Baranger

President and CEO



OUR MISSION

Aluminerie Alouette, as an independent operating company, shall operate as a low-cost smelter using world-class business principles and continuous optimization of processes and assets. As a sustainable company, Aluminerie Alouette will maintain high standards of health, safety and environment in order to be recognized as a responsible employer and corporate citizen.



OUR STRATEGY

Aluminerie Alouette is driven every day by a strategy based on five principles guiding us to achieve the level of excellence that contributes to maintaining Alouette among the leading producers of primary aluminium.



A TEAM FOR 25 YEARS



PEOPLE AND CULTURE

For a quarter century already, our employees have been our most precious resource. Each person plays a role in a participatory management approach in order to contribute to collective success and well-being.

The difficult market in which Aluminerie Alouette currently operates requires great synergy from every member of the team. Continuous improvement is the core of sustainability. It calls for ongoing employee involvement and flexibility to constantly adapt to new methods of operations and management. Family spirit must be preserved by continuing to create opportunities for discussion and sharing. Recognition is expressed daily in every sector by congratulating people for good work and good ideas. In 2016, almost 20 employees reached their 20-years-of-service milestone and were celebrated

according to a tradition started several years ago. People must have the opportunity to develop their skills through training, which in turn contributes to an increased sense of commitment. We have also begun the conversion to eLearning, thus allowing a greater number of people having access to training. This digital model is a perfect fit for a continuous-operation context such as ours. Undoubtedly, with all the current challenges facing our industry, active participation of our employees looking for innovative and lasting solutions will allow Alouette to grow for the coming decades.

PRODUCTIVE ENCOUNTERS

- ★ **The COBRAL Social Club** – Organizing activities bringing families together
- ★ **46th Forum Sessions** – Essential and valuable opportunities of exchange with employees

GROWING EXPERTISE

- ★ **Ongoing improvement initiatives** achieved by teamwork
- ★ **Almost 20,000 hours of training** offered to employees and subcontractors
- ★ Employees **trained in suicide prevention**

EMPLOYEE RECOGNITION

- ★ **19 employees celebrated 20 years of service** with our company
- ★ **86 employees celebrated 25 years of service** with our company
- ★ **2 leaders in health and safety** honoured in-house

HEALTH AND SAFETY, ENVIRONMENT

25 YEARS OF RESPECT

Health and Safety is everyone's business, all the time – just like the environment – and every small gesture counts. Every day good practices not only reduce risks, they also prevent events that could lead to serious injury. Employees have access to proven resources to support them. This year, a pre-task risk-analysis booklet was introduced to help prevent accidents. Four new compliance protocols were also put into place (working in confined areas, electrical work safety, respiratory and auditory protection, and protection from molten materials) to draw more attention to risks. As for the environment, total emissions from both the source and ambient air were below established norms and objectives. Results for runoff water and residues continue to raise opportunities for improvement, and actions are currently under way to that effect.



Growing Together in Health

PERFORMANCE WORTH MENTIONING

- ★ 23 years and ZERO incidents with recordable injury for the lab and warehouse.

RAISING AWARENESS

- ★ Participation on the **Air Quality Consultation Board** (*Table de concertation sur la qualité de l'air*) and publication of the report
- ★ Partner of the **Observatoire de veille environnementale de la baie de Sept-Îles**
- ★ Awareness-raising visit from the Sept-Rivières RCM **Écopatrouille**
- ★ Regional award-winner in work health and safety at the **Grands Prix santé et sécurité du travail**

ONGOING ATTENTION

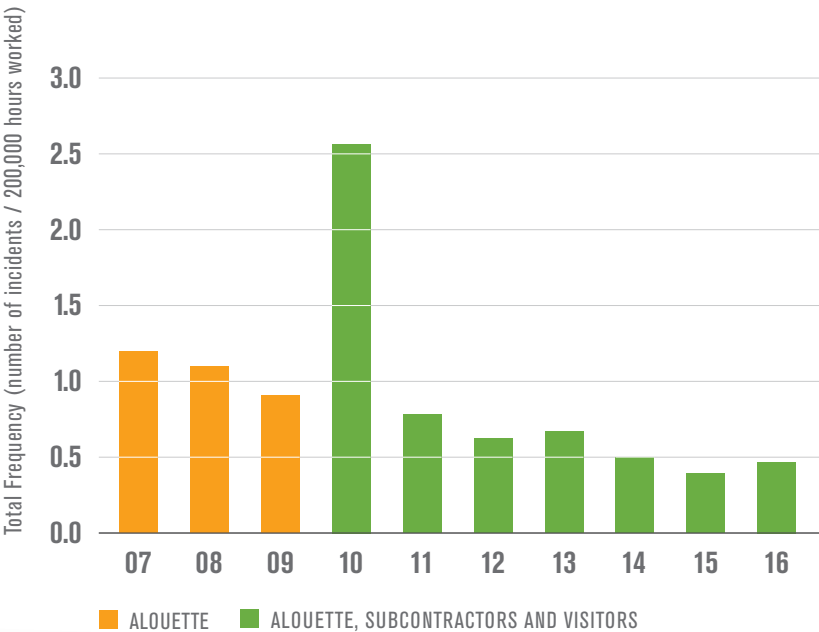
- ★ Twelve 100%-IMPACT days in health and safety or environment
- ★ Meetings with key subcontractors generating positive results
- ★ 4 new protocols to ensure compliance to major-risk procedures
- ★ InterActions targeted and achieved by all employees with their managers
- ★ Implementation of **Temps d'arrêt**, a tool for analyzing risks pre-task
- ★ Establishment of **microbiology laboratory**
- ★ Safety upgrade of employee parking lot

EVERYDAY WELL-BEING

- ★ Healthy Enterprise | Elite certification maintained
- ★ Various activities promoting healthy life habits
- ★ Complete health assessment offered to all employees
- ★ 12 employees participated in **La Boucle du Grand défi Pierre Lavoie**

TOTAL RECORDABLE INJURY FREQUENCY

As in the previous year, there were five incidents with recordable injury in 2016, while the number of total injuries decreased by more than 15%, a considerable improvement. In light of these results, it is entirely within reach to aim for zero injuries through vigilant compliance.

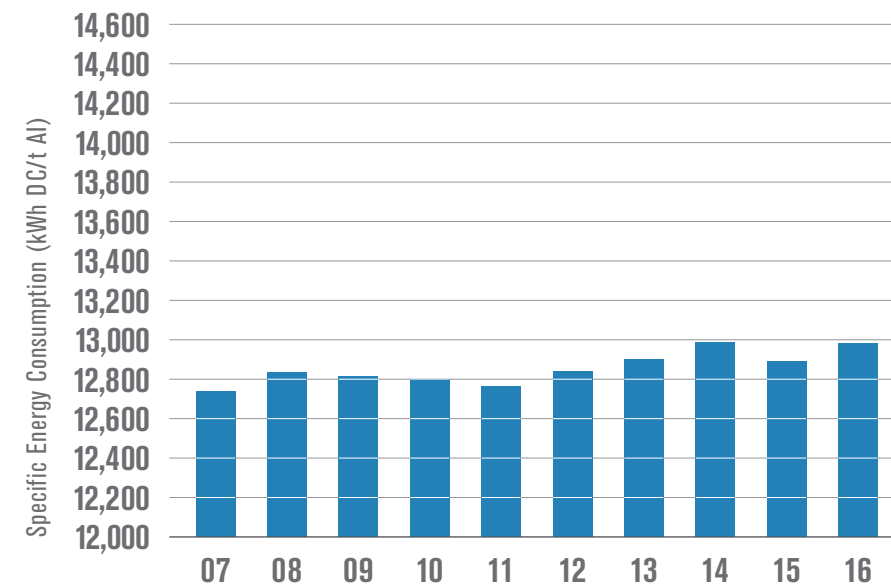




ENERGY EFFICIENCY

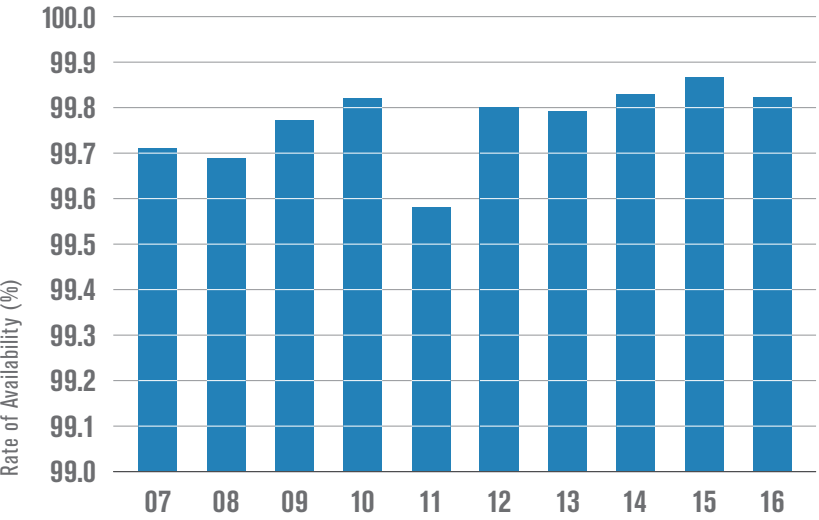
SPECIFIC ENERGY CONSUMPTION

Specific energy consumption during electrolysis is 12,976 kWh DC/t Al in direct current. Aluminerie Alouette uses energy responsibly.



SCRUBBER AVAILABILITY

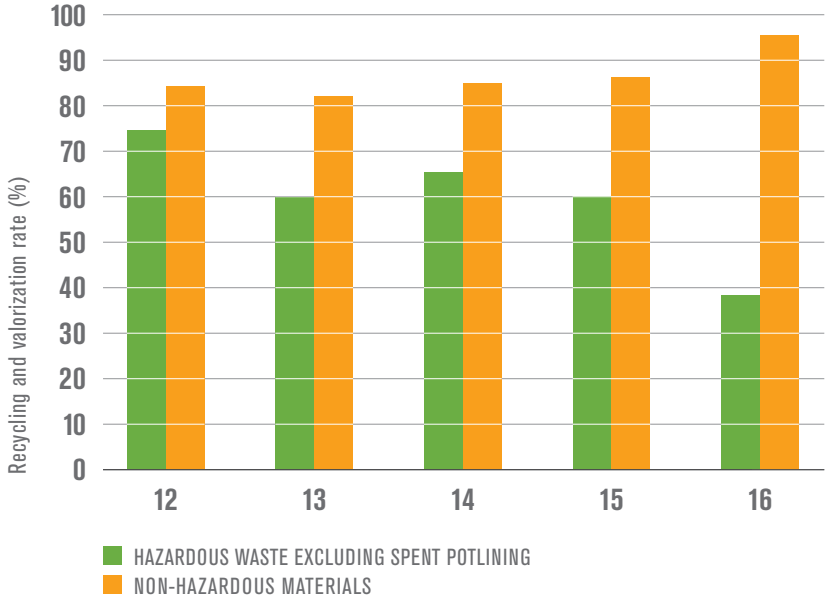
Aluminerie Alouette operates seven scrubbers to protect the environment. Five gas treatment centres (GTC) are located at reduction areas, with two fume-treatment centres (FTC) at the anode-baking furnaces. In 2016, the availability rate of these scrubbers was greater than 99.8%, which clearly indicates the rigour and efficiency with which they are operated and maintained by Alouette employees.



RECYCLING AND VALORIZATION OF RESIDUAL MATTERS

Alouette recycles practically all of its processing by-products within its operations. The plant continually strives for the safe management of hazardous and non-hazardous waste, and has maintained its *ICI ON RECYCLE* (We Recycle Here) Level 3 certification since 2010. In 2016, 96% of non-hazardous materials were recycled or reclaimed, while leftover waste is disposed of at authorized sites. This result is attributed in part to the development, implementation and use of a plant-wide standard for sorting non-hazardous residues. Another contributing factor was a long-awaited partnership with a local supplier to salvage wood.

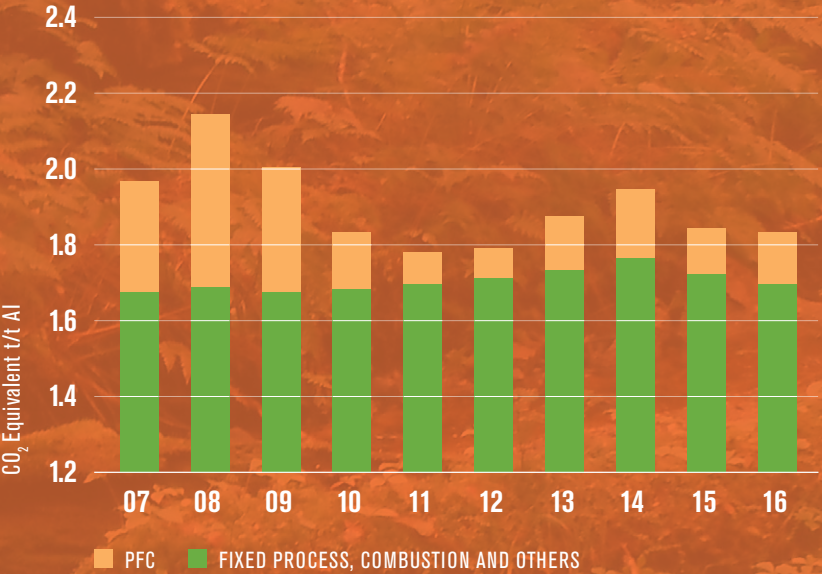
In terms of hazardous waste, optimization of the anode-washing process allowed more in-house recycling and reduce the quantity of residual matter produced. However since the composition of these residual matters has changed, Alouette is currently seeking new salvaging solutions.



AIR EMISSIONS

GREENHOUSE GAS EMISSIONS (GHG)

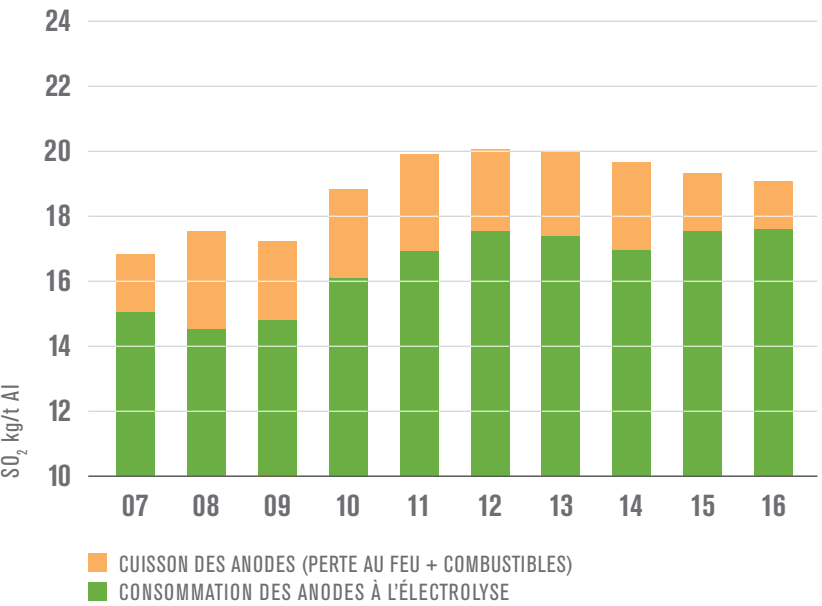
Greenhouse gas emissions remained stable at 1.84 t eq. CO₂/t Al. Alouette continues its efforts to reduce greenhouse gas emissions through various initiatives, particularly by rigorously controlling the impact of baking anodes and fossil fuel consumption. As required by Quebec law, an external firm monitors GHG emission levels annually.



CANADIAN ALUMINIUM IS PRODUCED WITH THE LOWEST CARBON FOOTPRINT IN THE WORLD, THANKS TO RENEWABLE, HYDROELECTRIC ENERGY USED FOR ITS PRODUCTION.

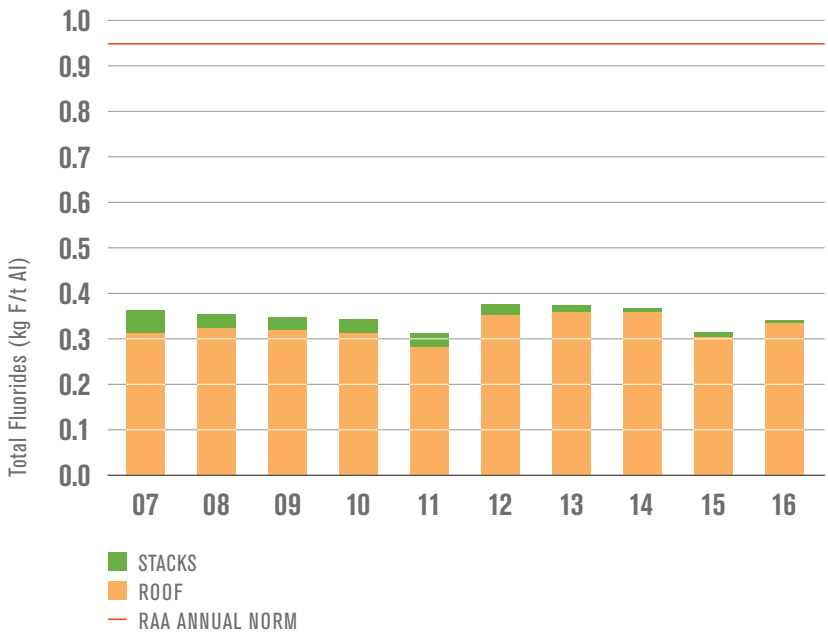
SULPHUR DIOXIDE (SO₂)

Sulphur dioxide emissions in 2016 were maintained at 19 kg/t Al, thanks to quality operations at our coke-mixing facilities. This is remarkable given an overall higher level of sulphur in raw materials available on the market, and anode-baking carbon consumption that rose in 2016, both major and ongoing challenges in the industry.



TOTAL FLUORIDES FROM REDUCTION PROCESS

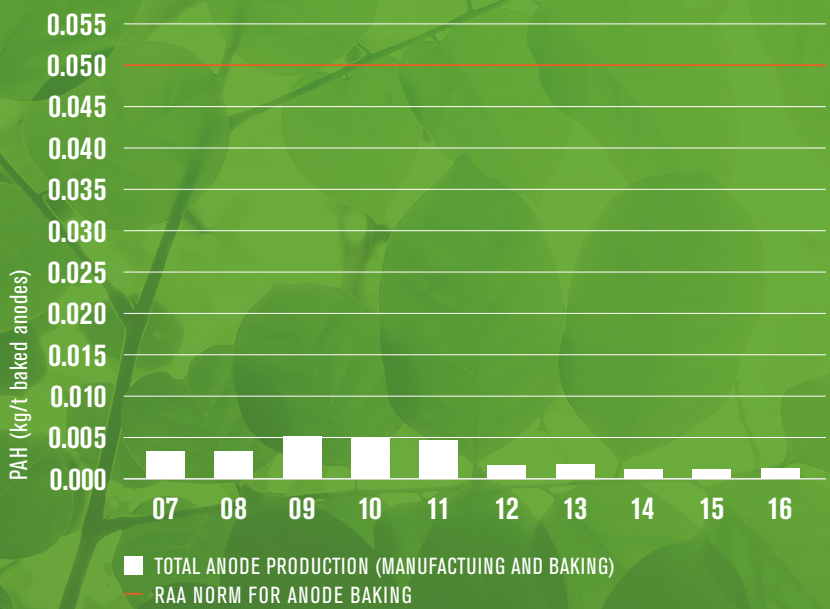
Reduction-process fluoride emissions were 0.34 kg F/t Al, a direct result of stable operations and employee dedication to best practices, including proper management of scrubbers.



*RAA: Règlement sur l'assainissement de l'atmosphère (The Clean Air Act).

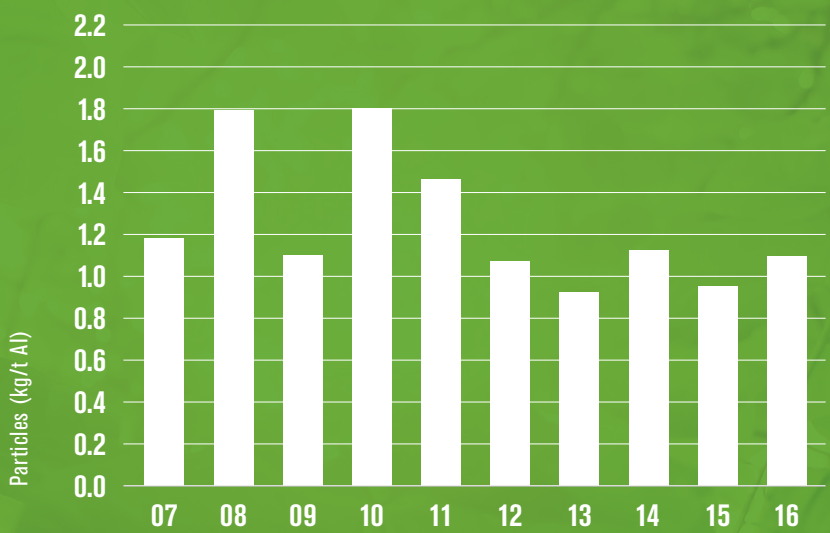
POLYCYCLIC AROMATIC HYDROCARBONS (PAH)

PAH emissions in 2016 at the Anode Plant (production and baking) remained stable at 0.0013 kg/t which is well below the Quebec requirement of 0.05 kg/t of baked anodes, a clear indication of quality operations.



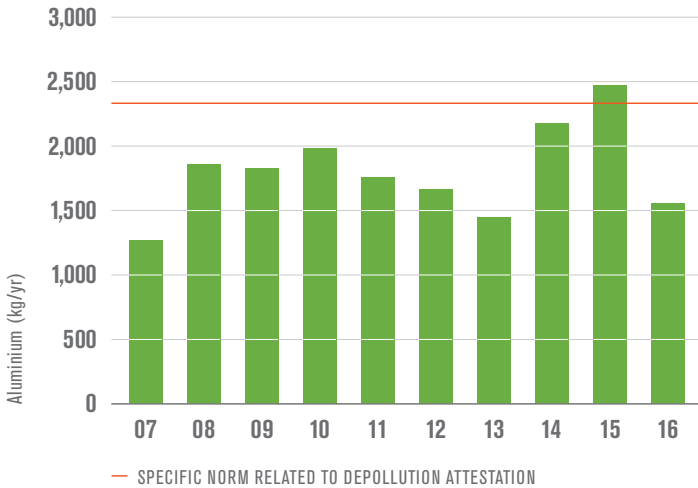
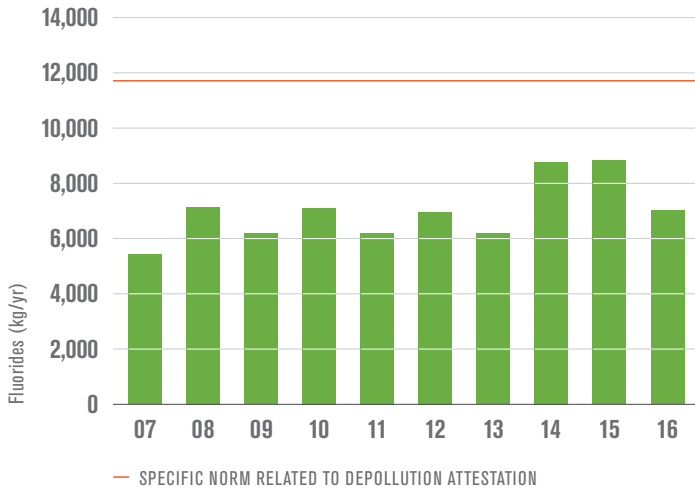
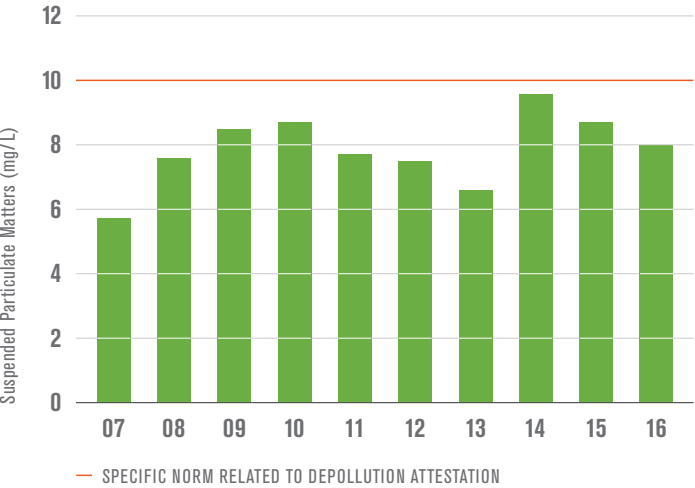
PARTICLES

Particle emissions emanate mainly from roof vents, scrubber outlets and dust collectors, with 2016 emissions measured at 1.09 kg/t Al. Reliable scrubbing equipment and the dedicated team maintaining it help to keep particle emissions low.



RUNOFF WATER

The main outflow of rainwater is located at the sediment basin where water from the roof and surrounding facilities is collected and sampled regularly. The decrease in residues in 2016 reflects successful work undertaken at the end of 2015 to improve the basin's seal and optimize operations.



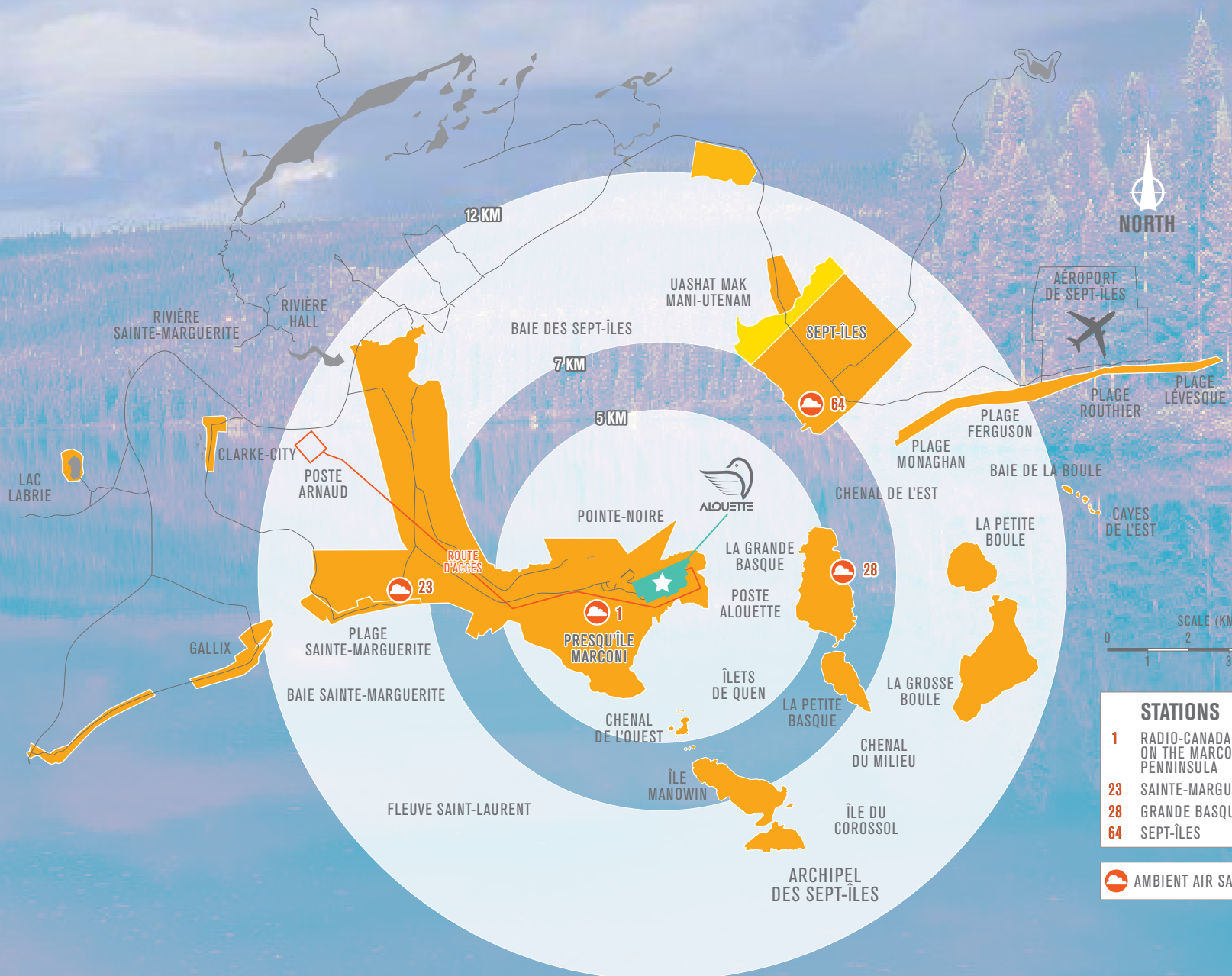
PROCESS WATER IS NEVER DISCHARGED INTO THE ENVIRONMENT. INSTEAD, INDUSTRIAL WATER IS REUSED IN THE FUME TREATMENT CENTRES. ALOUETTE IS COMMITTED TO THE RESPONSIBLE MANAGEMENT OF THE USE OF POTABLE WATER.



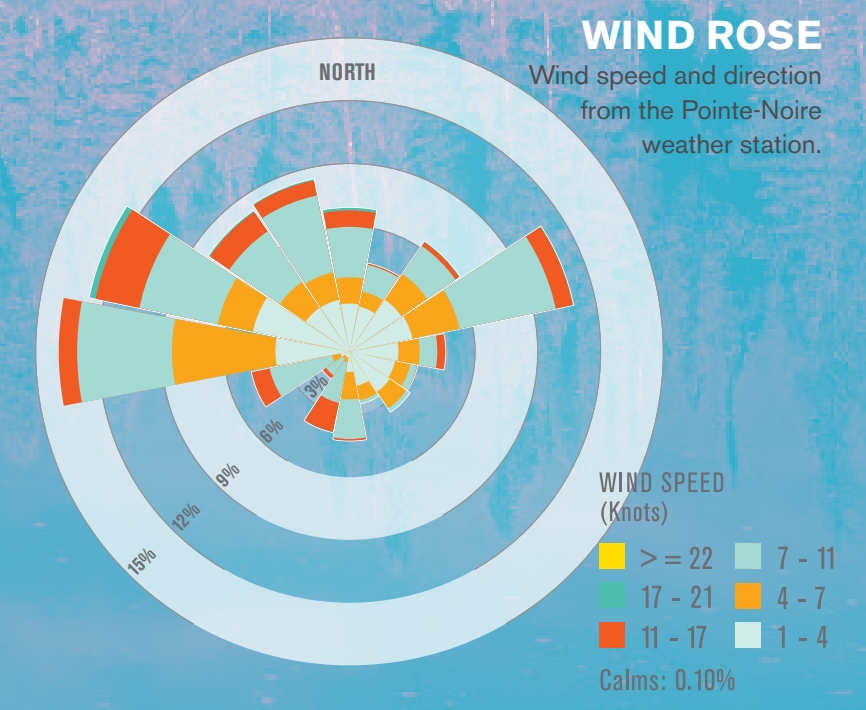
AMBIENT AIR

Alouette operates four ambient air-sampling stations, one of which is located in Sept-Iles. All stations are operated according to National Air Pollution Surveillance Program (Environment and Climate Change Canada) guidelines. Measurements taken at these stations integrate all emission-sources, regardless of the origin of contaminants. The data contributes to a better understanding of air quality in general, as well as the potential impact of the plant's operations. The choice of parameters to be measured is made in conjunction with the authorities, and takes into consideration the main atmospheric emissions from aluminium plants.

MAP OF AMBIENT AIR SAMPLING STATIONS

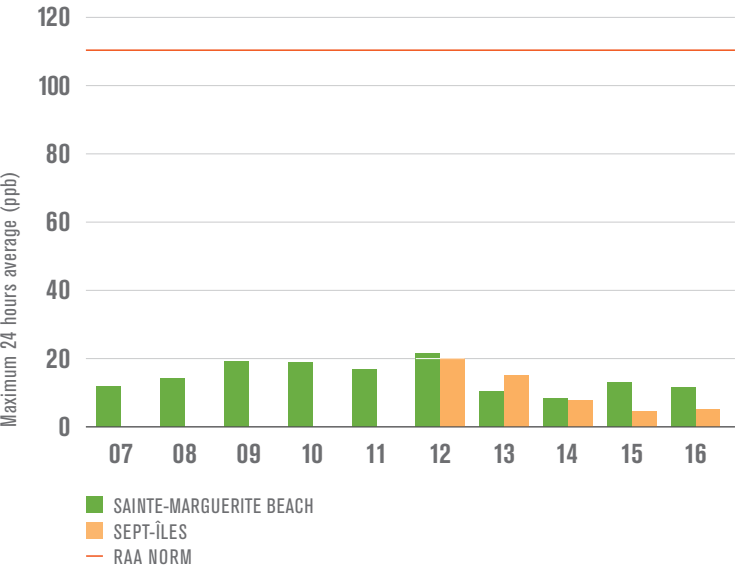


- STATIONS**
- 1 RADIO-CANADA TOWER ON THE MARCONI PENINSULA
 - 23 SAINTE-MARGUERITE BEACH
 - 28 GRANDE BASQUE ISLAND
 - 64 SEPT-ÎLES
- AMBIENT AIR SAMPLING



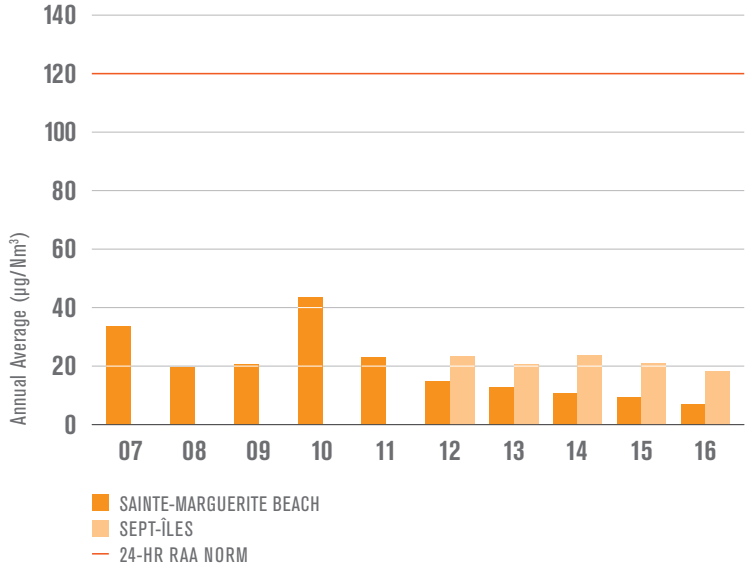
SULPHUR DIOXIDE (SO₂) IN AMBIENT AIR

SO₂ content in ambient air respect the 24-hour norm of 110 ppb. The maximum 4-minute norm of 400 ppb was never exceeded during the year.



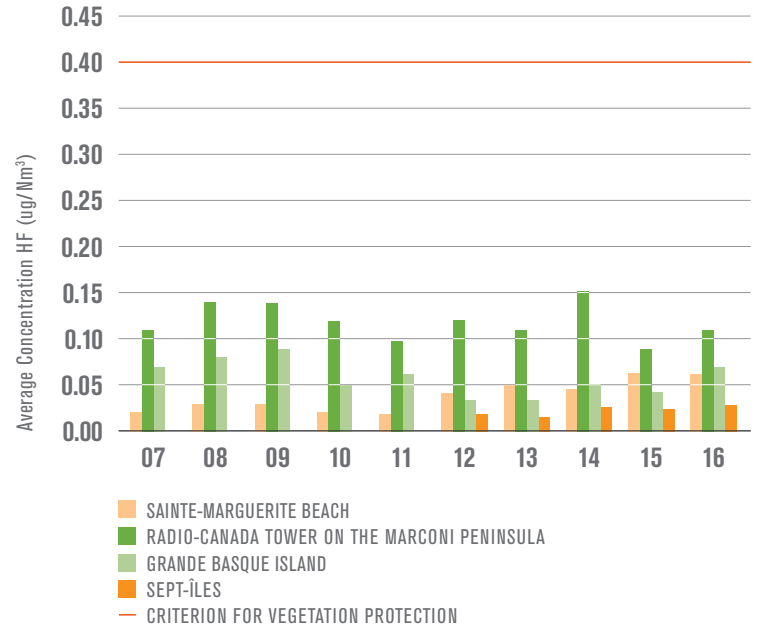
TOTAL PARTICLES IN AMBIENT AIR

The chart below represents the annual average of various samples taken. Here also, the 24-hour norm was never exceeded.



GASEOUS FLUORIDE IN AMBIENT AIR

Average concentrations of gaseous fluoride (HF) in ambient air remained below critical levels to protect vegetation. The condition of vegetation in both industrial and non-industrial zones is evaluated every year within a 7-km radius of the plant, including Grande Basque Island and Arnaud Avenue in Sept-Iles. Results indicate that Alouette operations continue to have no adverse impact on vegetation beyond the site.



BUDDING VEGETATION IS MORE SENSITIVE TO FLUORIDE. ALOUETTE SCHEDULES THE MAINTENANCE OF ITS SCRUBBING FACILITIES OUTSIDE THIS CRITICAL BUDDING PERIOD. THIS MAINTENANCE IS ESSENTIAL FOR KEEPING THE EQUIPMENT IN GOOD WORKING ORDER, WITH A RATE OF AVAILABILITY AND PERFORMANCE (FLUORIDE AND DUST) SURPASSING 99%.

25 YEARS OF PASSIONATE COMMITTMENT



OPERATIONAL EXCELLENCE

Every day, women and men working at Pointe-Noire produce great quantities of quality metal with utmost respect for the environment.

While 2015 experienced certain stability, 2016 faced a few operational constraints. New technology made it possible to produce a quantity of aluminium never before reached until now. However, premature loss of some pots was cause for concern and was analyzed to find the main causes. In the meantime, mitigating measures were taken to have more control over aluminium production, such as reducing the intensity of the current. In turn, other projects were created as part of the process

to increase production, as much in operations as in maintenance: reduction in rodding shop process variability as well as optimization of time spent on anode-baking furnace maintenance, at the Electrolysis Machine Service Workshop and at Handling and Collection. These projects generated substantial gains in productivity; lessons learned while implementing them now serve other sectors of the plant.

Aluminium,
Metal of the Future

PUSHING BOUNDARIES

- ★ 608,964 tons of solid aluminium allocated

CONTINUING CHALLENGES

- ★ Major maintenance-improvement projects continue in various sectors
- ★ Reduce variability through work groups and initiatives
- ★ Power reductions to support Hydro-Québec

25 YEARS OF PARTNERSHIP

Commitment is a Must

A RELIABLE PARTNER

- ★ Supporting the 38th Orange Alouette Volleyball Tournament
- ★ 64th Alouette North Shore Invitational Curling Bonspiel
- ★ Continuing Partnership with *Maison Alouette* (Sept-Îles community organizations)
- ★ Participation in the *Salon sur les meilleures pratiques d'affaires*
- ★ \$176,500 raised with employees for *Opération Enfant Soleil*
- ★ \$121,102 raised with employees for **Duplessis United Way**
- ★ Many employees actively involved in the community
- ★ Honours given to first ship of the year: Spaarnegracht
- ★ Launch of greening program *L'Envert de ta cour* with the *Corporation de protection de l'environnement de Sept-Îles*

THE IMPORTANCE OF EDUCATION

- ★ Over 500 visitors tour Aluminerie Alouette in summertime
- ★ Many visits from student groups

SHAREHOLDERS, COMMUNITY AND PARTNERS

Aluminerie Alouette was founded thanks to the desire of Port Cartier, Sept-Îles and Uashat mak Mani-Utenam citizens to welcome a large company that would contribute to the economic diversification of the entire community. Alouette played an important role in the community right from the start, first and foremost by offering quality jobs to hundreds of citizens, but also by supporting numerous causes and organizations in the Sept-Rivières RCM. In 2016, the employees generously agreed to a new, payroll-deducted contribution to “*La Vague*”, a major campaign supporting the SeptÎles Hospital Regional Foundation. On-line access to Alouette's external financial-support policy now makes it easy to share information about the company's guidelines, and makes it easier to manage the hundreds of requests we get every year. Sharing information about common socioeconomic and environmental issues is at the forefront of any partnership, and Alouette is committed to regular contributions of content and communication. The accessibility of the plant to students and tourists is also highly appreciated.



25 YEARS OF IMPROVEMENT



Being
Well-Positioned

ESSENTIAL INITIATIVES

- ★ Continuation of **Plan (60/60)+** so that Aluminerie Alouette can reach its **full potential**

ACTIONS FOR SUSTAINABILITY

- ★ **New 161 kV electric power line** meets expectations
- ★ Installation and implementation of **new transformer-rectifier**
- ★ **Asset-management investments**, particularly in roof vent refurbishment

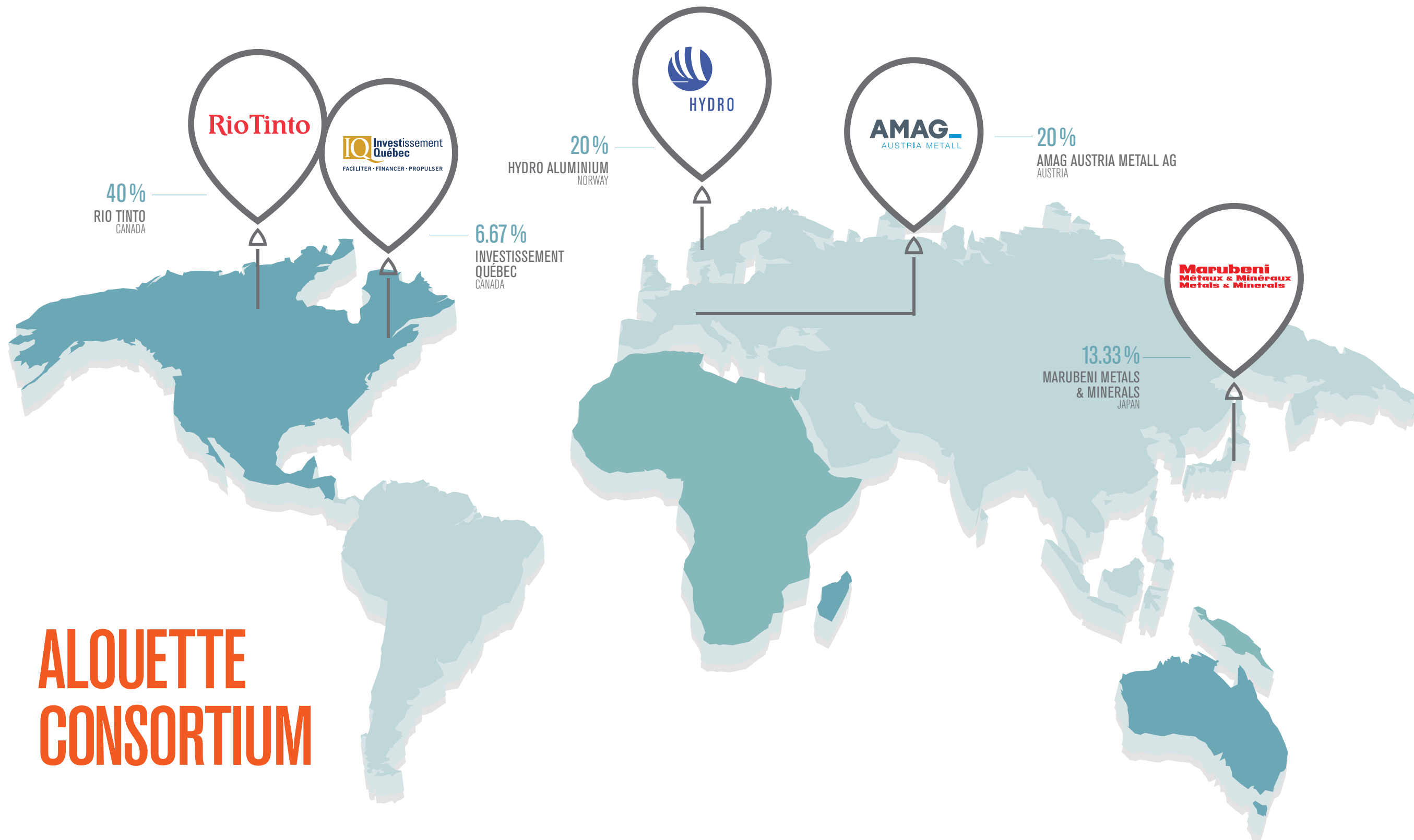
FINANCIAL EXCELLENCE

The current global aluminium industry is not promising, although demand should grow in the coming years. Prices remain low in a highly competitive global market. With the help of a risk-sharing electrical power agreement implemented in 2017, Aluminerie Alouette must nevertheless continue its initiatives, both internal and external, in order to favourably reposition itself in terms of costs. The process for achieving full potential continues as outlined in Plan (60/60)+, and results thus far demonstrate the success of our collective efforts. However, the company's assets require investments, highlighting the importance of maintaining

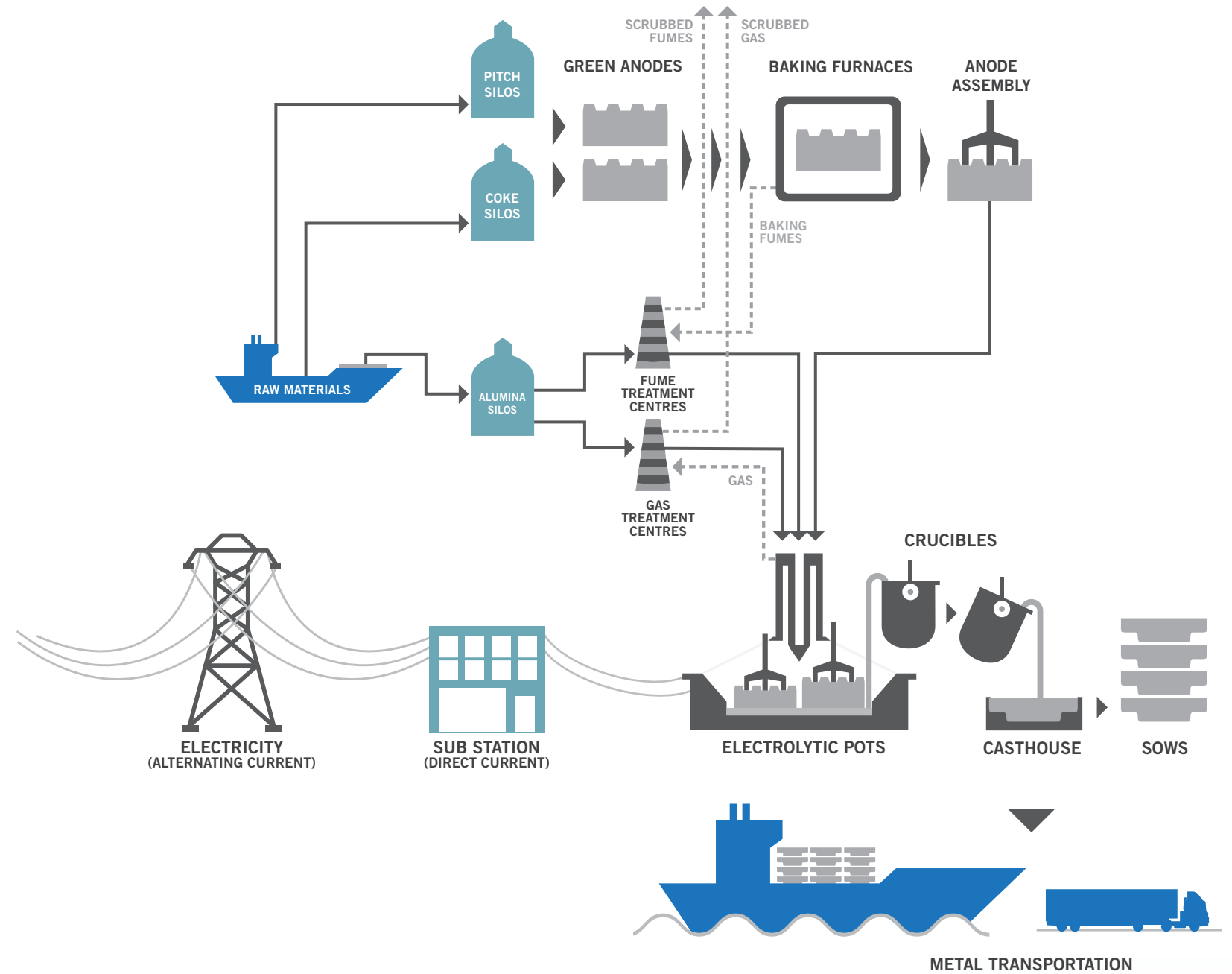
the pace in controlling costs. In-house projects already begun must be pursued and others will soon be underway. Suppliers are invited to contribute to these efforts in any way they can—in fact, meetings with individuals and organizations in conjunction with the Sept-Iles Chamber of Commerce have led to the exploration of certain opportunities. By working together, it is possible to achieve our objectives and ensure the longevity of the aluminium plant. Alouette still hopes to see natural gas come to the region, which would both create savings and reduce greenhouse gas emissions.



ALOUETTE CONSORTIUM



MANUFACTURING PROCESS





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Graphic Design:
Gendron Communication

Legal Deposit:
Bibliothèque et Archives
nationales du Québec 2016
ISSN: 1925-8186

Photo Credits:
Yannick Desroches
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