

Sustainability Through Disruptive Innovation

Sustainability Report 2013

Our Life

Cycle Approach

Welcome

Strategy

At Novelis, we have made a public commitment to significantly improve the life cycle impact of our aluminum products and meet an ambitious set of targets for the year 2020.

This sustainability report, our third, reviews our progress and challenges at each life cycle stage of our business: sourcing, manufacturing, customer use and end of life with consumers.

We have aligned this report to conform to the Global Reporting Initiative (GRI) G3.1 Sustainability Reporting Guidelines and the GRI Mining and Metals sector supplement at a GRI-checked "A" Application Level. Please see About This Report (p. 72) for an abbreviated GRI index and for more information about the report's scope and boundaries.

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Overview 🗸

Letter from Our Chief Executive Officer

To our stakeholders:

In early 2011, Novelis laid out an ambitious vision aimed at strengthening the long-term competitiveness of our business through sustainability and innovation. Our intent was to transcend the incremental approach by radically transforming our company – and, in the process, lead the way in our industry. At the heart of this vision is our unprecedented goal to use 80% recycled aluminum in our products by 2020. When we achieve it, we will cut the embedded carbon in our products in half. Working toward this goal is requiring us to embrace an entirely new way of thinking and operating. We call it the ethos of disruption.



This new approach is driving changes in the way we source inputs, structure our supply chain, make capital investments, develop our products and engage with our customers. The scale of these changes is staggering, and we recognize that they present numerous challenges and risks for our company. Nonetheless, we are convinced they will ensure the long-term success of our business and enable us to offer more value to our customers and to society. In the long run, they are less risky than a business-as-usual approach.

In short, we are in the process of shifting our whole business model from a traditional linear one to a closed-loop one. Clearly, we cannot make this shift alone – and much of our success will depend on changes that are outside of our direct control. That is why we are focused, in particular, on those aspects where we can have the most positive impact. Our new approach minimizes natural resource inputs – most notably the primary aluminum we use to make our products, but also the energy, water and other resources we use to run our operations. It also means reducing – indeed, driving to zero – the waste we produce.

Striving to become a truly sustainable enterprise also means rethinking the fundamental design of our products themselves - and reengineering the processes to make them. And, it requires an unwavering focus on what we see as the foundations of being a sustainable company: operating ethically and responsibly, being stewards of the environment, protecting the health and safety of our people, developing our employees to ensure they have the skills and expertise we need, and contributing to the communities where we operate.

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Overview

Sourcing

Consumers

To underscore our commitment to sustainability, we signed on to the United Nations Global Compact in 2012. We remain committed to this initiative, and we are working to implement its 10 principles.

So what does this ethos of disruption look like in practice? In a word: evercan[™]. In 2013, Novelis introduced this first-ofits-kind, independently certified, high-recycled content aluminum beverage can sheet. The product is a packaging breakthrough that delivers sustainability benefits to our customers and end consumers. Nonetheless, evercan will not replace the traditional can overnight. There is still much work to be done to achieve our goal to bring to market the world's first up to 100% recycled beverage can – pioneering the way to the circular economy.

In the automotive sector, it's all about "lightweighting." We are positioning ourselves to meet dramatically increased demand for aluminum, driven by the need to lightweight vehicles to improve fuel efficiency. We are also working closely with our auto customers to close the

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loop with them by taking back their production scrap and, in the longer term, end-of-life scrap.

We are still in the early stages of our sustainability journey, with many hurdles yet to overcome, but our efforts are already beginning to bear fruit: By the end of FY13, we had achieved 43% recycled inputs, up from 33% two years earlier. We have also improved our energy efficiency by nearly 20%, and reduced our water intensity by 16% and waste by 11%, since our baseline. This progress is being enabled by investments of close to \$500 million to nearly double our recycling capacity by 2015. In FY13, we began operations at a new can recycling facility in Yeongju, South Korea, the largest fully integrated beverage can recycling system in Asia, and broke ground on a plant in Nachterstedt, Germany, that will be the largest aluminum recycling facility in the world.

We are proud of the progress we've made – and the path to 50% recycled inputs by 2015 is clear. To be candid, however, achieving the remaining 30% is less clear. It will test the limits



of our company and require us to move even more aggressively toward a closed-loop model across all of our operations and products. For example, as we increase our use of recycled inputs, our waste generation increases. So, finding new technologies to process this waste will be critical to simultaneously reaching our 80% recycled content and zero-waste goals.

Our success will also depend on our ability to leverage the innovative capacity of our employees and enlist the efforts of our suppliers, customers and end consumers. For example, finding ways to increase post-consumer recycling rates is absolutely essential to enabling us to secure an adequate supply of scrap. However, our ability to influence consumer behavior on our own is limited.

I am confident that by bringing our industry-leading research and technology capabilities to bear, we will find the disruptive innovations required to get there. And, I am more firmly convinced than ever that our commitment to sustainability will be *the* key value driver for our company going forward. In the 21st century, there is no business as usual.

Thank you for taking time to learn about Novelis' sustainability efforts. We welcome your feedback and partnership as we work to make our sustainability vision a reality.

Philip R. Martens

Phil Martens President and Chief Executive Officer

Performance Summary

Strategy

In 2011, we established a set of corporate-wide 2020 sustainability targets, using the average of fiscal years 2007–2009 as the baseline where relevant. The arrows in the graphics below represent our progress in FY13 compared to both our baseline and our FY12 performance.



Overview C

Strategy

About Novelis

Novelis is the world's largest manufacturer of rolled aluminum, producing an estimated 14% of the world's total aluminum rolled products. The company serves customers in sectors including automotive, beverage can, and high-end specialties such as electronics and architecture. Novelis is also the largest recycler of aluminum worldwide.



1 We do operate one small aluminum smelter in Brazil, of which one line of two was shut down in March 2013.

2 3 Customers

62%

Key Novelis Facts and Figures for FY13

Strategy

	\$9.8 billion in net sales (FY12: \$11.1 billion) Holyees globally		2,786 metric kilotons of FRP shipments	FRP shipments by market 6% utomotive High-End Specialties
	North America	South America	Europe	Asia
Headquarters	Atlanta, Georgia, USA (global HQ)	São Paulo, Brazil	Zurich, Switzerland	Seoul, South Korea
Employees ²	3,120 (370 in global HQ)	1,760	4,320	1,770
FY13 Sales	\$3.4 billion	\$1.4 billion	\$3.2 billion	\$1.8 billion
Operations	Aluminum sheet for the beverage can, packaging, automotive, construction and specialties markets; light gauge products	Aluminum sheet for the beverage can, specialty, industrial and transportation markets; light gauge products; aluminum smelting; power generation	Aluminum sheet for the automotive, beverage and food can, architectural, industrial and lithographic markets; light gauge products	Aluminum sheet for the beverage can, electronics, architectural, industrial and automotive markets; light gauge products
Operating Facilities ³ 25 facilities in 9 countries, including recycling operations in 10 plants	Global Research & Technology Center; 10 plants (including 2 fully dedicated recycling facilities and 2 plants with recycling operations) in Canada and the USA	2 rolling plants (1 with recycling operations), 1 primary aluminum smelter and a hydroelectric power system, all in Brazil	9 plants (including 1 fully dedicated recycling facility and 2 plants with recycling operations) in Germany, Italy, Switzerland and the United Kingdom	3 plants (2 with recycling operations) in South Korea and Malaysia, plus a new automotive sheet finishing plant under construction in China
As of March 31, 2013 As of March 31, 2013				

Custon

Consumer

Strategy

Strategy

Transforming Our Business

A few years ago, Novelis embarked on a journey to radically transform our company – and our industry. We set out to be the undisputed leader in the aluminum rolled products industry through innovation and sustainability. We knew doing so would require forging the way into uncharted territory and overcoming numerous challenges. It would mean putting our stake in the ground even amidst many technical, market and regulatory uncertainties. But we are firmly convinced it will be the key driver of our long-term success.

\$775 million

in record capital investments in FY13 geared toward expanding recycling and rolling capacity and serving the beverage can, automotive and high-end specialties markets

Our Business Strategy



Growing our premium product portfolio

By focusing on differentiated, innovative, high-value, lowcarbon products



Driving operational improvements

Through consistent business practices and manufacturing excellence

<u>0</u>

Increasing our recycling capabilities

By growing global recycling capacity and scrap procurement

Sustainability Through Disruptive Innovation

Driving Business Growth Through Sustainability

We started this effort at a pivotal time in our industry: Demand for our products is expected to grow by more than 30% over the next five years, due in large part to sustainability drivers such as climate change, rising energy demands and natural resource scarcity, along with economic growth in emerging markets. Aluminum is strong, malleable, conductive, infinitely recyclable and - critically, in an energy- and carbon-constrained world - lightweight. As a result, aluminum stands poised to play a central role in the transition to the lower-carbon economy of the future - and to be an increasingly important component of the products consumers around the world are demanding.

Novelis is determined to both capitalize on and accelerate this potential – and we know that incremental change is not going to get us where we want to go. Rather, we need to use disruptive innovation and groundbreaking technology – which is precisely what we are doing. To be sure, such a bold approach is not without significant risks. But, in our view, the greater risk would be to continue business as usual.

We truly believe in the long-term trends driving demand for aluminum flat-rolled products. While a slower than expected recovery in the global economy has put us behind schedule in achieving our FY16 profitability target, we remain confident that our three-pronged strategy of increasing recycled content, optimizing our footprint, and growing our premium product portfolio will ultimately help us to improve our financial performance in the coming years. **Figure 1** Growing Demand for Aluminum (2012–2017) – And What's Driving It

Growth in demand for flat rolled products (cumulative growth worldwide)





Car manufacturers

are turning to aluminum for lightweighting vehicles, as lightweighting is a key enabler of significant fuel efficiency increases.



Growth in demand for aluminum in the automotive



Source: Novelis

estimates for long-

annual growth rate

term compound

(February 2013)

Electronics producers are using aluminum because it has heat-dissipation, noncorrosive, recyclability, aesthetic and low-weight properties, while the architectural market is also using aluminum for its unique look and sustainability qualities.

~6%

Growth in demand in the specialties market (including electronics)



Beverage companies

are switching to aluminum packaging for ease of transport, recyclability, and to better preserve their products, while economic growth in emerging markets is fueling increased consumption of canned beverages.

~4-5% Growth in demand

in the beverage can market





Transforming Our Business Model

Strategy

Novelis is firmly convinced that sustainability will not only be a powerful driver for growth in our industry as a whole, but also a key differentiator and competitive advantage for our company in particular. To realize this potential,

we are fundamentally reengineering our business model, processes and products and, in the process, delivering strong financial results, superior value to our customers, and low-carbon products that benefit society.

At the most basic level, our sustainability strategy is designed to significantly reduce the life cycle impacts of aluminum products. To do this, we are working toward a more circular business model (see Figure 2) that is focused on high recycled content, closed-loop manufacturing and sustainable product development.



Embedding Sustainability Across Our Business

At the heart of our sustainability strategy is our goal to reduce the embedded carbon in our products by increasing our use of recycled inputs to 80% by 2020, up from 33% in 2011. Recycled aluminum avoids 95% of the greenhouse gas (GHG) emissions associated with primary aluminum production. This strategic driver has implications for every aspect of our business (see Sourcing, p. 21).

Strategy

Equally critical is our focus on sustainable manufacturing, where our targets for energy, water and waste are driving changes across our operations. Lastly, we are focused on the foundation elements of a

Figure 3 A Team Effort: Developing and Launching evercan™

In 2013, Novelis introduced evercan sheet, the first independently certified, highrecycled content aluminum designed specifically for the beverage can market. The product is a breakthrough – and represents a critical step toward Novelis' ultimate goal to produce the world's first single-alloy, up to 100% recycled beverage can – fully closing the loop.

The development and launch of evercan illustrates the way that sustainability is transforming how people within Novelis think, act and operate – and requiring us to bring together different groups within our company, and outside of it – in new ways to develop innovative solutions.

The graphic at right shows the broad range of groups involved in developing evercan.

For more information on evercan, see p. 61.

sustainable enterprise that enable us to achieve our ambitious targets: operating ethically and responsibly; protecting the health and safety of our people; recruiting, retaining and developing our employees to ensure they have the skills and expertise we need; and contributing to the communities where we operate.

Since Novelis adopted its sustainability targets in early 2011, our efforts have shifted from defining *what* we want to accomplish to focusing on *how* to achieve it. Because sustainability is integral to our core business strategy, achieving our objectives requires embedding sustainability into our processes and decision making across literally every aspect of our company – from our manufacturing and procurement processes, to our product development and marketing efforts, to our employee hiring and training programs. Implementing our strategy also means connecting these different groups in new ways, to bring their diverse perspectives and skills to bear to find innovative and collaborative solutions for achieving our goals (see Figure 3).



Sourcing

Implementing Our Sustainability Strategy

Strategy

As part of the effort to develop our sustainability strategy, we conducted a materiality assessment to help us identify and prioritize the issues that are most important to our business and our stakeholders. The following highlights the key components of our sustainability strategy – focusing on those issues we assessed to be the highest priority among our universe of material issues – and provides examples of concrete steps we are taking to implement it.





Sourcina

Manufacturing

Customers

Consumers

Our Material Issues

(key sustainability focus areas in **bold**)

Sourcing Metal and other

resource availability **Recycled metal inputs Responsible sourcing**

Manufacturing

Profitable growth Attracting, developing and retaining talent

Environmental impact and carbon emissions of our products

Environmental footprint of our operations

Health and safety

Ethical behavior and compliance

Customers

Quality of customer service

Environmental impact and carbon emissions of our customers' products

Sustainable product innovation

Consumers

We aim to:

Increase our supply of

post-consumer aluminum scrap

Help our customers make

sustainable products that consumers want

Consumers/ Society

Post-consumer recycling

Reducing waste and resource use

Policy engagement

Consumer in-use sustainability benefits

Community engagement

> Strategic Objectives

Implementation

We aim to: Provide value to our customers, in particular by helping them meet their sustainability objectives How?

Customers

Evolve product design specifications: Working with our customers on product design to use more recycled content and increase recyclability. In FY13, we announced the launch of evercan[™], the first certified, high-recycled content aluminum sheet for beverage cans that optimizes closed-loop recycling and manufacturing efficiency.

Expand capacity to serve high-value, low-carbon markets: Invested \$300 million globally to expand finishing capacity to serve the automotive industry, where lightweighting is driving increased demand for aluminum. In FY13, we broke ground on the industry's first facility dedicated to producing aluminum sheet for the automotive industry in China.

Close the loop with our customers: Establishing scrap take-back agreements with our customers, with most new contracts now having these agreements.

How? Promote recycling awareness and **infrastructure**: Supporting a broad range of consumer recycling education, Can Counts and the Curbside Value Sustainability Through Disruptive Innovation Novelis Sustainability Report 2013

Q&A

with Jack Clark, Senior Vice President and Chief Technical Officer

The Link Between Sustainability and Research and Technology



It has been nearly a year since Novelis opened its new Global Research & Technology Center near the company's headquarters in Atlanta, Georgia. Why did Novelis create the Center?

A: The R&T Center reflects the fact that innovation and sustainability are the foundation of Novelis' strategy and will be critical drivers of our growth. As such, our research and development efforts need to be coordinated, business-driven and aligned with our customers' priorities. To make that a reality, we decided to create a global hub where our metallurgists, materials scientists, engineers and other research and development teams can work together under one roof – in close proximity to and in partnership with our global commercial and operational teams, as well as our customers directly – to create the product and process innovations that will keep Novelis at the forefront of our industry.

How do Novelis' research and development priorities align with Novelis' sustainability objectives?

A: They are inextricably linked. A huge portion of our research and development efforts are aimed at responding to or capitalizing on sustainability drivers, from creating new technologies to increase fuel economy by vehicle lightweighting, to making consumer packaging and electronics products more environmentally friendly. We also are doing a lot of work that will help Novelis reach its 80% recycled inputs goal, including developing new, more recyclable alloys for use in our products and finding ways to process a wider range of scrap. We fundamentally believe that sustainability will be a key differentiator and competitive advantage for our company – and that innovation is key to unlocking it.

From a technology standpoint, what do you see as the biggest sustainability challenges facing Novelis?

A: On the process side, dross, which forms from melting or reprocessing, is a big challenge. More from the production of dross during the recycling process, and as we continue to expand our recycling operations, we are going to generate more dross. In the last year, we've made some headway on this issue with the development of a new magnetic stirring device that increases melt rates and reduces dross generation. However, we know this is going to continue to be a big challenge as we work toward our zero-waste-to-landfill goal. On the product side, one of the biggest challenges will be finding and developing the technology to collect, sort and process more varied and dirtier kinds of scrap - that is, scrap that has been contaminated with food issue for us as we source more scrap from emerging economies where the recycling infrastructure isn't as well developed.

Our Sustainability Progress and Performance

Over the last three years, Novelis has made steady progress toward many of our sustainability targets.

By the end of FY13, we had increased our amount of recycled inputs to 43%, up from 39% the year prior and from our baseline of 30%. We also made progress toward our water use and GHG reduction goals, though our energy efficiency performance remained flat. While our energy efficiency projects yielded significant results, they were not enough to overcome increased energy demands related to expansion projects, increased recycling operations and other challenges stemming from product mix changes and lower volumes (see p. 35 for more detail).

In FY13, we also took a key step toward our responsible sourcing objective with the launch of our Supplier Code of Conduct, and we held our inaugural Novelis Month of Service, a focused effort to undertake employee volunteer efforts at our locations around the world. We also significantly increased our external engagement with a range of organizations and initiatives to continue to further our sustainability knowledge. An example of this work is the sustainable design of our revolutionary new product, evercan. In some cases, however, our progress was not what we had expected. We tragically experienced one contractor fatality during the year. Health and safety continues to be a key area of focus, discussed on p. 44. In addition, our waste generation increased during the year. This was primarily due to increasing our use of recycled inputs. Scrap contains more contaminants compared to primary aluminum, so when melted, the contaminants cause increased dross production, our primary source of waste. Finding new technologies, market solutions and partners to process the increased quantities of dross we will generate is a key priority for Novelis going forward.

Our human resources and information technology functions are making significant improvements in how the company manages and monitors a range of personnel issues. Progress toward our employee evaluation target accelerated in FY13, and we expect that once Novelis 2.0, our new enterprise resource planning system, is fully operational, we will experience a further increase in performance toward our goal of 100% of eligible employees receiving annual performance feedback by 2020. In addition, we graduated our first class of Engineering **Development Program participants** in FY13, and continued to strengthen our suite of other leadership development programs.

In Action...

"Not just aluminum, Novelis Aluminum"

In FY13, Novelis launched an updated brand identity to articulate what sets Novelis apart from other aluminum providers: technology, innovation and sustainability. The brand is designed to reflect the value Novelis delivers and the unique position it holds in the marketplace.

- Novelis delivers a material advantage, through our unique combination of advanced technology, superior expertise and global footprint.
- Novelis is a catalyst for innovation, working with our customers to shape Novelis aluminum into the most sophisticated and innovative products in use today.
- Novelis is re-creating a sustainable future through our recycling leadership and commitment to sustainable manufacturing.

In short:

Our customers are purchasing not just aluminum, but Novelis Aluminum.

Comments from Our Sustainability Advisory Council

In FY12, Novelis formed a Sustainability Advisory Council to provide a formal mechanism for the company to solicit expert advice and critical analysis of our sustainability goals, efforts, performance and reporting.

Three years ago Novelis announced sustainability goals that were so ambitious they stretched credibility. Today, the company is well on its way to achieving or exceeding those goals and, most exciting, it is showing the world that setting your sights astronomically high is great for business, for the environment and for everyone engaged in the mission. How are they doing it? What is different from other companies? Most important, their mission is the top priority for their CEO and the entire senior management team. They have crystal clear analysis of their goals and the obstacles to achieving them. And they measure their progress precisely, comprehensively and often. For Novelis, sustainability is not just a key part of their business. It IS their business.

Matt Arnold, Head of Environmental Affairs, JPMorgan Chase

Ours is a world of stuff, and demand for raw materials increases every year. As do the mountains of waste that result. So the pressure is on, as never before, to manage those flows of raw materials as super-efficiently as possible. Novelis is at the heart of that revolution – and is going at it with a great deal more vigor, purpose and creativity than any of its competitors. Being "a little less wasteful" and "a little more efficient" doesn't hack it: one step-change after another is what is required.

For Novelis, it starts with the 80% target. That's what's known as "a big, hairy audacious goal." Bear in mind, as you get to grips with both its successes and its failures, this kind of dramatic transformation is the bare minimum that will be asked of *every* company in *every* sector over the next few years.

Jonathon Porritt, Founder, Forum for the Future

As a member of Novelis' Sustainability Advisory Council, I have seen a tremendously serious commitment by the company, from the top managers to employees at the ground level. They have established challenging goals that put sustainability at the core of the business, and have a clear and objective plan, combined with regular and precise monitoring. They also engage with stakeholders through a variety of mechanisms. In a world thirsty for sustainability solutions, Novelis is addressing climate change by cutting its emissions; reducing its impact on natural resources by offering products that are recycled and recyclable; and contributing to society by respecting, engaging and valuing communities. Novelis knows this is the right way to do things, and also good business.

Miguel Milano, Board Member Instituto LIFE, Fundação O Boticário de Proteção a Natureza

Having had the privilege to serve on Novelis' Sustainability Advisory Council, I have come to the firm conclusion that the executive leaders at Novelis fall squarely in what I call the *Transformer* category. Transformers are executives who are willing and able to stake out a new direction for their companies — one that will disrupt current industry structure and "leapfrog" toward a more sustainable world. Not satisfied with incremental improvement, Transformers seek creative destruction.

Novelis has staked out a strategy that seeks to divorce the production of aluminum from greenhouse gas intensive bauxite mining and primary aluminum production. In so doing, they aim to reinvent the entire industry to become both more environmentally sustainable and socially inclusive. And, if successful, this strategy could also make them the most dominant and profitable player in the sector for decades to come. This is the epitome of sustainable enterprise.

Stuart Hart, S.C. Johnson Chair in Sustainable Global Enterprise, Cornell University

Customers

Stakeholder Engagement

Strategy

Effectively engaging stakeholders is an essential part of being a responsible company, and Novelis is committed to working to understand and be responsive to the full range of stakeholders who are impacted across our value chain.

Novelis is well along the path of becoming a sustainable growth company. What makes Novelis unique is that it is one of the few companies I have seen that has fully comprehended sustainability in its business strategy, and is now embedding it throughout the company. The key ingredients for their success have been leadership commitment, innovation and the courage to step out where other companies have not gone. While great progress has been made, as evidenced by the statistics in this report, the job is never finished. The future requires full implementation of the current objectives and including new elements to the plan that have yet to be contemplated.

Jeffrey Keefer, Former Executive Vice President, DuPont



From left, back: Stuart Hart, Jack Clark, John Gardner, Jonathon Porritt. Front: Matt Arnold, Jeffrey Keefer and Miguel Milano Not pictured: Council members Phil Martens and Brad Soultz

Our stakeholders include employees and employee representatives, customers, suppliers, bond holders, our board and investors, regulators and policy makers, the communities in which we live and work, and sustainability organizations, including nongovernmental organizations concerned about the social, environmental and climate impacts of the production and use of aluminum products.

Stakeholder engagement is also a key ingredient for achieving our sustainability goals. Our life cycle approach requires working to shape and shift policies, practices and behaviors that take place far beyond our own walls - such as post-consumer recycling, consumer product design and scrap collection infrastructure. It also requires tapping into the expertise of individuals and organizations with a range of different perspectives so they can help us develop the innovative solutions needed to meet our ambitious targets. In short, we simply cannot achieve what we want if we only focus internally. As a result, external stakeholder engagement is a central component of our approach to sustainability.

We engage with our stakeholders on an ongoing basis and through a variety of mechanisms. For example, we have formal community engagement, giving and volunteer programs in place at all of our sites. We engage with our customers and suppliers directly on many projects. We also engage directly with a range of nongovernmental organizations, such as the World Wildlife Fund, the International Union for Conservation of Nature, As You Sow and SustainAbility.

Another key mechanism is our Sustainability Advisory Council, which is made up of worldrenowned experts and leaders in the sustainability field. To ensure the Council has a direct line of communication to the most senior decision makers at the company. the Council also includes Novelis' CEO, Chief Commercial and Strategy Officer, and Chief Sustainability Officer. The objective of the Council is to provide a regular channel for Novelis to solicit external expertise, advice and critical analysis for our sustainability efforts (see left for comments from the council members). We deeply value the council members' insight and perspectives, and encourage them to genuinely challenge and expand Novelis' thinking on sustainability. The Council has two formal meetings per year, and members are engaged on an ad hoc basis between meetings.

Industry Engagement

Strategy

Another way we engage with stakeholders is through our involvement in various industry associations. Key memberships include the Aluminum Association, European Aluminium Association, Metal Packaging Europe, European Organization for Packaging and the Environment (EUROPEN), Can Manufacturers Institute, Automotive Industry Action Group, Curbside Value Partnership and others. Participation in these associations enables Novelis to engage with our customers, suppliers and competitors on issues of mutual interest, as well as to advocate on global and national public policy issues (see facing page).

In 2013, Novelis joined the Aluminium Stewardship Initiative, an industry effort that is seeking to mobilize a broad base of stakeholders to establish and promote responsible practices across the aluminum value chain (see box at right).

In Action...

Working to Raise Standards Across the Industry

Launched in 2012, the Aluminium Stewardship Initiative (ASI) is an industry effort that seeks to foster greater sustainability and transparency across the aluminum value chain. Working with the support of the International Union for Conservation of Nature, ASI members include companies active across the entire value chain. The diverse membership is designed to promote a holistic and systemic approach, focusing on both the production and use of aluminum. Several of Novelis' key customers are also involved in this initiative, including Audi, BMW, Ball, Rexam, Amcor and Nespresso. The ASI's first goal is to develop the ASI Standard to define principles and performance criteria in the areas of governance, environmental and social practices.

Achieving aluminum's potential to help address many of the world's sustainability challenges will depend on the aluminum industry maximizing the value of its products, while minimizing the adverse environmental and social impacts. Novelis is proud to be part of this important initiative working to make that a reality.







Curbside Value Partnership organization brochure Overview

Manufacturing



with Lorraine Smith, Director, SustainAbility

An External View of Novelis



Based on SustainAbility's work with Novelis, what stands out to you about the company's approach?

A: Novelis is one of a relatively small group of global companies whose sustainability efforts are guided by a truly strategic, businessdriven approach to their most material issues. The company has been disciplined in its approach, understanding its operational and product impacts and directly tying action on sustainability to the business. That's not to say Novelis' efforts are driven solely on the basis of short-term cost or return; on the contrary, the company's sustainability vision is explicitly aimed at positioning the company to capture value in a lower-carbon economy over the long term.

Where would you like to see Novelis focus its sustainability efforts going forward?

A: At SustainAbility, we're increasingly convinced that sustainability requires change at the systems level, rather than simply at the individual company, or even industry level. That's why we're genuinely excited to see what Novelis is doing. With its 80% recycled inputs goal, Novelis is transforming not only itself as a company, but it has the potential to affect the broader aluminum industry. Further, because Novelis aluminum is in the value chain of so many other companies, the dramatic life cycle improvements Novelis is making to its products have a wider impact. Building on this, Novelis has an opportunity to extend its leadership by advocating for bolder action on the part of policy makers, the broader business community and other stakeholders.

SustainAbility is an independent think tank, strategy consultancy and Certified B Corp that helps companies create value through the development of innovative solutions to environmental, social and governance challenges.

Public Policy Engagement

The majority of Novelis' advocacy on global and national public policy issues is conducted through industry associations, rather than by directly engaging with policy makers. At the local level, Novelis works with public officials and government agencies on local issues and policies that affect our business.

Climate change is a key policy priority for Novelis, and we support dialogue and action to address climate change and facilitate the transition to a low-carbon economy. We support policies that take a holistic approach by factoring in overall life cycle impacts and benefits, including recycling. In 2013, we signed the Climate Declaration, a statement from Ceres and the Business for Innovative Climate & Energy Policy (BICEP) coalition calling on federal policy makers in the United States to take action on climate change. We also joined the United Nations Global Compact and United Nations Environment Programme's "Caring for Climate" initiative, which is aimed at advancing the role of business in addressing climate change, including helping shape public policy responses.

End-of-life recycling is another key policy priority for Novelis, and we are committed to collaborating with regulators and other stakeholders to support policies that encourage and enable efficient recycling. Whether through post-consumer recycling programs or facilitating customer take-back arrangements, our approach is to support recycling policy efforts of all kinds.

Novelis made no political contributions in FY13, either directly as a company or through employee political action committee donations.

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Sustainability Management and Governance

At Novelis, we take an integrated, cohesive approach to managing sustainability issues alongside, and on par with, our other financial and operational objectives.

Corporate Governance and Policy Framework

Management of our company starts with our strict adherence to corporate governance principles. Novelis' Board of Directors is composed of five directors, all of whom were appointed by our sole shareholder, Hindalco Industries Limited, which is a publicly held company whose shares are listed for trading on the Mumbai Stock Exchange, the National Stock Exchange of India and the Luxembourg Stock Exchange. Our Board oversees and provides guidance on the overall direction of our company, while our executive officers are responsible for the dayto-day management.

Novelis has a Code of Ethics for Senior Financial Officers, which reflects our commitment to financial integrity and to full and accurate financial disclosure in compliance with applicable accounting policies, laws and regulations. In FY13, we released an updated employee Code of Conduct. The Code provides guidelines for employees to ensure that they are acting within Novelis' standard of ethics. The Code covers five key areas: acting with integrity and in Novelis' best interests; promoting a desirable work environment; safeguarding the company's assets; engaging in ethical interactions with government; and dealing fairly with third parties (see p. 49 for detail). Also in FY13. Novelis launched a new Supplier Code of Conduct that provides guidelines for how we expect our suppliers to conduct business in an ethical and responsible manner (see p. 27 for detail).

Sustainability Management at Novelis

Our Vice President and Chief Sustainability Officer, who reports to our CEO, is responsible for leading implementation of the company's sustainability strategy. Because our sustainability strategy is integrated into our corporate strategy and cuts across all aspects of our business, implementation is by necessity cross-functional. All of Novelis' senior executives have responsibility for delivering on some aspect of the plan, and sustainability aspects are integrated into a range of policies and systems we use to manage our company (see p. 30 for more information).

Our sustainability targets, alongside financial and operational ones, essentially form our company's scorecard, which we use to monitor the company's performance against our strategic objectives. Sustainability programs and initiatives are also reviewed at monthly leadership meetings. 9

ng Cust

Sourcing

Our Material Inputs

Novelis is one of the largest purchasers of aluminum in the world. Our most significant environmental impacts and social risks occur "upstream" in our value chain through raw materials sourcing. Our sustainability strategy is driving profound changes in how we source our aluminum inputs – as well as the other products and services we use to run our business. In the process, we will dramatically improve the life cycle footprint of our products, increase security of supply of essential raw materials, reduce risk and improve sustainability practices in our supply chain.

Our Key Aims

Reduce the embedded carbon in our products by increasing recycled content

Reengineer and minimize risk within our supply chain

Our Key Challenges

Increasing recycling rates to ensure a sufficient supply of scrap

Developing the technology to collect, sort and process more varied and less clean kinds of scrap

million

tons

Novelis buys

Our Target		Baseline (FY07– FY09 Average)	FY13 Performance	FY20 Target
Recycled metal content	80% by 2020	30%	43%	80%

See p. 5 for our full performance summary.

9

Our Global Recycling Strategy

At the heart of Novelis' sustainability strategy is our goal to reduce the embedded carbon in our products by increasing our use of recycled inputs to 80% by 2020. At the end of FY13, our percentage of recycled inputs was 43%, up from 39% the prior year and up 13% from our baseline.

Recycled aluminum avoids 95% of the greenhouse gas (GHG) emissions associated with primary aluminum production – and also uses significantly less energy and water. When Novelis reaches 80% recycled inputs, even with greater sales, we will eliminate 10 million metric tons of GHGs from the aluminum production chain – cutting our absolute Scope 1, 2 and 3 emissions in half (for more information on our approach to GHG emissions,

see p. 32). Increasing our use of recycled aluminum also helps ensure security of supply and, over the long term, reduces costs.

While our 80% target is aggressive, it nonetheless recognizes that we will continue to require some primary aluminum to manufacture our products. This is due to the long life aluminum has in use in many products, as well as the overall increasing global demand for aluminum (see p. 9). At the most basic level, our recycling target is a sourcing issue. However, achieving it in practice will require taking steps at all stages of the product life cycle and reengineering our entire supply chain. It has implications for nearly every part of our business.

Figure 5 When We Reach 80% Recycled Inputs

Why only 80%?

The availability of aluminum products for recycling varies depending on their lifespan. This is due to the long life aluminum has in use in many products.

There is also an overall increasing global demand for aluminum – using recycled content alone will not satisfy that demand.

We will continue to require some primary aluminum to manufacture our products.

22



is the average lifespan of an automobile

50 years is the approximate lifespan of aluminum in buildings













Manufacturing

Getting to 80%

Figure 6

The Pillars of Our Recycling Strategy

Increase Post-Consumer Recycling

infrastructure and to develop

partnerships that facilitate

Learn more in

Consumers, p. 66

50% of our scrap inputs

will be from non-can

scrap by 2020 - up

from 33% currently

Evolve Design Specifications

Collaborating with our customers to advance research and development of products with greater recycled input and that are more easily recycled.

> Learn more in Customers, p. 58.

2020 target:

recycled inputs

FY13 performance:

recycled inputs

esearch bevera oducts

aluminum in first certified high-recycled content beverage can body sheet

90% minimum recycled



Increase Recycling Capacity

Making significant investments to increase our global recycling capacity by expanding existing facilities and building new ones.

Learn more in Sourcing, p. 21.



75% increase in our recycling capacity by 2015

73% of our scrap inputs were made up of post-consumer recycled aluminum in FY13

73%

Expand Scrap Purchasing System

C

Diversifying the kinds of recycled aluminum we purchase and process, and also becoming more systematic about taking back scrap our customers produce during their manufacturing processes.

> Learn more in Sourcing, p. 21.



Reshape Our Product Portfolio

(•••)

Shifting our product portfolio to be more focused on higher-value, lower-carbon products that offer the potential of greater end-of-life recycling and recycled input.

Learn more in Strategy, p. 8.



80% of our shipments in FY13 went to can, automotive, high-end specialties – all markets where sustainability adds value

Sustainability Through Disruptive Innovation Novelis Sustainability Report 2013 23

Consumers

In Action: Creating a Closed-Loop Recycling System in Vietnam

The Challenge...

To achieve our recycled inputs goal, we need to dramatically increase the supply of scrap aluminum we purchase. Recycling collection infrastructure varies across different locations, and logistical challenges make it difficult to access additional and more varied sources of scrap.

60 billion

Number of used beverage cans Novelis expects to buy annually by 2015 – up from 40 billion today

Why It's Important

This new center will help to facilitate and grow closed-loop recycling in Vietnam. It will also provide us with a reliable source of UBCs for our newly commissioned recycling center in Yeongju."

Derek Prichett, Vice President, Global Recycling

Our Response...

In July 2013, we opened our first recycling center in Vietnam, located near Ho Chi Minh City. Using a model similar to the one we are using in several locations across Brazil and the U.K., the new center is designed to enable us to increase the supply of used beverage cans (UBCs) we procure by connecting us directly with collectors at the "street level" rather than purchasing only from large dealers.

The new center in Vietnam handles the procurement, cleaning and baling of UBCs. Once processed in Vietnam, the UBCs are sent to the newly commissioned recycling center at our Yeongju facility in South Korea to be recycled and re-rolled into can sheet. An equivalent amount of can sheet is then sent back to Vietnam to be remade into beverage cans. We will also work with our can customers in Vietnam to collect process scrap, which is recycled and converted back into can sheet in Yeongju as well. With the new operation, we are creating a closed-loop recycling system for Vietnam.

The recycling center in Vietnam will directly employ approximately 20 people – as well as help support the livelihoods of individual collectors and people working in small collection centers.



Building the World's Largest Recycling Network

Our global recycling strategy calls for Novelis to achieve recycling capacity of more than 4 million metric tons of scrap by 2020, and we are making significant investments to get there.



These projects alone will still not allow us to get to 80% in 2020, so we will add further recycling capacity over the years to come.

Nachterstedt, Germany

During FY13, Novelis broke ground on a new recycling center at our rolling facility in Nachterstedt, Germany. The center is projected to be the largest and most advanced recycling facility in the world. It will be able to process 18 different types of scrap metal, as well as remove paper, plastic and nonferrous metals from the scrap stream. It will begin operating in 2014, and once fully operational, the facility will add 400 kilotons of sheet ingot capacity – and take Novelis to 50% recycled inputs in our products globally.

Pieve, Italy

Also in FY13, Novelis began operation of a new aluminum recycling and continuous casting line at our plant in Pieve, Italy. The technology included in the new line will allow us to process scrap with paint and plastic coatings – a type of scrap that has traditionally been difficult to work with. When the new line is up to full production levels, it will increase capacity at the facility by approximately 20%, adding 15 kilotons of annual recycling capacity.

Yeongju, South Korea

During the year, we also began operations at our Yeongju, South Korea, recycling and casting center, which has the capacity to produce 265 kilotons of high-quality sheet ingot for Novelis' Korean plants. When the facility came online, it made Novelis the largest recycler of used beverage cans in Asia – and of all types of aluminum worldwide. It also helped increase Novelis' use of recycled inputs in Asia – which hit a record 50% by early 2013.

Pinda, Brazil

Also in FY13, we broke ground on a new UBC recycling facility at our Pinda mill in Brazil. This expansion is expected to begin commissioning at the end of 2013, and will process approximately 190 kilotons when fully utilized.

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Manufacturing

Growing and Diversifying Our Scrap Inputs

Hand in hand with increasing our recycling capacity, we are expanding and reshaping how we source scrap to ensure we have an adequate supply to meet our recycled inputs target.

We have established new collection networks in Brazil, and are beginning to do so in Vietnam, that are enabling us to increase our supply of scrap by developing relationships with small collectors and scrap yards, rather than purchasing only from commercial companies that handle very large volumes (see p. 24).

In FY13, Novelis also established a new organization for the procurement of used beverage cans (UBCs) in North America that will make us the largest UBC buyer in the region. This followed our announcement earlier in the year that we were withdrawing from Evermore Recycling, a UBC purchasing joint venture between Novelis and Alcoa. We made this move because we determined that having the ability to independently manage our UBC procurement business would provide us with more flexibility to execute our global recycling strategy.

As the leading recycler of UBCs in the world, Novelis currently buys the equivalent of 40 billion cans a year, worth an estimated \$1 billion. We expect our global consumption of UBCs to grow to approximately 60 billion cans by 2015.

In addition to increasing our supply of UBCs, we are focused on diversifying the kinds of scrap we purchase and process. Currently, 67% of the scrap

we process is from the beverage can market, but by 2020, we expect that can scrap will account for only about half of our inputs. As a result, dramatically expanding the types of scrap metal we purchase - while at the same time also increasing the amount of UBCs we buy – will be essential to meeting our 80% recycled inputs target. Another tool we are using to increase our supply of scrap is establishing closed-loop agreements with many of our customers, who send us their aluminum manufacturing scrap to be recycled.

The key to increasing our scrap supply will be having the capability to process it all. Processing other, more variable types of scrap presents technical challenges, as it is difficult to separate out the aluminum for recycling when it is mixed with a range of materials. However, we are installing technology in the facility we are constructing in Nachterstedt, Germany, and in some of our other recycling centers that will enable us to purchase scrap that has been available, but that we did not previously have the capacity to process. In addition to increasing our purchase of UBCs, we expect to also increase scrap from building and construction, automobiles and other transportation, electrical wire and cable, and other sources.



*Prime: primary metal blocks that we predominantly use in remelting **Primary sheet ingot: rolling ingots made from primary metal Sourcing

Manufacturing

Customers

Responsible Sourcing

As Novelis works to implement our sustainability strategy, another key area of focus is encouraging transparency, responsibility and sustainable business practices in our supply chain.

This allows us to not only better understand and control risks in our business, but also to help catalyze positive change beyond our own operations.

In FY13, Novelis launched a new Supplier Code of Conduct that provides guidelines for how we expect our suppliers to conduct business in an ethical and responsible manner. While many of our suppliers already have robust policies and practices in place consistent with the expectations in our Code, we nonetheless wanted to ensure all of our suppliers are aware of, and adhering to, Novelis' standards.

The Code, available on our website (www.novelis.com/suppliers), is based on externally accepted principles, including the United Nations Global Compact, of which Novelis is a signatory. The Code outlines expectations for our suppliers in the areas of legal compliance, labor and human rights, abolition of child labor, health and safety, environmental protection, and promotion of the Code within their own supply chains. All Novelis suppliers will be expected to agree to the terms of the Code and uphold the Code in all their operations.

To support the launch of the Code, we conducted training for our internal procurement teams to ensure they were familiar with the components of the Code and aware of the potential sustainability issues and challenges facing suppliers in various product categories.

We are conducting a phased rollout of the Code to current suppliers. In the first phase, we have distributed the Code to our largest global suppliers, which represent approximately two-thirds of our total annual sourcing spend. In the second phase, we will distribute it to our remaining suppliers. We expect that during 2014, we will have distributed the Code to all current suppliers. In addition, we are building the Code into our procurement processes, such that the Code will be part of the standard terms and conditions for all new suppliers.

Suppliers will be required to provide Novelis with a signed affirmation that they have read and understand the Novelis Supplier Code of Conduct and agree to adhere to its provisions. We will monitor compliance through supplier self-assessments, conducted via questionnaires and surveys. In addition, in instances where we have reason to believe a supplier may not be in compliance with our Code, we will conduct supplier audits and inspections.

Conflict Minerals

In recent years, governments, the private sector and civil society have become increasingly concerned about the issue of conflict minerals. The concern is that mining for certain minerals - particularly tantalum, tin, tungsten and gold – often takes place in environments where armed conflict and human rights abuses are present, and that proceeds from the sale of the minerals help to finance the conflict. In 2012, the United States Securities and Exchange Commission issued a rule as part of the Dodd-Frank Act that requires public companies to disclose whether they use conflict minerals, and whether the minerals originated in the Democratic Republic of the Congo or adjoining countries. These minerals are not required in the manufacturing of the products that we produce for our customers. Novelis is conducting due diligence to confirm that no minerals designated as conflict minerals are in our supply chain.

Manufacturing

Manufacturing

Customers

Consumers

ourcing

Our Operations and People

Our sustainability strategy calls for driving improvements in our manufacturing operations – from our natural resource use, to developing our people, to strengthening engagement with our communities. This section discusses how we are making this happen through our *One Novelis* culture, our management systems and the expansion of our operations. It also covers our FY13 performance and initiatives in the manufacturingrelated areas of environment, people and community.

Our Targets		Baseline (FY07– FY09 Average)	FY13 Performance	FY20 Target				
2020 Operational Targets								
Energy usage	Reduce by 39% per metric ton of sales	12.4 GJ/mt	10.0 GJ/mt	7.6 GJ/mt				
Water usage	Reduce by 25% per metric ton of sales	3.7 m ³ /mt	3.1 m³/mt	2.7 m ³ /mt				
GHG emissions	Halve our absolute amount (Scope 1, 2 and 3)	21M mt	18M mt	11M mt				
Landfill	Zero landfilled waste	62.5K mt	55.6K mt	0K mt				
2020 People Targets								
Safety	Zero recordable injuries	1.01	0.60	0				
Employees	100% of eligible employees receive annual performance feedback	NA	52%	100%				
	World-class leadership development program, benchmarked in the top 10% of companies	NA	In progress	Benchmarked in top 10%				
Community	100% of operations have implemented local community engagement process	NA	In progress, but all operations have Novelis Neighbor programs	100%				
Code of Conduct	Employee and Supplier Codes rolled out, process in place for noncompliance	NA	In progress	100%				

ee p. 5 for our full performance summary.

Our Key Aims

About This Report

Maintain safe, efficient operations that minimize natural resource use

Ensure an adequate supply of talent

Maintain our social license to operate

Our Key Challenges

Driving energy efficiencies even as we expand our operations and evolve our product mix

Finding new ways to process the increased dross we will generate as our recycled content increases

Reducing our safety case rate all the way to zero

Attracting enough qualified engineers to meet our needs



Novelis' Global Expansion

Since the start of FY11,

we have announced approximately

in investments to expand our

recycling, casting, rolling and

finishing operations

To promote Novelis' long-term profitability and economic sustainability, we are aggressively expanding our operations around the globe.

> the investments will help us to meet our goal of 80% recycled aluminum inputs. The Sourcing section (see p. 21) describes these recycling capacity expansions in more detail.

These expansion plans align with our

sustainability strategy, as many of

Our investments are also focused on expanding our capacity to provide differentiated, high-value, lowcarbon products in our core markets of beverage cans, automotive and high-end specialties. For example, we broke ground in Changzhou, China, in late 2012 on what will be the first production facility for

aluminum automotive sheet in that country. The Changzhou facility will feature a continuous heat treatment line for annealing, pre-treating and finishing automotive sheet, which will then be ready to be stamped into vehicle body parts. With global automakers aggressively ramping up their production in China - which in 2009 became the world's largest automotive market - this new facility positions us well for growth in the automotive sector. The facility is expected to be completed in 2014. (See the Customers section p. 58 for more on our automotive product offerings.)





Building "One Novelis" for Manufacturing Excellence

Through both people and processes, our One Novelis approach is helping to drive manufacturing excellence in our operations. On the people side, we have been working to transform and align our talent management practices at our sites across the globe, to eliminate regional and departmental differences and operate as a single, integrated company. On the process side, we are working to continuously improve our operations by initiating lean principles, strengthening health and safety practices and environmental management and developing new ways to maximize use of our plants, increasing both productivity and customer service.

A key aspect of our *One Novelis* effort is our investment in a new integrated enterprise resource planning system called Novelis 2.0. This system will allow us to operate as a truly globally integrated company with consistent business processes and information systems. Novelis 2.0 will improve tracking of our environment, health and safety data and allow us to retrieve human resources, financial, manufacturing, commercial and other business data at the global level. While rollout of the program has been progressing at a slightly slower pace than originally planned, we have implemented the new system in three locations thus far in North America, with a rollout schedule for the remainder of the company set for the next few years.

Our Environment, Health and Safety (EHS) Management Systems

Achieving EHS and quality excellence requires rigorous, consistent management systems. All Novelis manufacturing sites⁴ are certified by the following internationally recognized management systems:

The ISO 14001 environmental management standard, which provides a framework for continuous improvement of our environmental performance.

The OHSAS 18001 Occupational Health and Safety Specification, which serves as the foundation of our management approach to employee health and safety.

Either the ISO 9001 or ISO/ TS16949 quality management system standards, which provide a framework to improve system and process quality to increase efficiencies, reduce risks and avoid errors.

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These certifications are one element of our push to standardize our business systems, processes and procedures across all our operations to achieve consistent, high levels of performance.

Novelis' Chief Technical Officer oversees our operations, engineering, research and development, and EHS functions. The global EHS team develops standards, provides expertise and facilitates best-practice sharing across Novelis, while local line managers and plant EHS staff throughout our many manufacturing sites together are accountable for EHS performance at the plant level.

Our CEO leads our EHS Steering Committee, which oversees EHS strategy and performance at the global level. Similar cross-functional teams operate at the regional and plant levels and are championed by senior line managers with the support of EHS, Human Resources and Communication partners. The teams provide leadership, direction and strategy to effectively implement programs and initiatives. Our Global Energy Team sets our energy efficiency strategy, facilitates best practice sharing and reviews our energy usage on a granular level.

We report on our EHS performance through this sustainability report and to various regulatory agencies as required. We also report our carbon dioxide emissions and energy use to the Carbon Disclosure Project (CDP).

⁴ Except our Toronto packaging plant, which is not ISO9001/TS16949

cturing Customers

In Action: Our New Network of Environmental Committees

The Challenge...

Strategy

At Novelis, our aggressive energy, water and waste goals have created the need for new thinking and new systems for driving progress in our operations. To reach our goals, it will not be enough for each of our manufacturing sites to make incremental progress on their own; we also need to take a high-level look at our operations as a whole, identify large-return projects at key sites, and better share best practices among all our facilities.

Why It's Important

The new global waste and water committees have already shown to be a great benefit to our sites. They provide an outlet for them to share best practices, discuss issues and make connections with their counterparts at plants across the globe."

Jim Brown, Global Environmental Manager

Our Response...

To help do this, we have created a network of new committees at the global and site levels focused on energy use, water use and waste sent to landfill. In addition, the global landfill committee has two subcommittees focused on two important types of landfill waste: dross/baghouse dust and filter media.

The global committees are charged with developing a strategy for achieving their respective environmental goal, recommending annual targets for plants and regions, developing mechanisms for sharing best practices, and reporting out successes, roadblocks and needs. The site-level committees will conduct surveys, develop action plans, and coordinate and implement specific activities at their location.

The energy committees have been in operation since FY12. The water and waste committees were created in FY13 and are now finalizing their membership and action plans.

This network of committees is helping us to align our EHS strategy across the entire Novelis organization worldwide, better assess risks and big-return opportunities at a global level, identify specific resource needs and availability, and share best practices. In short, it will play an important role in helping us to achieve our environmental goals.



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Since our baseline (an average of FY07–09 performance) we

Our Environmental Performance

At Novelis, we look at the environmental impacts of our products across their entire life cycle.

Taking that view, our most significant environmental issues are the use of energy and the emission of greenhouse gases (GHGs). Other key issues include water use and waste sent to landfill. We also measure and manage non-GHG air emissions and our impacts on biodiversity, though these are not among our most material issues. This section describes our efforts to reduce the impacts of our manufacturing facilities in each of these areas. While progress toward our four environmental goals was mixed in FY13, we have made good headway since our baseline, as shown at right.



Climate Change Risks and Opportunities

We take the threat of climate change seriously, and both our business strategy and our GHG-reduction goal (see p. 5 and p. 8) are predicated on the assumption that society must transition to a more sustainable, lower-carbon economy. We have developed our strategy based on a review of the risks and opportunities associated with GHG emissions and climate change. For example, we recognize that the costs associated with energy use and the purchase of energy-intensive raw materials will undoubtedly increase in the long run, as we anticipate a continual increase in global energy demand.

And, we expect the public interest in climate change to grow and carbon legislation to be enacted in more countries and regions (e.g., beyond the Emission Trading Scheme in Europe as well as South Korea). This will impact Novelis in a number of ways, from our energy procurement operations to our key markets. The recognition of these risks and opportunities has been a significant driver of our business strategy. We see supplying sustainable lowcarbon products that benefit society, and using energy-efficient processes in our operations, as fundamental to our long-term growth.



Greenhouse Gas Emissions: An Absolute Target for an Absolute Challenge



5 Scope 1 and 2 emissions are those that result from our own operations, either from burning fuels ourselves (Scope 1) or from our purchase of power (e.g., electricity) from other entities (Scope 2). Scope 3 emissions are those outside of Novelis' direct operations but within our products' life cycles, e.g., emissions related to our purchase of primary aluminum, which is made using energy-intensive processes, and emissions related to transportation to Novelis customers.

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Our Carbon Footprint Across the Life Cycle

The graphic below shows our greenhouse gas footprint for FY13, including the amount of GHGs emitted and the amount avoided through the use of recycled inputs and energy-efficiency projects.



Greenhouse Gas Emissions

As noted on p. 5, we have set a goal to reduce our absolute Scope 1, 2 and 3 GHG emissions by 50% by 2020, compared to our baseline (which is an average of FY07–09 emissions). So far, we have reduced these absolute GHG emissions by 14% since the baseline (see Figure 9). In FY13 alone, we achieved a 7% reduction in absolute emissions.

Essentially all of this decrease is attributable to a reduction in Scope 3 emissions resulting from our increased use of recycled aluminum (and reduced purchases of primary aluminum). Moving forward, we expect continued reductions to be largely due to the reduction in our Scope 3 emissions, as we increase our recycled inputs.

Our GHG emissions per metric ton of sales (i.e., our emissions intensity) have decreased by 10% since our baseline, and by about 6% in FY13 (see Figure 10).⁶

6 The process for Novelis' calculation of GHG emissions and energy use was developed in cooperation with the U.S. Environmental Protection Agency's Climate Leaders Program. Novelis, along with the global aluminum industry, uses the IAI Aluminum Sector Greenhouse Gas Protocol formula, as well as the WRI/WBCSD GHG Protocol stationary combustion calculation tool, for calculating GHG emissions.

Energy Use



Figure 10 Scope 1, 2 and 3 GHG Emissions Intensity (metric tons CO₂e/metric tons FRP sales)

FY13 vs.

Base

-9%



Complete performance data can be found at www.novelis.com/sustainability

We use several sources of energy in the production and delivery of our aluminum products (see Figures 11, 12 and 13). The majority of energy usage in our facilities occurs at our recycling casting centers, during the process of rolling hot and cold aluminum, and at our small Ouro Preto smelter in South America. (At the end of FY13, we shut down one pot line at the smelter.) Natural gas used directly at our facilities (particularly for melting) and purchased electricity (particularly for rolling) are the most significant types of energy use for Novelis, supplying 94% of our total energy needs by cost. We also use fuel oil, transport fuel and other energy sources. Our South American segment has its own hydroelectric facilities providing power to the Ouro Preto smelter, which meet approximately 66% of its electricity requirements and account for 19% of the company's overall direct electricity usage. Outside of South America, we purchase electricity from third-party suppliers. Of the energy we purchase, 39% comes from renewable sources and 19% from nuclear power (see Figure 13).

We have set a goal to decrease our energy intensity by 39% by 2020 from our FY07–09 average baseline. As of FY13, our energy intensity has decreased 19% from the baseline, though it was essentially flat in FY13 alone (see Figure 15). Our total energy use has followed a similar path – decreasing 23% since our baseline, but down only 1% in FY13 (see Figure 14).

Figure 11 Direct and Indirect Energy Use, FY13



Figure 12 Types of Direct Energy Use, FY13





Figure 13 Types of Indirect Energy Use, FY13

Strategy



Figure 14 Total Direct and Indirect Energy Use (GJ)



Figure 15 Energy Intensity (GJ/metric ton FRP sales)



Complete performance data can be found at www.novelis.com/sustainability

Progress toward our energy intensity goal is affected by a variety of competing factors. Energy-efficiency projects drive our results in the right direction, while increases in recycling and changes in product mix and sales offset those improvements. For example, our manufacturing processes tend to run most efficiently when they operate at close to capacity; in times of lower output, then, our energy intensity performance may fall off. In FY13, our energy-efficiency projects, along with the closure of one of the two smelting pot lines in South America, resulted in energy reductions but not enough to offset other challenges. Factors driving up our energy use in FY13 included our increased recycling, the expansion of our operations around the globe (which take time to get to full capacity due to start-up procedures and trial runs), our changing product mix (including products that require more finishing and harder alloys, which take more energy to roll) and unplanned operational outages. With our expansions across the globe reaching full capacity over the next year or so, we expect that efficiency improvements will follow.
Strategy



How We Are Managing Our Energy Use

We are taking a variety of actions to help reduce our energy use and improve our energy efficiency. For example, our plants are working to improve the metering and monitoring of their energy use. The largest energy users have begun monthly energy reporting by major process operations (i.e., remelt, casting, rolling and finishing). Enhanced monitoring and reporting allows us to compare and benchmark in detail the performance of similar operations.

In FY13 we established energy specifications for capital projects and conducted energy assessments at seven plants. All other Novelis plants in North America and Europe will conduct assessments in FY14. And, we are nearing completion of our first formal energy training program, which will cover a variety of issues relating to energy efficiency and management.

We have also been working to increase the sharing of best practices across the company in the areas of remelt, lighting and compressed air, in particular. In FY13 we documented, published and shared 30 best practices. Our Global Energy Team is responsible for addressing and implementing the projects with the greatest amount of return at each plant to ensure that we are taking steps to increase efficiency and meet our annual energy targets, as well as stay on track to meet our 2020 target.

How We Are Optimizing Our Operations

In FY13, our plants undertook a variety of specific initiatives, described below, to drive down energy use and GHG emissions. We estimate that initiatives like these resulted in energy savings of 420,000 gigajoules (GJ), which is equivalent to about 1.5% of our total energy use in FY13.

We are looking to improve efficiency at every step and to evaluate our operations as a whole to improve performance. For example:

- In our operations, large furnaces melt aluminum and alloying agents with heat generated by burning fuel. During fuel combustion, an optimal air-tofuel ratio ensures that all the fuel is completely burned. We have learned to adjust the fuel supply with increasing levels of precision in order to ensure that burners do not release more fuel than can be optimally burned.
- We have also improved the way we add alloys to molten aluminum, such that we reduce the number of times the furnace is opened and minimize the heat that escapes.

Molten aluminum must be maintained at a certain temperature to be transferred to the next step in the process. Limiting upstream operations until downstream capacity is available has resulted in reduced holding times during which the aluminum must be maintained in a molten state. After aluminum is rolled, heat is sometimes used to alter its physical properties, a practice called annealing. Heat may also be used to dry paint lacquer. We have increasingly planned production such that processes with similar temperature requirements are conducted in succession, limiting the energy associated with raising and lowering temperatures.

We make every effort to maintain and optimize our existing equipment, but as new technology is discovered we seek to implement the most energy-efficient upgrades. The largest use of natural gas in our operations is for melting aluminum scrap and producing specific alloys. Consistently advancing our furnace burner technology is therefore a priority, and we have undertaken several large-scale projects to upgrade and replace burners in the past year. We are also working to upgrade the wide variety of motors in use in our operations. Motors with variablespeed drives allow for more-efficient use of electrical energy and enable us to respond quickly to ever-shifting energy demands.



A lighting upgrade improved efficiency and quality at our plant in Berea, USA



In Action...

Energy-Efficiency Projects

We have implemented an array of innovative solutions at specific plants:

Ulsan (South Korea)

In our Ulsan plant, we are in the midst of converting from oil to natural gas, which has several benefits: reduced costs, less exposure to oil price fluctuations, higher energy efficiency due to using regenerative burners, and 36% fewer GHG emissions. This change in fuel, along with an upgrade in the burners, resulted in a reduction of more than 7,000 metric tons of CO_2e in FY13 alone, nearly 30% of our total global savings for all energy-efficiency projects.



Logan (USA)

Sierre (Switzerland)

In most of our facilities, conventional chiller systems are used to air-condition electrical rooms, offices and control rooms. At our Sierre plant, another solution has been implemented; it uses fresh air and cold underground water to maintain a comfortable ambient temperature.

Nitrogen gas is used for various process-related operations in our plants. Our Logan facility had an onsite nitrogen plant to support this need. But we recently realized that delivery of liquid nitrogen was more efficient than onsite production. Elimination of the nitrogen plant will reduce electrical load requirements during peak demand.

Yeongju (South Korea)

At the end of our manufacturing processes, aluminum is rolled into coils for shipment to customers. When the coils are rolled, the aluminum is hot and must be cooled using fans. Typically, the temperature of the coils is measured manually at periodic intervals. At our Yeongju plant, sensors have been installed to automatically shut off the fans immediately when the coils are sufficiently cooled.

Nachterstedt (Germany)

At our Nachterstedt plant, we installed a network of temperature sensors to control and optimize the infrared heating system throughout the plant; this system was intended to ensure appropriate temperature control in different areas. We found that the system was not working properly, however, and by optimizing the location of the sensors for it to work correctly, the plant's natural gas consumption was reduced by half compared to similar winter months in past years.

Water Use

Relative to companies in other industries, our operations are not very water-intensive. However, we are mindful of the increasing scarcity of water globally, and we are working hard to make our operations more water-efficient.

The process in our operations that uses the most water is the casting of ingots after remelting recycled materials. As we increase our recycling of scrap aluminum (in line with our goal to use more recycled inputs), we will do more ingot casting, which has the potential to push up our water use. We thus have been working to use water in this process more efficiently (primarily by maximizing cooling water re-use), and we have set a goal to reduce our water use intensity by 25% by 2020.

The smelting process by which primary aluminum is made is more water-intensive than the recycling process, so even if Novelis' absolute water use rises the more we recycle, the overall life cycle water use for our products will decrease.

Our primary focus for water in FY13 was to establish a global water team to develop a global water strategy,

Figure 16 Water Use



Complete performance data can be found at www.novelis.com/sustainability



Consumers

enhance best practice sharing and ensure resource availability. We aim to establish a contact at each site to conduct water surveys at the plant level, identify opportunities to reduce water use and develop strategic action plans to help meet our global target. We are continuing to improve our understanding of our water requirements and how to monitor water flow into and out of our plants, as well as throughout our operations. We currently measure our water withdrawal down to the plant level at all locations globally, but we are working to enhance the way we account for internal water recirculation, recycling, and the subsequent volume and quality of the water discharged by each plant.

Strategy

Compared to our baseline, we have reduced our water use intensity by 16%, which puts us on track to achieve our 25% reduction by 2020. In FY13 alone, we decreased our water use intensity by 5% (see Figure 16). These improvements are due largely to water-efficiency projects in our facilities around the globe. From FY12 to FY13, our total water usage decreased about 7%; it is down 20% since our baseline (see Figure 17).



Complete performance data can be found at www.novelis.com/sustainability

In Action...

Water Conservation Projects

In FY13, our manufacturing plants implemented a range of water conservation improvements:







ALCOM (Malaysia)

Our ALCOM facility treats water coming into the plant using advanced filtration methods, including reverse osmosis. These methods generate a stream of wastewater that is not suitable for use in production operations, and past practice was to discharge it. In FY13, the facility began to reuse this stream of water for other purposes at the site, including in a cooling tower and in storage for emergency use in the plant's fire protection system. This project is estimated to reduce the site's water use by more than 5,500 cubic meters per year.

Pinda (Brazil)

Our Pinda plant thoroughly cleaned the cooling towers associated with several aluminum melting and casting processes. The cleaning significantly improved the quality of the cooling water, allowing it to be recirculated more often prior to discharge. The plant also installed an automatic water monitoring system to improve the water quality and reduce the amount of water discharged. The estimated water saving from these projects is 120,000 cubic meters per year.

Berea (USA)

Our Berea facility instituted a number of water-saving projects, including repairs to leaky piping, installation of water metering, and a change in the conductivity of the cooling tower water that will result in less water use. These improvements are estimated to save more than 4,000 cubic meters of water per year. Strategy



Waste

We have a goal of sending zero waste to landfill by 2020, and already three-quarters of the operational waste we generate is recycled (see Figure 18).

We produce several kinds of waste. More than 70% of our landfilled waste is generated from the processing of dross. Dross forms from impurities that float on molten aluminum during melting or recycling. Most dross generated by Novelis is sent offsite to be processed by companies that specialize in recovering aluminum from it. (Dross typically contains 50% aluminum.) The remaining waste is either further recycled or landfilled. In some regions, this waste is used in road construction, cement manufacturing and other applications. Our zero landfill target includes dross-related waste managed by third-party recyclers, which we track and account for to be as transparent as possible about the waste produced by our operations.

Another key type of waste for Novelis is refractory material (i.e., insulating bricks), which we use in furnaces to maximize energy efficiency during melting. Periodically, the refractory material deteriorates to the point that it must be replaced. Traditionally, our facilities in North America have disposed of this material in nonhazardous landfills. But over the last few years, Novelis North America has worked with specialized companies to recycle our refractory material waste. In FY13, Novelis North America, working with several processing companies, was able to recycle 1.75 million kg of refractory material, an increase of 75% from the previous year. After processing,

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the refractory material was used as inputs into the production of steel and cement. Our plants outside North America also re-use refractory material as input for steel and cement.

Since our baseline, our total waste has increased as our company has grown and as we have increased our use of recycled inputs (which increases the production of dross). At the same time, we have made good long-term progress increasing the amount of waste being recycled and decreasing the amount going to landfill. In fact, compared to our baseline, our absolute waste to landfill has decreased by 11% and our waste-to-landfill intensity has decreased 7%.

In FY13, however, our waste numbers trended upward, with absolute waste to landfill increasing by 13% and waste-to-landfill intensity rising by 15% (see Figures 19 and 20). These increases were due in large part to the start-up of our new recycling facility in Yeongju, Korea. While this facility substantially increased our capability to recycle aluminum scrap, it also increased our volume of waste (especially dross-related waste) sent to landfill. And at the same time, we saw no comparable increase in production volume. In FY14, we will be looking to reduce the landfill waste associated with the Yeongju expansion, in addition to that from any other expansion projects as they come online.

Our primary waste focus for FY13 was the establishment of a global waste team. The global waste reduction committee, as well as the subcommittees for specific types of landfill waste (discussed on p. 31), meet at least monthly to develop a global waste reduction strategy, enhance best practice sharing and ensure resource availability. The focus moving forward will be to have the contacts at each site conduct detailed waste surveys and develop strategic plans to meet regional and global goals. Also, we will be focusing our efforts on new technologies, operational best practices and establishing new end markets for dross-related and refractory brick waste materials.

Figure 18 Waste by Process Method, FY13





Consumers

In Action...

Waste-Reduction Initiatives

In FY13, our plants implemented a variety of projects to help reduce the amount of waste we send to landfill:



Pinda (Brazil)

Our Pinda plant uses several processors to handle the recycling of dross. In FY13, the plant shifted their business away from the processor that sent the most dross-related waste to landfill, and instead provided the dross to the remaining processors, who recycle a higher percentage. With this change, the plant was able to reduce the amount of waste going to landfill by an estimated 1,000 metric tons per year. Through these and other efforts, the Pinda plant has reduced their waste to landfill from 13% to landfill in FY12 to 8% for all of FY13, with a further step change to less than 1% in the fourth quarter of FY13.

Pieve (Italy)

Our Pieve facility was able to reduce the amount of rolling filter waste by 27% per metric ton of aluminum production. To achieve this, Pieve used advanced process controls such as continuous filter injection rates based on required production rates. They also reduced the amount of raw materials use in the filtration process.

Nachterstedt (Germany)

Our Nachterstedt facility successfully reduced the amount of filter cake waste (associated with its wastewater treatment processes) that is sent to landfill. The material is now being sold to a fertilizer company that will use it as an ingredient in their products. This will reduce the amount of waste Nachterstedt sends to landfill by approximately 4,500 kg per year.



Figure 20 Waste-to-Landfill Intensity (metric

Landhill Intensity (metric tons/metric tons FRP Sales) 21.5 Baseline FY10 FY11 FY12 FY13 (FY07-09 average)

Complete performance data can be found at www.novelis.com/sustainability







Consumers

Non-GHG Air Emissions

Strategy

Novelis' total air emissions have generally declined over the past few years (see Figure 21) as we have partially shuttered our smelter operations and improved air emission capture systems. Total air emissions increased slightly in FY13. primarily due to increased recycling efforts in our plants. And, the startup of our recycling operation in Yeongju significantly increased emissions. At the same time, emission reductions were achieved through the sale of several Novelis foil plants and the closure of the Saguenay facility. During FY13, we also completed several sizeable upgrades to our air-emissionscontrol equipment. These upgrades will result in significant reductions in volatile organic compound (VOC) and particulate emissions in future years. Several of these upgrade projects are described at right.

Figure 21 Total Estimated Air Emissions (metric tons)



Note: Figures represent estimates of pollutants tracked from stack emissions only. Novelis has not developed emission estimates for persistent organic pollutants.

Complete performance data can be found at www.novelis.com/sustainability

In Action...

Air Emission Reduction Projects

In FY13, a number of our manufacturing plants implemented projects to reduce their non-GHG air emissions:







Logan (USA)

Our Logan joint venture completed upgrades to the airpollution-control equipment associated with one of its cold mills. The upgrades resulted in an 85% reduction in particulate emissions and an 82% reduction in VOC emissions. The system upgrades also allow for the recovery and re-use of tens of thousands of gallons of aluminum rolling coolants per year.

Ulsan (South Korea)

Similarly, our Ulsan facility improved the filtration system associated with the air-pollutioncontrol system for one of its cold mills. The filtration improvements reduced air emissions by more than 80% and dramatically reduced rolling coolant usage.

Ouro Preto (Brazil)

Our Ouro Preto plant initiated an effort to reduce particulate emissions from pollution-control equipment at the site. The plant uses a dry scrubber to reduce emissions from its smelting. The facility tested a variety of new filter types before arriving at a type that reduced particulate emissions by more than 50%. Also in FY13, we closed the older, less environmentally efficient pot line, leaving the newer pot line in operation.



Biodiversity

Strategy

Novelis operates in many locations across the globe and is keenly aware that conserving diverse ecosystems is important to the communities in which we operate and to our overall mission to reduce our impact on the environment. The most significant and recognized biodiversity impacts in the life cycle of our products occur during the primary aluminum production phase. Bauxite mining results in land disturbances, and alumina refining may require the construction of red mud lakes. In addition, the use of hydroelectric power plants to provide electricity for the energy-intensive process of making primary aluminum can impact ecosystem biodiversity.

None of our currently operational or newly announced sites exist within the boundaries of a United Nations Biosphere Reserve, Ramsar Wetland or UNESCO World Heritage Site. Thus, at this time, none of our facilities have been identified as within the boundaries of protected or high-biodiversity areas. However, we currently operate eight small hydro power plants and also have a 50% stake in a hydro power plant joint venture in Brazil. Our strategy of maximizing recycling is to reduce demand on primary aluminum, minimizing the need for new hydroelectric power and bauxite mining. And, as we look to broaden our understanding and characterization of areas with high biodiversity value, our assessment could evolve.

In Action...

Oswego Remediation Project Completed

In 2012, the Novelis plant in Oswego, New York, USA, completed the remediation and restoration of a 24-acre constructed wetland complex in the northern portion of the facility commonly referred to as the North Ponds. The North Ponds are classified as a Class 2A inactive hazardous waste disposal site due to the presence of polychlorinated biphenyls (PCBs) in the sediment associated with historical operations.

The North Ponds are a series of ponds and marshes that once served as process and stormwater treatment for the facility's operations. That use of the North Ponds was replaced in 2001 by a recirculating cooling water system, which significantly reduced the amount of raw water withdrawn by the Oswego facility.

During the remediation, more than 57,000 cubic yards of sediment were excavated, stabilized and removed from the site. Following remedial activities, more than 1,700 plantings were installed to restore the vegetation in the wetland complex. In addition, several features were added to provide habitat for local wildlife. Novelis is currently developing an environmental easement with the U.S. Environmental Protection Agency, U.S. Army Corps of Engineers and the New York State Department of Environmental Conservation that will afford long-term preservation of the site.



Oswego site before remediation



During remediation



After remediation



Developing Our People

Our first and most fundamental priority as a company is to protect the health and safety of our employees, contractors and visitors. In addition, we are focused on aligning our corporate culture to support our company's growth. These efforts include bolstering our employee engagement, employee evaluation and talent management processes and implementing our new Employee Code of Conduct.

Health and Safety Performance

Aluminum manufacturing presents an array of safety risks. With mobile equipment, aluminum scrap with sharp edges and materials at extremely high temperatures, the opportunity for injury is ever-present. That's why Novelis makes every effort to keep our employees safe – by "engineering out" safety hazards whenever possible, implementing first-rate safety programs, training on safety procedures and behaviors and requiring the use of personal protective equipment and machine safeguarding instruments.

We manage the safety of people at Novelis in a way that is integrated into our overall Environment, Health and Safety (EHS) management system (see p. 30). We have safety processes in place at all of our operations, and we collect and track global safety data for our employees and contractors using the Novelis Injury and Illness Recordkeeping System (NIRS).

Over the last few years, we have improved our recordable case rate (an aggregate measure of injuries, illnesses and fatalities), though we did not meet our internal target for

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FY13. Our recordable case rate for FY13 was 0.60 cases per 200,000 hours worked, up from 0.59 in FY12 (see Figure 22). Our ultimate goal for this metric is zero.

To help prevent accidents – such as the tragic fatality that occurred at our Ulsan plant in FY13 (see next page) - we are working to implement a more risk-based approach that focuses on effectively identifying and controlling the potential hazards that pose the greatest risk of a serious injury. And, we are seeking out new and innovative safety technologies. In our Warren, USA, and Yeongju, South Korea, plants, for instance, we are testing various technologies for forklifts, such as radar devices that alert the forklift driver when a person is nearby, as well as sensors and speed detectors that help to avoid high speeds and blind spots.

Also, as part of our *One Novelis* effort, we launched Together We Are Safe, a global safety program that is building on the best practices already in place in many of our operations and working to make those programs and processes the global Novelis standard. Together We Are Safe includes training for all plant employees and better quality and consistency in our EHS communications across all facilities.

Figure 22 NIRS Recordable Case Rate



Complete performance data can be found at www.novelis.com/sustainability



Cameras installed on forklifts



Figure 23 Top Safety Performers

Strategy





Terre Haute (USA)

Many of our plants regularly achieve outstanding safety performance, giving us confidence that our ultimate goal of zero incidents is attainable. The Novelis facility in Terre Haute, for example, has gone more than six years without a lost time injury or illness.



Santo Andre (Brazil)

Until February 2013, our Santo Andre plant had operated for more than three years with no recordable cases and four years with no lost time injuries or illnesses. Santo Andre employees have worked hard to make safety a top priority, including conducting weekly safety inspections, implementing a "stop and think" program, and putting a strong focus on training employees to improve their skills.

Fatality at Our Ulsan Plant

Very regrettably, during FY13 a Novelis contractor lost his life doing work for our company. In March 2013, Gab-hee Han died after being hit by a forklift at the Ulsan plant in South Korea. Mr. Han had worked at the plant as an independent contractor for seven years. The tragic accident took place in the finishing line area as Mr. Han was walking through the plant and stepped off the designated pedestrian walkway.

The incident is under investigation by the Novelis EHS team as well as the Korean Ministry of Labor. And, we are taking corrective action steps at all of our plants to help prevent these types of accidents in the future – steps such as increasing barriers between forklift and pedestrian areas, increasing designation of walkway areas and installing reverse-direction cameras on forklifts. Tragic accidents like this serve as an important reminder of the need to be continually vigilant about keeping safety the top priority for those who run and work in our plants.



Bresso (Italy)

Our plant in Bresso has also long been a model for employee safety. The plant has eamed six of Novelis' annual, internal Global EHS Awards – the most of any Novelis facility. Bresso's leaders say their record is due to unrelenting vigilance about safety and a high level of involvement of all employees. The plant holds frequent department meetings on safety, conducts analysis of near misses, runs regular safety training sessions and conducts planned inspections and both internal and external audits. A minor safety incident occurred at the plant in May 2012; prior to that, the plant had gone seven years without an accident.



Ohle (Germany), Kingston (Canada), Yeongju (South Korea)

In FY13, three plants received our internal Global EHS Awards, which recognize sites that meet rigorous safety criteria. Our plants in Ohle and Kingston each earned a Platinum award, while our plant in Yeongju earned a Gold award. Local celebrations are held to recognize each site's award achievement. In addition, the plants receive funding from Novelis for community grants to drive safety awareness in their communities. Platinum winners are awarded \$5,000, while Gold winners receive \$2,500. This money can be used to support any safety-related organization of the plant's choosing. In the past, beneficiaries have included fire departments, nonprofit organizations for accident victims and their families, and safety education programs.



Employee Engagement

Strategy

Employee engagement is a key part of our *One Novelis* vision, in which we align our people and processes across the globe to achieve our sustainability goals and growth plans and operate as a single, integrated company. Over the past several years, we have significantly bolstered our efforts to communicate with our employees and engage them in building the Novelis of the future.

For example, we have conducted regular interactive webcasts for employees with our CEO; had senior leaders visit plants and conduct town hall meetings more often; and rolled out an enhanced, more interactive intranet that enables employees to make comments and raise questions. We also develop and distribute a variety of publications for employees, as well as encourage plant managers and site leaders to increase engagement at their sites. In 2013 in North America, we switched from a guarterly newsletter to monthly e-newsletters to communicate important information more regularly and in a more environmentally friendly format.

We are committed to maintaining our good record of open communication and dialogue with both our unionized and nonunionized employees. In FY13, approximately 63% of our employees were represented by labor unions, and their employment conditions were governed by collective bargaining agreements.

The boxes at right describe two of our most recent employee engagement initiatives – the Novelis World Cup and our Culture in Action program.

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In Action...

Novelis World Cup Raises \$80,000 for Charity While Helping to Build a *One Novelis* Culture

At Novelis, we take "team-building" seriously – and sometimes literally. In the Novelis World Cup, for example, teams of employees compete against each other in a friendly soccer and volleyball tournament that also raises funds for charity.

More than 600 Novelis employees from across the globe participated in our most recent Novelis World Cup, which was held in June 2013 in Dortmund, Germany. The two-day event offered a great opportunity for employees to get to know each other and work together in teams outside of the normal work environment, building employee morale and bolstering engagement among colleagues who might not otherwise get to interact.

Employees participated in the tournament via three separate leagues:

A Soccer Premier League, won by the Novelis South America team (with players from several facilities).

A Soccer Fun League, won by the Norf II team (from the AluNorf facility, Germany). A Volleyball League, won by the Göttingen (Germany) team.







The event also created an opportunity for employees to give back to their communities, as each of the teams raised funds for a charity of their choice. All told, employees donated \$80,000 to 16 outstanding causes. The teams also competed to be the top fundraiser and winner of the Novelis Commitment Cup. This year's winner of the Commitment Cup was Novelis Asia, which raised \$12,000 for Safe Kids Korea.



The June tournament was the fourth Novelis World Cup held by the company; the previous events took place in 2010, 2008 and 2007. This year was the first that employees from every region took part – making it a truly *One Novelis* event.



In Action...

"Culture in Action" Recognition Program Launched

Strategy

We are seeking to build a *One Novelis* corporate culture based on a shared set of values and attributes – attributes that include, for example, being proactive, safe, aligned, forwardlooking, people-focused and sustainable, among many others. Novelis teams around the globe have demonstrated many of these attributes as they work together to transform the way we do business. From the innovative products under development at our research and technology centers, to the world-class processes our people are proactively establishing on the shopfloor, Novelis teams around the globe are energetically defining our company's future.

To recognize these outstanding accomplishments, in 2012 we announced a new internal, team-based recognition program called Culture in Action. This program will honor teams of Novelis employees that have made important contributions to the company in four categories: safety, sustainability, customer focus and results orientation. Awards will be presented in each category at the regional and global levels.

Nominations for the first round of recognitions were due in May 2013. Award winners were announced in August 2013, just as this report was going to press. We look forward to highlighting some of the winners in our next sustainability report. Employee Evaluations

To create a growth culture, employees must understand how they can best contribute to the company's success. This means employees need regular feedback about their performance and an opportunity to discuss with their line managers how they can advance their careers. That's why, in FY11, we established a corporate-wide sustainability target regarding employee evaluations. Our goal for 2020 is that 100% of eligible employees will be receiving annual performance feedback.

At present, we have a consistent, centralized performance management system for our managers. At the plant level, however, performance management is somewhat decentralized and variable in terms of the processes used and how many employees receive regular evaluations.

In FY13, the percentage of eligible employees receiving annual feedback reached 52%, up from 38% the previous year. This improvement was due in part to an increase in the collection of data and communication about what is being done at the local level, as well as initiatives conducted by our global Human Resources department to increase the number of employees, both salaried and hourly, receiving performance reviews. Going forward, our new integrated enterprise resource planning system, Novelis 2.0, will help us to better centralize and track performance reviews for our plant employees.

Talent Management

We know that developing a strong pool of talent for our leadership pipeline is critical to Novelis' longterm success. To better accomplish this, we have overhauled our talent management function. We aim to develop a world-class leadership development program that is global in scope, with consistent, highguality offerings across regions and departments. Our specific goal is that our program be benchmarked, by a qualified external expert, by 2020 within the top 10% of world-class companies that have development programs.

The graphic on p. 48 illustrates the six leadership development programs we currently offer. Notably, several of the programs engage participants in solving real-world challenges our company is facing, and they have developed actionable results that are now contributing to our business success. For example, past leadership development program participants worked on projects related to issues such as global safety standards, employee engagement, branding and innovation.



Figure 24 Our Leadership Development Programs



Engineering Development Program (EDP)

🛉 135

Two-year structured development program tailored to engineering graduates and early-career engineers

The EDP is designed to develop young engineers to become engineering leaders and to grow themselves personally. Through this program, you create and maintain a global network with both your peers and Novelis leaders."

Leadership

Launch

Program (LLP)

managers focused on leadership skills

Two-week course for first-line

The LLP offered a great opportunity

for me to review my own leadership

clear way to become the leader I

useful for creating One Novelis.

Corinna Baehr,

Leader, Can End

Lean/Continuous

Improvement

(Nachterstedt,

Germany)

Manufacturing Unit

Stock Line, & Manager,

behaviors, learn more about leadership

styles and especially develop my own

want to be. The program also enabled

participants to create a global and cross-

functional network, which is extremely

for building One Novelis

Kristen Fraczek, Continuous Improvement Specialist (Oswego, NY, USA)



Leadership Essentials I (LE1)

Four-day course on foundational leadership skills for new managers

Leadership is all about achieving results through others. The LE1 program prepares young leaders to enhance their natural abilities to approach their employees, creating a positive environment for effective team development and achievement of results."

Francisco Carvalho, Cold Rolling & Finishing Process Leader (Pinda, Brazil)



Accelerated Leadership Program (ALP)

Three-week program for managers of managers, focused on leadership skills for driving profitable growth

The ALP provides an excellent opportunity to learn about not just skills but, more importantly, how to work as a global tearn within the Novelis system. You might be surprised to see how effectively people can work and learn from each other by shifting to a global mindset and a *One Novelis* culture."

Hwi Hwang, Director, Business Development, Novelis Asia (Seoul, South Korea)



Leadership Essentials II (LE2)

Three-day course on foundational leadership skills for newer site/ function leaders

//

I work with a global team on companycritical development projects in the automotive area. The LE2 program provided me with an exciting chance to refresh my knowledge of the competencies needed to lead change and deliver results with a global perspective."

Dewei Zhu, Director, Global Technology, Auto (Kennesaw, Georgia, USA)



Global Leadership Program (GLP)

Four-week program for executives focused on leadership for developing and implementing global strategy and operational excellence

//

The GLP to me is like a 'closed-loop' recycling journey: 'remelt and casted' with the right 'alloys,' with resources that help us manage our business in a challenging and ever-changing environment; 'rolled' toward one longitudinal direction, with a strong *One Novelis* culture in mind; and 'finished' in the 'gauge, width and temper' necessary to contribute to Novelis and satisfy the market, as a true global leader."

James Liu,

Managing Director, Novelis China, and Director, Sales & Marketing, Automotive (Shanghai, China)



Sourcing





Employee Code of Conduct and Human Rights

At Novelis, we are committed to acting with integrity, in good faith and in accordance with good corporate governance. We are also committed to human rights, nondiscrimination and sustainability. In FY13, to ensure that our employees act in accord with these commitments, we updated our Employee Code of Conduct and distributed it to all employees (see box at right).

Also, we remain a signatory to the United Nations Global Compact. As such, we commit to align our operations and strategies with universally accepted principles in the areas of human and labor rights, including child and forced labor, as well as the environment and anticorruption (see p. 80).



with Kihoon Lee, Vice President, Internal Audit

Our New Employee Code of Conduct



A: The updated Code is an important part of helping us to operate as One Novelis, even as we work in multiple locations around the globe. It with integrity and in Novelis best interests; promoting a safeguarding the company's assets; engaging in ethical interactions with government; and dealing fairly with third parties. At the same time we released the Code, we issued new global employee standards as well. The standards complement the Code and provide consistency for how the company handles things such as training and development, internal posting of open jobs, use of social media, diversity and so forth.

How is the company implementing the new Code and ensuring that employees understand it?

A: We rolled out the new Code in 2012. In 2013, we will train



all employees on the content of the Code and have each person certify that he or she has read it and understands it. Our office-based employees will take the training online and do an online certification. For our plant locations, training will take place in person, and we will certify that employees have attended the sessions. No matter their location, all employees will be required to take part in this kind of training and certification on the Code annually.

You set up an Ethics Hotline at the same time the Code of Conduct was rolled out. Tell us how that will work.

A: The Ethics Hotline provides employees with an avenue for raising concerns about behavior inconsistent with the Code of Conduct. It is accessible via the internet or telephone. It has been used already, and has been well received by employees. Cases are reviewed by our Chief Legal Officer to ensure appropriate oversight of these issues.



Consumers

Engaging with Our Communities

Strategy

In dozens of cities and towns on four continents, our Novelis Neighbor program helps us build strong relationships with members of the communities that host our facilities and society as a whole. These relationships enable Novelis to understand and help address community needs, and ensure that our company maintains its "social license to operate." We connect with our communities through formal engagement processes that encourage two-way dialogue with local stakeholders, which in turn influences our charitable investments and employee volunteering for community causes.

Novelis Neighbor

Over the past two years, we have sought to better align our community engagement and charitable investment strategy with our business and sustainability strategy. In so doing, we defined three areas of focus for a program we call Novelis Neighbor: safety, math and science education, and recycling.

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All Novelis operating sites have community initiatives in place, managed through Novelis Neighbor. Through this program, our employees are able to connect with the people who live in the communities where Novelis operates and, in the process,



put a human face on our company. Novelis Neighbor "site champions" at each location are responsible for managing and tracking the community outreach at their facility – both the community engagement initiatives and our charitable investment and volunteering.



Strategy



Dialogue with Community Members

We have engaged with local stakeholders in a variety of ways for as long as we have been in operation, but the process was largely informal and varied across our different locations. That's why, as part of setting new sustainability goals two years ago, we adopted a corporate-wide target to implement formal community engagement processes at 100% of our operations.

Building on the Novelis Neighbor community investment programs already in place at all of our major locations, we are now implementing a more formalized process for routinely and proactively engaging in dialogue with neighbors, nongovernmental organizations, local government officials, other companies and community stakeholders. Our objective is to receive input that enables us to better identify, understand and address the most important issues in the communities where we operate.

We have also been conducting training for all of our Novelis Neighbor site champions, to formalize their roles and provide a framework to help inform their decision making and effectively execute the new strategy for charitable investments and volunteering. In addition, we instituted a formal process of documenting dialogue with community stakeholders, so that our plant leaders and site champions can identify the most pressing issues when determining where our charitable investments can have the most impact.

Moving forward, we hope to increase the breadth of our relationships with organizations at the global level (such as FIRST® Robotics, discussed on p. 55), as well as the depth of our relationships with organizations at the local level. In addition, we plan to increase knowledge-sharing and the transfer of best practices throughout the Novelis Neighbor network through professional development opportunities and formalized communications such as newsletters.

Charitable Contributions and Employee Volunteering

In FY13, Novelis' charitable giving through the Novelis Neighbor program totaled more than \$2.5 million, including company matches to employee donations. Our employees donated more than 18,000 hours to community projects, which far surpassed our internal goal of 10,000 volunteer hours worked for the fiscal year.

Our volunteer hours increased in FY13 largely due to the launch in October 2012 of our inaugural Novelis Month of Service, a focused effort to fund and execute largescale employee volunteer projects at our locations around the world. The initiative was a rousing success, with more than 1,600 volunteers from 32 company facilities completing 54 projects. We estimate that 55,000 people were positively impacted by our Month of Service projects, with approximately \$234,000 invested in our communities.

Figure 25 Novelis Neighbor Charitable Giving

All donations are in U.S. dollars. The total amount donated includes tax redirects in Brazil. (Novelis South America has the opportunity, at the encouragement of the Brazilian government, to earmark a portion of our corporate taxes each year to benefit nongovernmental organizations. These are known as "tax redirects.")



Strategy

Sourcing



The map below shows where Novelis Month of Service projects took place in FY13 and highlights examples in each region that note the organization(s) benefited. We plan to hold a Novelis Month of Service every October going forward.



Sustainability Through Disruptive Innovation Novelis Sustainability Report 2013

Also in FY13, our company partnered with and supported a broad range of causes, including the following:



Habitat for Humanity

Novelis has been involved with Habitat for Humanity for more than 10 years, providing financial support and involving employees as volunteers on home builds so that families in our communities have a safe place to call home. As an international partner, Novelis has pledged \$500,000 to Habitat in a multi-year agreement (2011-2015). In addition to this corporate-level funding, many of our operating facilities and offices around the world partner with local Habitat affiliates. In late 2012, for example, more than 60 Novelis employees in South Korea assisted Habitat for Humanity in the building of 16 homes in the city of Cheonan (pictured below). Also, in 2013 Novelis was the "Aluminum Hammer" sponsor of the organization's 2013 North America Affiliate Conference in Atlanta, Georgia. Over the next three vears, we will expand our corporate support of Habitat for Humanity in conjunction with a new initiative that the India-based Aditya Birla Group (our parent company) is launching in partnership with Habitat. Called IndiaBUILDS North America, the initiative has a goal of raising enough funds from the Indian diaspora in the U.S. to build 55,000 homes in India by 2015.





Childhood and Adolescence Fund in Brazil

Our Ouro Preto and Pinda facilities have donated more than \$200,000 to the Childhood and Adolescence Fund, which distributes those contributions to nonprofit organizations that promote child well-being through the provision of education, food, shelter and other resources (pictured above).



Renovation of a Youth Shelter in Ontario

More than 50 Novelis employees in Kingston, Ontario, helped to renovate and remodel a local shelter that gives youth in need, who are also attending school, a safe place to live and study. The employees renovated rooms in the facility, repaired the patio and installed new appliances (pictured above).

Renovating Facilities for the Disabled in South Korea

In South Korea, more than 50 employees from our Ulsan and Yeongju plants, together with their families, volunteered at two local facilities that serve people with developmental disabilities. The Novelis volunteers participated in renovating both of the houses and helped to lead horticultural therapy for autistic children at one of the homes (pictured below).







Strategy

Göttingen Bridge Competition

In 2013, the Novelis plant in Göttingen, Germany, hosted a competition for students to see who could build the best scalemodel bridge made entirely from aluminum. More than 200 ninth and tenth graders from nine schools took part. Winners were chosen in three categories, and each received a grant from Novelis. The winning team in the weight category designed a bridge that weighed only 3.5 pounds but could support 275 pounds of weight (pictured below).



Making a Difference in Oswego

In Oswego, New York, USA, Novelis employees have worked with the local Museum of Science and Technology to offer workshops about aluminum and recycling to elementary-aged schoolchildren (pictured right). Novelis Oswego has also forged a relationship with a local community college to develop and deliver coursework for a certification program for qualified Novelis employees who are interested in becoming electrical and mechanical technicians. And, at Oswego State University, a Novelis employee sits on the school's Engineering Advisory Board, providing technical expertise and business savvy to help strengthen the real-world applicability of the school's engineering curriculum.

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Working with Students in Germany

Novelis employees in Nachterstedt, Germany, sponsored "Science Week" at a high school in nearby Aschersleben, Nachterstedt employees gave students a tour of the Novelis plant and explained how recycled aluminum can be used to create new products (pictured above). Students also visited museums and the University of Clausthal to learn more about manufacturing and metallurgy. Science Week capped off an entire year in which Novelis worked with the high school to promote math and science education. Also in Germany, Novelis employees from our Ohle plant taught classes in robotics at the local college and worked with students to construct school equipment out of aluminum.



U.K. Aluminum Design Competition

In early 2013, more than 1,000 U.K. schoolchildren took part in the first-ever Alu Design & Technology Challenge – a competition to design the best sustainable item using aluminum. Teams from more than 75 schools participated, submitting a total of 670 entries in the categories of transportation, buildings, packaging and technology (pictured below). The competition was developed by the Aluminium Packaging Recycling Organisation and the Aluminium Federation; Novelis is a member of both organizations.





In Action...

Novelis' Sponsorship of FIRST® Helps to Inspire the Engineers of the Future

FIRST (For Inspiration and Recognition in Science and Technology) encourages math and science education for kids from the elementary grades through high school, using the appeal of robots to provide hands-on experience and competition. FIRST is best known for its annual international robotics competition for high school students, which gives students only six weeks to design and build a robot that can compete on a playing field with other teams' robots. Novelis is proud to be a FIRST sponsor at the international level, having invested \$75,000 in FY13 alone to support robotics teams and competitions in every region in which we operate.

In addition, Novelis employees are taking part in FIRST's mentoring program, which pairs professionals with student teams to support them in building robots, raising funds and competing in technical challenges and competitions. Three of the teams Novelis sponsors – two from Marietta, Georgia, and one from Gravataí, Brazil – made it to the FIRST World Championship in St. Louis in April 2013.



At Novelis, we estimate we will need to recruit 1,000 new engineers by 2020. So we see our sponsorship of FIRST as not only in alignment with the math and science focus of our corporate giving, but an investment in developing the engineers of the future – some of which we hope will end up in our own workforce.



As a FIRST alum and now an engineer, I realize I learned things in FIRST that not every kid in school did. The program instills both creativity and a passion for engineering; it also makes finding solutions to problems that seemed impossible, possible."

Andy Preston, FIRST alum, now an R&D engineer at Novelis' Global R&T Center in Kennesaw, Georgia







Consumers

About This Report



Customers

Recycling

Overview



2012 Novelis Recycling Challenge

The annual Novelis Recycling Challenge pits our U.S. facilities in a competition to see which can collect the most aluminum cans for recycling. The value of the cans is then donated to local charities. Our facilities often partner with local organizations to encourage can donation and collection (pictured above). During the 2012 Challenge, nine sites participated and approximately 500,000 cans were collected. The 10-person Novelis office in LaGrange, Georgia, won the "most cans collected" award; the proceeds from their win were donated to the local Habitat for Humanity affiliate. Our Warren, Ohio, plant won for "best internal campaign," and our Oswego, New York, plant won for "best external campaign." The Oswego effort involved, among other things, educating racing fans at the Oswego Speedway about recycling and encouraging them to bring cans from home to recycle.

Education About Recycling in Italy

At our Bresso and Pieve plants in Italy, Novelis partnered with Koiné, a nonprofit environmental education organization, to organize a day-long event in each location to educate the community about the importance of aluminum recycling. Young visitors at the events created art using aluminum cans, caps and capsules. And, Novelis volunteers shared how Novelis' sustainability efforts, largely focused on recycling, are helping to create a more sustainable world. About 50 Novelis employees volunteered at the events, and approximately 900 people from the local communities took part (pictured below).







Society of Tomorrow Program in Brazil

For the past seven years, Novelis has been the sole sponsor of an initiative in Brazil, called Society for Tomorrow, which provides environmental education to elementary school children (pictured above). Novelis has invested more than \$500,000 in the program in that time and has succeeded in reaching more than 64,000 students. In 2012, the program was updated and refreshed to include more than just awareness and recycling; it now promotes sustainable practices and attitudes among students and teachers as well as encouraging improvement in measurable sustainability indicators at each school - for example, energy use, water use and waste.



In Action...

Novelis Continues to Support Efforts of the Candonga Consortium

In 2013, the Candonga Consortium (a joint venture between Novelis and Vale) continued its efforts to implement social, environmental and economic development programs in Ouro Preto, Brazil. The Consortium was formed in 2003 to construct a hydroelectric power plant to supply energy to Novelis' primary aluminum smelter in Ouro Preto. The power plant, which became operational in 2004, required the flooding of a river valley and the relocation of 137 families. Those affected were consulted regarding resettlement and, in collaboration with the state government, the Consortium committed to a variety of actions to compensate and provide future support to those affected. Nonetheless, the resettlement agreement was challenged by some members of the community and is the subject of an ongoing lawsuit.

During the year, the Consortium held workshops with community members to help develop strategies to foster economic development and raise awareness about environmental issues. The program focuses on projects that facilitate community small businesses, vocational training and initiatives to facilitate the inclusion of the affected individuals in the labor market. For example, the Consortium trained individuals to work on reforestation, slope stabilization and lake cleanup. Currently 77% of the economically active population that was resettled participates in the Consortium's economic development programs







Customers

Partnering for Sustainable Growth

Novelis is working closely with our customers to imagine, design and produce the next generation of innovative aluminum products. The inherent properties of aluminum – lightweight, recyclable and versatile – mean it is increasingly the go-to solution for improving product sustainability in our core markets of beverage can, automotive and high-end specialties. And with our industry-leading research and technology capabilities and commitment to sustainability, Novelis is the go-to partner for our customers.

Our Key Aim

Provide value to our customers, in particular by helping them meet their sustainability objectives

Our Key Challenges

Developing new alloy compositions that make it easier to recycle aluminum at the end of product life

Working with our customers to evolve product design to increase recycled content and facilitate recycling



of our shipments in FY13 went to the can, automotive and high-end specialties markets

The Blue Planet Aquarium in Copenhagen, Denmark, constructed using Novelis aluminum



Consumers

Collaborating to Meet Sustainability Goals

Our customers include many of the most well-known and respected brands in the world, and they are facing the same set of sustainability drivers as Novelis: Consumer preferences, government regulations and natural resource constraints all point toward the need to reduce the environmental footprint of the products they make and position their companies to succeed in a low-carbon economy.

Novelis' 80% recycled inputs goal has challenges – and benefits – for our customers. As we increase the recycled content of the aluminum we supply to them, that, in turn, improves the life cycle footprint of the products they provide to their customers. However, we cannot reach our recycling goal in isolation. Different alloy compositions can make it more or less difficult to recycle aluminum, and product design impacts how easily the aluminum can be separated and recycled at the end of product life. As a result, we are working closely with our customers to develop innovative products that meet their needs, while at the same time advancing our sustainability objectives – and theirs.

The bow-tieshaped can



Q&A

with Mark Marsh, Director, Global Can Technology

Working with Our Can Customers



What are the key sustainability drivers in the beverage can market?

A: While beverage companies are working to increase the quantities of the beverages they sell, they are also under increased pressure to improve their sustainability performance in areas such as energy and water use, GHG emissions and waste. Aluminum cans have lots of sustainability advantages over other materials: They are lightweight and easy to stack and transport, which cuts down on the energy required to ship them. That, of course, also reduces GHG emissions. Cans are also 100% recyclable - and the aluminum recycling infrastructure is well developed in many places - so that minimizes waste. Not to mention the fact that because cans don't let in light, they are better for maintaining product quality.

What are some of the can innovations Novelis is working on?

A: We are particularly excited about our recent launch of evercan[™] sheet, which represents a real technical breakthrough that will enable our customers to significantly reduce their environmental footprints (see p. 61). We've also been collaborating with our customers to improve the sustainability profile of the coatings used inside beverage cans. In addition, we're focusing on innovations to secure – and expand – the future success of aluminum beverage packaging. For example, we are working with various packaging manufacturers and brand owners to develop resealable aluminum bottles as a more sustainable alternative to plastic and glass, and we recently partnered with Anheuser-Busch on an innovative new bow-tie-shaped can.



Customers

Evolving Design Specifications

One of the key ways we are collaborating with our customers is to evolve product design specifications to improve the overall life cycle impacts of their products, including using more recycled-content aluminum and making products that are more easily recycled.

By redesigning alloys for specific uses, it will be easier for Novelis to incorporate them back into products in a closed loop, separate them or recycle them with other types of aluminum scrap. In addition, we are collaborating with our customers to explore entirely new applications for aluminum to reduce weight, increase recyclability and improve the performance of the products they make.

Our work with our can customers, for example, to develop a beverage can with up to 100% recycled content illustrates how Novelis is using its research and technology capabilities to fundamentally transform product design to be more sustainable (see the evercan[™] case study, on the facing page). We are also working with our beverage can customers to develop a laminate can-end coating to replace the liquid coatings typically used. The new laminate coating uses significantly less energy to produce, resulting in reduced life cycle greenhouse gas (GHG) emissions. It also contains no volatile

organic compounds (VOCs). And, it provides a potential alternative to the Bisphenol-A-based coatings that are used currently. We have designed the coating lines in our Pinda facility in Brazil and Yeongju facility in South Korea to be capable of implementing the new technology. At our Global Research & Technology Center in Kennesaw, Georgia, we installed a fully functioning beverage-can-making line, which enabled us to work directly with our customers to develop these types of innovations and test them, real time, in a simulated manufacturing environment (see the R&T Center case study, p. 14).

We are partnering with our automotive customers to bring about the next generation of aluminum applications for lightweighting – accelerating the virtuous cycle of reduced weight enabling smaller engine size and better fuel efficiency. For example, Novelis has developed a number of new, higher-strength alloys that are driving vehicle weight down while maintaining

- and sometimes improving safety performance. We have also developed a groundbreaking technology for creating tailored welded blanks that enables individual aluminum sheets of different grades, thicknesses and coatings to be joined to produce customized stamping blanks that automakers can use for lightweight body parts and structural components. As with our Novelis Fusion[™] multi-alloy sheet, which provides a single aluminum sheet with multiple attributes, we are constantly seeking solutions to reduce weight while also increasing performance for our auto customers.

In addition, we are partnering with our automotive customers to increase the use of scrap in auto specifications. We are optimizing our alloys and processes to increase recycled content in our products, while our customers are working with us to facilitate the take-back of both process and post-consumer scrap.

In Action: Reinventing the Aluminum Can with evercan™

The Challenge...

Aluminum cans have the potential to become part of the ultimate closed loop. They are already 100% recyclable, but the challenge is to also transform them to contain up to 100% recycled content.

Achieving this potential will require overcoming several challenges, including: growing post-consumer collection, further increasing our reprocessing capacity around the world, developing technologies for scrap sorting and evolving design specifications of the can.



Our Response...

For the past several years, Novelis has been working to develop the technology to enable creation of a can that could be made from up to 100% recycled aluminum. In 2013, we took a critical step in that journey with the launch of evercan, the first independently certified, highrecycled content aluminum sheet for the beverage can market. Novelis is initially offering aluminum can body sheet guaranteed to contain at least 90% recycled content. This sheet has been certified by SCS Global Services, a trusted leader in thirdparty environmental, sustainability and food quality certification, auditing, testing and standards development.

When combined with the can end made of a different alloy during the can-making process, the new Novelis evercan will enable beverage companies to market their beverages in standard 12-ounce aluminum cans certified to contain at least 70% recycled content. But Novelis certainly is not content to stop there. We are continuing to work hard to develop a high-recycled content can that will enable a 100% recyclable can with up to 100% recycled content.

From increasing end-of-life recycling rates and building closed-loop recycling capacity to investing in sorting technology, Novelis is taking many steps to evolve the engineering of both the alloy and the can.



evercan[™] development

Sourcing



Customers

Q&A

with Todd Summe, Director, Global Automotive Technology

Working with Our Auto Customers



What is driving demand for aluminum in the automotive market?

A: Auto is the single fastest-growing market for aluminum flat rolled products (FRP) – and sustainability is the single biggest driver. Automakers are facing more demanding fuel economy and CO₂ emissions standards around the world. In the U.S., for example, fuel efficiency standards now call for gas mileage in excess of 54 miles per gallon (4.36 L/100 km) by 2025. Lightweighting with aluminum is one of the best overall enablers of significant efficiency increases.

Which vehicles are using Novelis aluminum?

A: What's exciting is that automakers are significantly expanding the use of aluminum across more vehicle models, especially higher-volume vehicles, as well as expanding the type of components that are made with aluminum. For example, the new Mercedes Benz CLA features Novelis aluminum, including an innovative alloy we created specifically for the automotive industry, which marks the first time aluminum has been used in the compact car segment in large-scale production. One of the largest expansions of the use of aluminum will be in the vehicle's primary structure, Body-in-White, saving weight and fuel while increasing passenger safety. All told, Novelis aluminum is in more than 100 different models - that's 5 million vehicles on the road that feature Novelis aluminum.



How are Novelis' research and technology capabilities adding value for your customers?

A: Novelis has really been a pioneer in our work with the automotive industry. Working in close partnership with our customers to ensure our solutions meet their needs, we have developed a complete automotive technology package, including alloys, surface treatment systems, and structural bonding, lubrication, forming and joining technologies that are enabling automakers to increase their use of aluminum with existing production techniques. And to serve the growing demand, we are adding two new automotive finishing lines at our facility in Oswego, New York, and last year we broke ground on a new plant in Changzhou, China – the industry's first facility dedicated to producing aluminum sheet for the automotive industry in China.

What are some highlights of your team's work over the last year?

A: Well, 2013 saw a milestone with the introduction of the new Range Rover – the world's first allaluminum, full-sized sport utility vehicle – for which Novelis is the exclusive aluminum supplier. Novelis and Jaguar Land Rover (JLR) have had a long-time partnership and together have really led the way for the use of aluminum for mass vehicle production. The new Range Rover model is 420 kg lighter than the previous model thanks to its all-aluminum body structure. In addition, JLR is targeting to make a Range Rover from 75% recycled content aluminum, and we developed a closed-loop agreement through which Novelis will recover and recycle all of JLR's aluminum scrap. Strategy



Customers

The Impacts of Vehicle Lightweighting with Aluminum

Sourcing



7 Source: European Aluminum Association's "Aluminium in Cars, Unlocking the Light-weighting Potential" (2012). 8 Source: Aluminum in Transportation Group Ducker study (2011).

All other data on this page is from the International Aluminum Institute's "Improving Sustainability in the Transport Sector through Weight Reduction and the Application of Aluminium" report (2007).

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Sourcing





with Devesh Mathur, Director, Specialties Technology

Working with Our Specialties Customers



How is sustainability driving demand for aluminum in the markets your group serves?

A: In the electronics industry, for example, demand for aluminum is increasing significantly, driven by three major trends: consumer preferences for the aesthetics of aluminum, good heat transfer properties and, finally, lightweighting. Among electronics manufacturers there is also a strong push for recycled content and recyclability – especially important in places where there are product takeback laws – and aluminum clearly offers those benefits. In architecture and building, a combination of aesthetics and sustainability properties are also driving demand. For example, use of aluminum helps builders increase recycled content – a requirement for achieving many "green building" certifications and, in some countries, regulatory standards – and can improve the energy efficiency of buildings. Q

How does Novelis help its specialties customers achieve their sustainability objectives?

A: Our technical group works closely with our specialties customers to design aluminum components that can be substituted for parts that were previously made of steel or other materials. The resulting weight reductions help our customers realize sustainability benefits in transportation and packaging. And, for some types of parts, substituting aluminum can also enable our customers to improve the energy efficiency of the end product. We also work with our customers to design new alloys that enable further lightweighting of parts that are already made of aluminum. Finally, Novelis' commitment to increasing our use of recycled content provides benefits to our customers because it improves the sustainability profile of the end product. I think this commitment will be an increasingly important differentiator for us among our specialties customers.

Novelis' Specialties group has a diverse portfolio that includes consumer electronics such as smartphones, tablets, laptops, e-readers and flat-screen TVs; architecture and building materials; transportation for vehicles other than cars; industrial equipment; heating and cooling systems and a variety of other applications.



Dalian International Conference Center in Dalian, China, constructed using Novelis aluminum



Customers

Closing the Loop with Customers

Another way we are working with our customers is by developing closed-loop arrangements in which Novelis buys back our customers' aluminum manufacturing scrap.

This is not a new practice – we have had these types of arrangements in place with many of our customers for several years – but as we work to secure more and different types of scrap aluminum to achieve our recycled inputs goal, we are more formally and broadly institutionalizing the process. In 2013, for example, LG Electronics introduced a new flat-screen television model using Novelis aluminum. As part of our partnership with LG, we formed a closed-loop recycling agreement in which the aluminum scrap generated in LG's pressing processes will be sent back to Novelis' Yeongju facility, where it will be recycled.

We are also collaborating with our customers to increase and facilitate post-consumer recycling – one of the key sustainability challenges facing both Novelis and our customers. With automobiles, for example, it can be more than 15 years before they reach the end of their useful lives. In addition, the aluminum in vehicles is mixed with many other materials, making recovery at end of life difficult. Novelis is examining how to effectively collect, dismantle and separate auto scrap to bring more back into the system. And, we are doing trials with a number of car customers, such as Jaguar Land Rover and others, on products that maintain quality and performance but can be more easily recycled. These advancements will dramatically increase the recycled content of cars and further our and automakers' sustainability goals.



The LG LA6200 television, constructed using Novelis aluminum

Consumers

Closing the Loop

Consumers play a key role in our efforts to "close the loop" on the aluminum life cycle, since they help to determine how much aluminum makes it back into the recycling stream – or into the landfill. That's why we work hard to educate consumers about the importance of recycling and help make recycling easy and convenient. Also, we know it's essential that we meet consumers' expectations regarding product quality, safety and environmental sustainability.

Our Key Aims

Increase our supply of postconsumer aluminum scrap

Help our customers make sustainable products that consumers want

Our Key Challenge

Influencing consumer behavior and expanding recycling infrastructure to increase postconsumer recycling rates

15 to 20 times per day

The average number of times we estimate the average American touches Novelis aluminum

Post-Consumer Recycling Around the World

Recycling infrastructure and public policies that promote postconsumer recycling vary considerably across the globe. Because of these differences – as well as differences in consumer attitudes and habits – recycling rates are highly variable.

In many areas, well-developed systems exist for collecting, sorting and processing used beverage containers (UBCs), end-of-life automobiles and other aluminum scrap. Elsewhere, systems are less developed, more fragmented or more limited in the type of scrap they can process. Recycling services may be provided by government agencies, by the private sector or by public–private partnerships, depending on location.

Figure 28 shows the differences in UBC recycling rates in several regions around the world. Variations also exist within regions, of course. In Europe, for example, recycling rates in Scandinavian countries top 90%, while other countries have much lower rates and bring the European average down to 64%. In South America, Brazil has a recycling rate of 98%, which is higher than the South American average of 93%.



The Case for Post-Consumer Recycling

Aluminum cans are already the world's most-recycled beverage containers, and Novelis is the leading recycler of UBCs the world. However, increasing UBC recycling rates even further is essential to our business. We currently buy about 40 billion cans a year, and post-consumer recycled aluminum accounts for approximately 31% of our overall aluminum inputs. But we expect our global consumption of UBCs to grow to more than 60 billion cans by 2015 as we work to meet our 80% recycled inputs goal.

Given the variability in recycling infrastructure, markets, culture and regulations, there is no one-sizefits-all approach to developing and expanding the collection and recycling of post-consumer aluminum, and it is challenging for a single company like Novelis to drive



Novelis Korea recycling education program

large-scale change. That's why we seek to develop tailored strategies – in partnership with customers, municipalities and other stakeholders – that address important gaps in key locations. While the specific tactics may vary, our overall objective is to increase recycling rates and ultimately expand the supply of postconsumer aluminum scrap that we can use as an input for our products.

Promoting Collection and Recycling Infrastructure

Novelis is actively involved in promoting the expansion of recycling infrastructure - and in some cases directly creating that infrastructure ourselves. In 2013, for example, we opened a recycling center in Ho Chi Minh City, Vietnam, to handle the procurement, cleaning and baling of UBCs in that country. In Brazil, we operate five scrap collection centers to help us increase our supply of material for recycling in that country. And in 2012, we established a new UBC buying organization in North America. The Sourcing section (see p. 21) describes these operations in detail.

Globally we support efficient post-consumer recycling policy and infrastructure development

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appropriate to local needs. In addition, we are involved in several programs that seek to boost recycling through improved collection and infrastructure, including the following:

Every Can Counts: This Novelis-sponsored initiative focuses on increasing away-from-home recycling by providing more than 6,000 recycling collection points at businesses, schools, concerts and sporting events. Since its founding in 2009, Every Can Counts has worked with more than 1,000 organizations at nearly 2,500 sites – initially in the U.K. and now across Europe. In 2011, Every Can Counts helped to collect 51 million UBCs – cans that otherwise might have ended up in landfill.

Curbside Value Partnership

(CVP): In the U.S. we are an active member and funder of the CVP. a nonprofit organization that seeks to increase household participation in curbside recycling programs by consulting with communities and carrying out education and data analysis. The CVP has worked with more than 30 cities, counties and states since its creation in 2005, and these communities have seen an average 23% increase in recycling volume as a result. In 2012, our headquarters city of Atlanta selected the CVP to help boost its recycling rates. Novelis' David Gill served as chair of the CVP board until mid 2013.

Sourcing

Educating Consumers

We organize and support a broad range of recycling-related consumer education and awareness efforts in locations where we operate around the world – particularly in places that have relatively lower recycling rates. For example, we have several established programs in the U.S. and U.K. (see examples below), and have recently launched new programs in South Korea. We also partner with customers and other stakeholders in Central Europe on education and awareness programs.

We have partnered with a unique Atlanta-based environmental organization called One More Generation (OMG). Started by two pre-teens, OMG developed a week-long curriculum for elementary-aged children about the importance of recycling. OMG delivers the curriculum itself, and through funding from Novelis has also developed a guide that allows teachers to deliver it. While the materials originally focused on plastics recycling, Novelis worked with OMG to incorporate information about the critical need to recycle aluminum as well. So far, OMG has shared the new curriculum (with the aluminum segment) with more than 10 schools and community organizations in metro Atlanta, sometimes to as many as 750 students at once; many more schools are signed up for this fall. Since starting the organization, the OMG founders have given their recycling presentation to thousands of students, parents and teachers across the country.

Through our membership in the Can Manufacturers Institute, a trade association, we help to sponsor the Great American Can Roundup School Challenge. This competition - which awards monetary prizes to schools in each U.S. state that collect the most beverage cans – educates students about the importance and benefits of recycling cans. In 2012, more than 790 schools from all 50 states competed in the contest.

➡ In the U.K., our **ThinkCans** program has promoted awareness about aluminum can recycling at work, home, school and charities over the last eight years. The Cash for Cans aspect of the program provides the recycling bins and educational leaflets needed for schools and charities to run can drives, and then pays the organizations for the cans collected.

As the "Official Recycling" Partner" of the Atlanta Falcons professional football team, Novelis sponsors messaging at Falcons' games that educates fans about the importance of recycling. Novelis also partners with the Falcons to sponsor a Green Team Ambassadors contest with local schools. In April 2012, Fair Oaks Elementary School in Marietta, Georgia, was awarded the Green Team Ambassador Grand Prize (including a \$2,500 grant) in recognition of its recycling program. Atlanta Falcons' football players, cheerleaders and team mascots visited the school to celebrate their achievement. Three runnerup schools received \$500 grants. More than 50 schools participated in the three-month Green Team Ambassadors contest, all agreeing to promote the recycling of aluminum cans. Novelis and the Falcons provided the schools with a recycling education packet, posters and an educational video that included recycling tips from Falcons players.

In Action...

MetalMatters' Awareness Campaigns Help to Increase Recycling Rates

In the U.K., a recycling awareness program called MetalMatters has reached nearly 2 million households, helping to boost metal recycling rates by educating consumers about the importance of recycling. Funded and supported by Novelis and a wide array of industry partners, recycling rates have risen by an average of 13% since 2010 in more than 10 cities around the U.K. where MetalMatters operates.

MetalMatters' awareness campaigns use direct mail, outdoor and indoor advertising, and other outreach methods to educate residents about the benefits of recycling. And the campaigns are clearly making an impression. In a survey completed in Aberdeen, Scotland, following a recent MetalMatters campaign, more than 50% of the 1,200 residents surveyed said they remembered seeing or hearing advertising about recycling nearly four months after the campaign.

MetalMatters continues to expand its reach, having launched its first campaign in London in early 2013.



Meeting Demand for Green Products

Consumers today are increasingly "thinking green" when they go shopping, and companies are responding with more-sustainable products.

A 2012 Accenture survey of global business executives found that "consumer/customer expectation" was the biggest driver of sustainability initiatives for their companies. A majority of those surveyed said they expect that demand to grow, and more than a third said they already couldn't keep up with the demand for sustainable products and services.⁹

At Novelis, we are well placed to meet the growing consumer demand for green products.



In fact, we are actively helping our customers create products for their consumers that are more sustainable – for example, lighterweight vehicles that get better gas mileage. We will continue to listen to what consumers want and need and work to meet those needs with our aluminum products.

Product Safety and Health

At Novelis, we work to ensure that our products meet high standards of safety and quality for our customers, and, in turn, for the consumers of their end products. We comply with the rigorous safety requirements of our automotive customers. And for some food and beverage applications, we certify that we meet demanding regulatory consumer safety requirements. All scientific evaluations to date produced by internationally respected organizations have found aluminum to be safe for use in the full range of its current applications.

Aluminum is present in various chemical forms in rocks, soil and vegetation, and is found naturally in most water supplies. As a result, humans regularly ingest it. However, the body has highly effective barriers to exclude aluminum and similar metals, and in healthy individuals, the kidneys quickly excrete most of the absorbed aluminum. Patients with severe kidney problems, including those on dialysis treatment, often face problems, including the inability to excrete absorbed aluminum. The use of modern aluminum-free dialysate solutions now prevents "dialysis dementia." Acute dialysis dementia described in the early days of renal dialysis has no connection with Alzheimer's disease. In 1997, a Task Group under the auspices of the World Health Organization and the United Nations Environment Programme concluded that no evidence exists to support the premise that aluminum causes, exacerbates or accelerates Alzheimer's disease.

⁹ http://www.accenture.com/SiteCollectionDocuments/PDF/Accenture-Long-Term-Growth-Short-Term-Differentiation-and-Profits-from-Sustainable-Products-and-Services.pdf

In Action: Finding Alternatives to Bisphenol-A (BPA)

The Challenge...

BPA is a basic building block of the resins used in epoxy coatings that serve as protective linings for metal packaging as well as many plastic products. Coatings containing BPA are currently found in almost all aluminum and steel beverage cans.

Regulatory agencies in the U.S., Canada, Europe, Japan, Australia and New Zealand have stated that scientific evidence has consistently shown that these coatings are safe. In addition, in March 2012 the U.S. Food and Drug Administration said that no compelling scientific evidence exists to justify new restrictions on BPA.

Novelis recognizes, however, that some consumers have become concerned about potential health hazards associated with BPA. And, some governments have begun to regulate the use of BPA in certain products (e.g., plastic baby bottles), and they are considering the regulation of BPA in other products. In early 2013, for example, the state of California held a consultation on whether to add BPA to a list of what it considers to be potentially harmful chemicals. The French government has taken a more aggressive approach: Beginning in January 2015, it will prohibit the manufacture, import, export and commercialization of all food and beverage packaging using BPA.

Our Response...

As a result of consumer concerns and these types of emerging regulations, Novelis has been actively working to develop sustainable alternatives to the current BPA-based epoxy coatings. Because we are but one link in the long beverage packaging supply chain, we are collaborating with coating suppliers, can makers and beverage companies to research and develop solutions, whether new coatings or other potential alternatives to BPA, for our customers. Our target is to be capable of beginning the transition to BPA-free coatings by early 2014.



The chemical composition of BPA

Why It's Important

We are always working to stay ahead of our customers' wants and needs. The desire for alternatives to BPA is something we've seen coming for some time, which is why we have been researching solutions. I'm happy to say, we're nearly there."

Stefan Erdmann, Vice President, Global Research & Development

Customers

About This Report

This is Novelis' third sustainability report, published in the summer of 2013. Our first sustainability report was issued in November 2011, our second in the summer of 2012.

Scope and Boundaries

This report was prepared in accordance with the principles of materiality (see p. 12), as well as completeness, balance, comparability, accuracy, reliability, timeliness and clarity. We applied quality principles to its data collection and reporting process, and used Global Reporting Initiative reporting principles (see p. 73) in compiling the data.

The report focuses on our most material impacts and opportunities – those that are of most importance to our company and our stakeholders. These issues are either currently affecting, or will affect, our business activities, and Novelis has some level of indirect or direct influence over them (see p. 12).

This report covers all Novelis Inc. divisions, subsidiaries and legal entities in the nine countries in which we are present.¹⁰ It includes our joint ventures. We have included 50% of the Alunorf joint venture in Germany where we have 50% of plant output, and 55% of the Logan facility in the United States, where we own 40% of outstanding common shares, but receive 55% of plant output due to equipment investments. The financial and environmental data results for these operations are included in our companywide data in this report at these percentages. For the operations in Korea and Malaysia, we report operational data at 100%. In Korea, we hold a 99% equity interest in the Ulsan and Yeongju plants, up from 68% in FY11. We hold a 59% equity interest in the Aluminum Company of Malaysia Berhad, a publicly traded company that operates from Bukit Raja, Selangor, Malaysia. Unlike our production-sharing joint ventures at Norf, Germany, and Logan, USA, we market 100% of the Korean and Malaysian plants' output.

The full Global Reporting Initiative (GRI) content index lists details of organizational changes that could affect the future year-onyear comparability of data, where applicable. Data measurement techniques and the bases of calculations, if relevant, are noted with the data graphics and tables. In some cases, the data may have changed slightly since our last report due to the following: improved processes for calculations, estimations, conversion factors, reporting periods (calendar year to fiscal year), or improved methodologies (e.g., tracking actual numbers instead of using estimates). For example, our baseline average for our landfilled waste target changed from 60K to 62K due to an improved estimation of the amount of waste from dross processing that is ultimately landfilled.

Reporting Period

The primary financial and environmental data and information contained in this report covers the period from April 1, 2012, to March 31, 2013, which is Novelis' 2013 fiscal year (FY13). Additional relevant baseline data or context from preceding years is included where specified.

Assurance

We did not seek third-party assurance of this report; however, we systematically gathered our data with future assurance in mind. Some of the data we disclose has undergone various forms of internal and thirdparty verification. For example, some financial data was derived from financial statements included in the Annual Report on Form 10-K, and some environmental data was reported to regulatory authorities. In addition, the third-party environmental and sustainability certifier SCS Global Services, Inc., certified the recycled content for evercan[™].

10 As of March 31, 2013

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uring Customers

The Global Reporting Initiative Index

We have aligned this report to conform to the Global Reporting Initiative (GRI) G3.1 Sustainability Reporting Guidelines and the GRI Mining and Metals sector supplement at a GRI-checked "A" Application Level. We are not mining, but prior to August 2013 we did own mining rights in the Ouro Preto region of Brazil that were not being utilized. These sites have since been divested.

We have included an abbreviated GRI Content Index on the following pages, to help readers easily locate information on indicators spelled out in the GRI guidelines. Supplemental data and other information on our performance against the GRI's criteria can be found in the complete GRI Content Index on our website at novelis.com/sustainability.

	Global Reporting Initiative
	Statement
	GRI Application Level Check
GRI hen Innovat requirer	eby states that Novelis Inc has presented its report "Sustainability Through Disruptive son" (2013) to GM's Report Services which have concluded that the report fulfills the ment of Application Level A.
GRI App used in disclosu Content GRI G3. Method	Isotistic lowed communicate the sector to which the advance of the G.3. Goldsmen has been built advanced advanced by reporting. The factor confirms the the regular base rank mather of area for that Application Level have been addressed in the reporting and that the GBL (based comparison and reports ranks) of the required discusses, a decrafted in the 1 Guidelines. For methodology, see www.globalreporting.org/SiteCollectionDocument/ALC- loging and the sector advanced in the sector of
Applicat quality	tion Levels do not provide as opinion on the sustainability performance of the reporter nor the of the information in the report.
Amster	am, 13 September 2013
Nelmari Deputy Global F The Dote summers	A Pole Y Conf. Specular Known
Disclating	uitezennig og n: Where Merekent Jastinindelity reporting induktis external dok, influidig to kultu nisud naternik, Ma stättement only material skulmeter to Gill et the time of the Check on 3 September 2023. Gill explicitly excludes the alstiment being opplied to

Status Key:

- **Fully Reported** We have fully reported the information required by the GRI indicator.
- Partially Reported We have provided some of the information required and, in some instances, we are working towards fully reporting this information in the future.
- Not Disclosed This information is either not collected on a global basis or is confidential for competitive or other reasons.
- Not Applicable This indicator does not apply to our operations or our reporting.



Indicator	Level	References
STRATEG	Y AND	ANALYSIS
1.1		CEO Letter [Pgs 3–4]
1.2		Performance Summary [Pg 5]
		Strategy [Pgs 8–20]
ODC ANIT		
	ATION	About Novelis [Pg 6]
2.1		About Novelis [Pg 6]
2.2	•	Corporate Website: Who We Are
2.3		About Novelis [Pg 6]
		Scope and Boundaries [Pg 72]
2.4		Atlanta, GA, USA About Novelis [Pg 6]
2.5		About Novelis [Pg 6]
2.6		About Novelis [Pg 6]
		Sustainability Management and Governance [Pg 20]
2.7		About Novelis [Pg 6]
		Customers [Pgs 58–65]
2.8		Corporate Website: Investors Novelis FY13 10-K
2.9	•	Novelis FY13 10-K [Pgs 9–12]
		Building the World's Largest Recycling Network
		[Pg 25] Novelis' Global Expansion (Pg 25)
2.10	•	Awards and Recognitions [Pg 81]
REPORT	ΔΡΔΜΙ	TERS
3.1		Reporting Period (Pg 72)
3.2		Scope and Boundaries (Pg 72)
3.3		Reporting Period (Pg 72)
3.4		Contact [Outside Back Cover]
Report Sco	ope and	Boundary
3.5		Transforming Our Business Model [Pg 10]
		Embedding Sustainability Across Our Business
		[Pg 11] Implementing Our Sustainability Strategy
		[Pgs 12–13]
		About This Report [Pg 72]
3.6		Scope and Boundaries [Pg 72]
3.7		Scope and Boundaries [Pg 72]
7.0		Reporting Period [Pg 72]
5.8		Scope and Boundaries [Pg 72] Reporting Period [Pg 72]
		Novelis FY13 10-K [Pg 27]
3.9		Scope and Boundaries [Pg 72]
		Reporting Period [Pg 72]
		Management Guidelines

Indicator Le	evel	References
3.10		Reporting Period [Pg 72]
3.11		Reporting Period [Pg 72]
GRI Content	Index	
3.12		<u>GRI Content Index</u>
Assurance		
3.13		Assurance [Pg 72]
GOVERNAN	CE, C	OMMITMENTS AND ENGAGEMENT
Governance		
4.1	•	Sustainability Management and Governance [Pg 20] Corporate Website: Executive Officers Corporate Website: Board of Directors Novelis FY13 10-K [Pgs 134–138]
4.2		Sustainability Management and Governance [Pg 20]
4.3		Sustainability Management and Governance [Pg 20] Corporate Website: Corporate Governance Novelis FY13 10-K [Pgs 134–138]
4.4		Full GRI Content Index
4.5		Full GRI Content Index
4.6		Corporate Website: Code of Ethics for Senior Financial Officers
4.7		Full GRI Content Index
4.8	•	Public Policy Engagement [Pg 19] Sustainability Management and Governance [Pg 20] Our New Employee Code of Conduct [Pg 49] <u>Corporate Website: Code of Ethics for Senior</u> Financial Officers
4.9	•	Full GRI Content Index
4.10		Full GRI Content Index
Commitment	ts to E	xternal Initiatives
4.11		Full GRI Content Index
4.12	•	Our Environmental Health & Safety Management Systems [Pg 30] Public Policy Engagement [Pg 19] Our New Employee Code of Conduct [Pg 49] <u>Code of Conduct for Board of Directors and</u> <u>Senior Managers</u> <u>Code of Ethics for Senior Financial Officers</u>
4.13		Full GRI Content Index
Stakeholder I	Engag	ement
4.14		Stakeholder Engagement [Pgs 17–19]
4.15		Stakeholder Engagement [Pgs 18–20]
4.16		Stakeholder Engagement [Pgs 18–20]
4.17		Stakeholder Engagement [Pgs 18–20]

Fully Reported	

Sourcing



Indicator L	.evel	References	Indicator	Level	References		
DISCLOSUR	RE ON	MANAGEMENT APPROACH	Performance: Labor Practices and Decent Work				
Performance EC	e: Ecor	Our economic performance is reviewed quarterly with the Board. We do not have formal policies related to indirect economic impacts. However, through our Novelis Neighbor program and other activities, we strive to make positive contributions to local, national and global communities in which we operate. Our direct and indirect contributions to those communities are significant and bring social and economic benefit to these communities. Economic Performance [Pgs 5–7, 20] Market Presence [Pgs 6–10] Indirect Economic Impacts [Pgs 6–7, 50–57] Full GPL Index SQ1_EC8 and EC9	LA	•	Our Senior Vice President and Chief People Officer is responsible for managing the aspects noted except for occupational health and safety, which is managed by Novelis' Vice President of Environment, Health and Safety. (See Environmental DMA, at left) Employment [Pg 7] Labor/Management Relations [Pgs 46–47] Occupational Health and Safety [Pgs 30, 44–45] Training and Education [Pgs 11, 47–49] Full GRI Index LA8, 10, 11, HR3, SO1, 3 Diversity and Equal Opportunity Corporate Governance Website Novelis Code of Conduct [Pgs 20, 49] Full GRI Index LA13		
Performance	e: Envi	ronmental			Equal Remuneration for Women and Men		
EN		Our standards and protocols for environmental			Corporate Governance Website Novelis Code of Conduct [Pgs 20, 49]		
		are based on relevant government requirements and Novelis policies, which may exceed them. Our global performance standards are implemented following site-specific evaluation of issues and hazards. Plants are responsible for training employees on the requirements backed up by EHS specialists. Training is tailored to the employee's job requirements and carried out in a variety of methods including online and hands-on training. All training is tracked to completion and results are analyzed annually. Novelis has a Global Supply Chain framework, including a head of logistics, whose goal is to minimize our costs and our footprint while we deliver our products. We additionally use lightweight materials like aluminum where possible to lighten our load. Along with our procurement department, in FY13 we began to roll out a Supplier Code of Conduct. Materials [Pgs 11–13, 20–27] Energy, Water, Emissions/Effluents/Waste [Pgs 5, 11–13, 30–31] Biodiversity [Pgs 16–18, 43] Products and Services [Pgs 8–11, 13, 58–65] <u>Full GRI Index EN26, 27</u> Compliance	Performan HR		nan Rights We set targets to roll out both a new employee and a supplier code of conduct, as well as put processes in place for compliance. In FY13 we initially rolled out both of them. These codes will further strengthen our practices, management and accountability in these areas. Investment and Procurement Practices [Pgs 15, 20–27, 29] Non-Discrimination, Freedom of Association and Collective Bargaining, Child Labor, Prevention of Forced and Compulsory Labor [Pgs 7, 27, 46, 49] UNGC Index Full GRI Index HR3, HR4, HR5, HR6, HR7 Security Practices We have a Global Security Team and Global Security Policies, which include IT security policies and oversight. Indigenous Rights [Pg 57] Full GRI Index responses to MM5 and HR9 Assessment [Pgs 27, 43–45] Remediation [Pg 43]		

<u>ruii GRI Inde</u> Overall [Pgs 12-13, 20, 28, 30-32]

Fully Reported	Partially Reported	O Not Disclosed	Not Applicable
2 1	3 1		

Indicator Level	References	Indicator	Level	References	
Performance: Soc	ziety	ECONOMIC			
SO 💮	Community [Pgs 50–57, 68–69]	Aspect: Economic Performance			
	Index response to SO1	EC1		Novelis FY13 10-K (Pas 10, 65, 90–92, 94,	
	Artisanal and Small-Scale Mining			110–113]	
	<u>Full GRI Index MM8</u>			About Novelis [Pg 6]	
	Resettlement			Charitable Contributions and Employee	
	<u>Full GRI Index MM9</u>			Volunteering [Pg 51]	
	Closure planning	EC2		CEO Letter [Pgs 3–4]	
	<u>Full GRI Index MM10</u>			Transforming Our Business Model [Pg 10]	
	Grievance Mechanisms and Procedures			Implementing Our Sustainability Strategy	
	our senior vice President of General Courise			[Pgs 12–13]	
	of any grievance-related issues			Stakeholder Engagement [Pgs 17–18]	
	Full GRI Index HR11_MM7			Public Policy Engagement [Pg 19]	
	Emergency Preparedness			Our Global Recycling Strategy [Pgs 22–26]	
	Our Vice President of Environment, Health &			Novelis' Global Expansion [Pg 29]	
	Safety and EHS Steering Committee, which our			Climate Change and Opportunities [Pgs 32–33]	
	CEO leads, oversee any emergency-related			Croophouse Cas Emissions & Energy Lise	
	issues related to our business.			[Pris 34–38]	
	Corruption [Pgs 20, 49]			Customers: Partnering for Sustainable Growth	
	<u>Full GRI Index SO2, SO3, SO4</u>			[Pas 58–65]	
	Public Policy [Pg 19]	EC3		Full GRI Index	
	Anti-Competitive Behavior [Pg 49]	EC4		Eull CPI Index	
	<u>Full GRI Index SO7</u>	LC4		<u>ruit diti muex</u>	
	We do not have formal targets but always strive	Aspect: Ma	arket Pr	esence	
	for 100% compliance with legal and Novelis	EC5	0		
	requirements.	EC6		Responsible Sourcing [Pg 27]	
		EC7		Full GRI Index	
Performance: Pro	duct Responsibility	Aspect: In	direct E	conomic Impacts	
PR 🔴	Our Chief Sustainability Officer has overall	FC8		Engaging with Our Communities (Pgs 50–57)	
	responsibility for considering sustainability	100		Promoting Collection and Recycling	
	issues throughout the product life cycle.			Infrastructure [Pg 68]	
	Materials Stewardship [Pgs 10–11, 20–27,			Educating Consumers [Pg 69]	
	66–69]				
	Full GRI Index PR1	EC9		About Novelis [Pgs 6–7]	
	Customer Health & Safety [Pgs 70-71]			Responsible Sourcing [Pg 27]	
	<u>Product and Service Labeling</u>			Volunteering (Pg 51)	
	Full GRI Index PR3-5			Volunteening [Fg 51]	
	Marketing Communications				
	Full GRI Index PR 6–7				
	Customer Privacy				
	Full GRI Index PR8				
	Compliance [Pg 27]				
	<u>Full GRI Index PR9</u>				

Consumers

About This Report



Indicator 1	Level	References				
ENVIRONMENTAL						
Aspect: Mate	erials					
EN1		Sourcing: Our Material Inputs [Pgs 21–27]				
EN2		Sourcing: Our Material Inputs [Pgs 21–27]	-			
Aspect: Ener	gy					
EN3		Energy Use [Pgs 35–38]				
EN4		Energy Use [Pgs 35–38]	l.			
EN5		Energy Use [Pgs 35–38]				
EN6	•	Customers: Partnering for Sustainable Growth [Pgs 58–65]				
EN7		Energy Use [Pgs 35–38]				
Aspect: Wate	er					
EN8		Water Use [Pgs 38–39]				
EN9	0					
EN10		Water Use [Pgs 38–39]				
Aspect: Biod	liversit	у				
EN11		Biodiversity [Pg 43]	ľ			
EN12		Biodiversity [Pg 43]				
MM1		Biodiversity [Pg 43]				
EN13		Full GRI Index				
EN14	0		ŀ			
MM2		Biodiversity [Pg 43]	ŀ			
EN15	0					
Aspect: Emis	ssions,	Effluents and Waste				
EN16		Our Carbon Footprint Across the Life Cycle [Pg 34] Greenhouse Gas Emissions [Pgs 35–36]				
EN17		Our Carbon Footprint Across the Life Cycle [Pg 34]	-			
EN(10		Greenhouse Gas Emissions [Pgs 34–35]				
FINTO	-	Greenhouse Gas Emissions [Pgs 34–35]				
EN19		Full GRI Index	-			
EN20		Non-GHG Air Emissions [Pg 42]	-			
EN21		Water Use [Pgs 38–39]				
EN22		Waste [Pgs 40-41]				
MM3		Full GRI Index	ſ			
EN23		Full GRI Index				
EN24	0					
EN25	0					

Indicator	Level	References
Aspect: Pro	oducts a	nd Services
EN26		Performance Summary [Pg 5] Customers: Partnering for Sustainable Growth [Pgs 58–65]
EN27		<u>Full GRI Index</u>
Aspect: Co	mpliand	ce
EN28		<u>Full GRI Index</u>
Aspect: Tra	ansport	
EN29	0	
Aspect: Ov	erall	
EN30	0	
LABOR PR	RACTIC	ES AND DECENT WORK
Aspect: Em	ıployme	ent
LA1		About Novelis [Pg 7]
LA2	0	<u>Full GRI Index</u>
LA3		Full GRI Index
L15	0	Full GRI Index
Aspect: La	bor/Mar	nagement Relations
LA4		Employee Engagement [Pg 46]
LA5		Full GRI Index
MM4		Full GRI Index
Aspect: Oc	cupatio	nal Health and Safety
LA6	•	Environment, Health and Management Systems and Our New Network of Environmental Committees [Pgs 30–31]
LA7		Our Health and Safety Performance [Pgs 44–45]
LA8		Engaging with Our Communities [Pgs 50–57]
LA9		Employee Engagement [Pg 46]
Aspect: Tra	aining a	nd Education
LA10		Talent Management [Pgs 47–48]
LA11		Talent Management [Pgs 47–48]
LA12		About Novelis [Pg 6] Employee Evaluations [Pg 47]
Aspect: Div	versity a	nd Equal Opportunity
LA13		Corporate Website: Executive Officers Corporate Website: Board of Directors Novelis FY13 10-K [Pgs 134–138] Sustainability Management and Governance [Pg 20]
LA14	0	<u>Full GRI Index</u>

Sourcing

O Not Disclosed **•** Not Applicable

	Fully Reported	C	Partially Reported
_	runy heporteu	\mathbf{v}	Fartially Reported

Strategy



Indicator	Level	References
SOCIETY		
Aspect: Co	ommuni	ty
SO1		Engaging with Our Communities [Pgs 50–57] Educating Consumers [Pg 69]
MM6		Candonga Consortium [Pg 57]
MM7		Candonga Consortium [Pg 57]
Aspect: Ar	tisanal a	and Small-Scale Mining
MM8		Full GRI Index
Aspect: Re	settlem	ent
MM9		Candonga Consortium [Pg 57]
Aspect: Cl	osure Pl	anning
MM10		Full GRI Index
SO9	•	GHG Emissions: An Absolute Target for an Absolute Challenge [Pg 33] GHG Emissions [Pg 34] Energy Use [Pgs 35–38] Water Use [Pgs 38–39] Waste [Pgs 40–41] Non-GHG Air Emissions [Pg 42] Biodiversity [Pg 43] Candonga Consortium [Pg 57] Product Safety & Health [Pgs 70–71]
2010	•	Embedding Sustainability Across our Business [Pg 11] Stakeholder Engagement [Pgs 17–19] Sustainability Management and Governance [Pg 20] GHG Emissions: An Absolute Target for an Absolute Challenge [Pg 33] GHG Emissions [Pg 34] Energy Use [Pgs 35–38] Water Use [Pgs 38–39] Waste [Pgs 40–41] Non-GHG Air Emissions [Pg 42] Biodiversity [Pg 43] Candonga Consortium [Pg 57] Product Safety & Health [Pgs 70–71]

SO2

SO3

SO4

SO5

SO6

SO7

SO8

Sourcing

Strategy

Not Applicable

Aspect: Customer Privacy

Aspect: Compliance

Full GRI Index

Full GRI Index

PR8

PR9

				\frown	
	Fully Reported		Partially Reported		Not Disclosed
-	runy neporteu	-	r ar daily reported	\sim	Not Disclosed



UNGC Communication on Progress Index

Sourcing

As a signatory of the United Nations Global Compact (UNGC), we are committed to upholding the Compact's principles on human rights, labor standards, environment and anti-corruption in our everyday business operations as well as reporting our progress.

Ten Principles of the UN Global Compact			
Principle	References: GRI Index / Other	References: Report Section	
HUMAN RIGHTS			
1. Businesses should support and respect the protection of internationally proclaimed human rights; and	Novelis endorses the UNGC, International Labor Organization's Conventions on Human Rights and the Universal Declaration of Human Rights. Full GRI Index: 4.4, 4.9, 4.11, 4.13, HR DMA, Performance Indicators HR 1–9 Corporate Website: Code of Conduct for Board of Directors and Senior Managers, Code of Ethics for Senior Financial Officers, and Novelis Supplier Code of Conduct	CEO Letter [Pg 4] Implementing Our Sustainability Strategy [Pgs 12–13] Sustainability Management and Governance (Pg 20) Responsible Sourcing [Pg 27] Our Environment, Health and Safety Management Systems [Pg 30] Health and Safety Performance [Pgs 44–45] Employee Engagement [Pg 46] Employee Code of Conduct and Human Rights [Pg 49] Candonga Consortium [Pg 57]	
2. Make sure that they are not complicit in human rights abuses.	Full GRI Index: 4.4, 4.9, 4.11, 4.13, HR DMA, Performance Indicators HR1–9 Corporate Website: Code of Conduct for Board of Directors and Senior Managers, Code of Ethics for Senior Financial Officers and Novelis Supplier Code of Conduct	CEO Letter [Pg 4] Sustainability Management and Governance [Pg 20] Responsible Sourcing [Pg 27] Employee Code of Conduct and Human Rights [Pg 49]	
LABOR			
3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining, and	Full GRI Index: 4.9, 4.13, LA DMA, Performance Indicators LA3, LA14, HR DMA, Performance Indicators HR9–11 Corporate Website: Novelis Supplier Code of Conduct	Sustainability Management and Governance [Pg 20] Responsible Sourcing [Pg 27] Employee Engagement [Pg 46] Employee Code of Conduct and Human Rights [Pg 49]	
 The elimination of all forms of forced and compulsory labor, 	Full GRI Index: 4.9, 4.13, LA DMA, Performance Indicators LA3, LA14, HR DMA, Performance Indicators HR1, 7 Corporate Website: Novelis Supplier Code of Conduct	Sustainability Management and Governance [Pg 20] Responsible Sourcing [Pg 27] Employee Code of Conduct and Human Rights [Pg 49]	
5. The effective abolition of child labor,	Full GRI Index: 4.9, 4.13, LA DMA, Performance Indicators LA3, LA14, HR DMA, Performance Indicator HR6 Corporate Website: Novelis Supplier Code of Conduct	Sustainability Management and Governance [Pg 20] Responsible Sourcing [Pg 27] Employee Code of Conduct and Human Rights [Pg 49]	
6. The elimination of discrimination in respect of employment and occupation.	Novelis does not discriminate on the basis of race, religion, national origin, color, sex, age, veteran status, or disability. Full GRI Index: 4.9, 4.13, LA DMA, Performance Indicators LA3, LA14, HR DMA, Performance Indicator HR4 Corporate Website: Novelis Supplier Code of Conduct	Sustainability Management and Governance [Pg 20] Responsible Sourcing [Pg 27] Employee Code of Conduct and Human Rights [Pg 49]	

Principle	References: GRI Index / Other	References: Report Section
ENVIRONMENT		
7. Businesses should support a precautionary approach to environmental challenges, and	GRI Index: 4.9, 4.11, 4.13, EN DMA, Performance Indicator EN27	CEO Letter [Pgs 3–4] Strategy [Pgs 8–13] Sourcing [Pgs 21–27] Our Environmental Performance [Pgs 32–43]
8. Undertake initiatives to promote greater environmental responsibility,	GRI Index: 4.9, 4.11, 4.13, EN DMA, Performance Indicator EN2, 5–7, 10, 13, 18, 26, 27, Performance Indicator MM2, 11 Corporate Website: Novelis Environment, Health, Safety and Quality Policy	CEO Letter [Pgs 3–4] Performance Summary [Pg 5] About Novelis [Pgs 6–7] Strategy [Pgs 8–14] Our Sustainability Progress and Performance [Pg 15] Stakeholder Engagement [Pgs 16–19] Sustainability Management and Governance [Pg 20] Sourcing [Pgs 21–27] Our Environment, Health and Safety Management Systems [Pgs 30–31] Our Environmental Performance [Pgs 32–43] Novelis Neighbor [Pg 50] Charitable Contributions and Employee Volunteering [Pg 56] Customers [Pgs 58–65] Consumers [Pgs 66–71]
9. Encourage the development and diffusion of environmentally friendly technologies.	GRI Index: 4.9, 4.11, 4.13, EN DMA Performance Indicator MM11	CEO Letter [Pgs 3–4] Strategy [Pgs 8–14] Industry Engagement [Pg 18] Public Policy Engagement [Pg 19] Sourcing [Pgs 21–27] Our Environmental Performance [Pgs 32–43] Customers [Pg 58–65] Consumers [Pg 71]
ANTI-CORRUPTION		
10. Businesses should work against corruption in all its forms, including extortion and bribery.	Novelis does not tolerate corruption, extortion or bribery. GRI Index: 4.1, 4.6, 4.8, 4.11–12, SO DMA, Performance Indicators SO2–4 Corporate Website: Code of Conduct for the Board of Directors and Senior Management and Novelis Supplier Code of Conduct	Sustainability Management and Governance [Pg 20] Responsible Sourcing [Pg 27] Employee Code of Conduct and Human Rights [Pg 49]

Awards and Recognitions

Strategy

Platts Global Metals Awards

In May 2013, Novelis was named Metals Company of the Year in the inaugural Platts Global Metals Awards. Our CEO, Phil Martens, took home the CEO of the Year honor. We were named finalists in four additional categories: Aluminum Leadership; End-User Efficiency Initiative (for innovative use of our aluminum by Jaguar Land Rover); Innovative Technology (for our Flextreme technology); and Lifetime Achievement (for Novelis employee Bob Wagstaff, Director of Global Technology, Molten Metal Processing).







European Aluminium Awards

In October 2012, Novelis received the prestigious Jury Prize and two Special Prizes at the 2012 European Aluminium Awards, which were presented during the Aluminium 2012 Trade Fair in Dusseldorf, Germany. Organized by the Dutch Aluminium Centre, the European Aluminium Association and the German Aluminium Association, the awards recognize products or projects in which aluminum has been applied in an innovative manner. Novelis won the Jury Prize for the aluminum facade panels of the Titanic Belfast museum in Northern Ireland. We received one Special Prize for an anti-graffiti aluminum surface treatment, and another for our three-piece tailored welded blank for the Mercedes SL.

Aditya Birla Sustainability Award

In December 2012, Novelis was honored by our parent company, Aditya Birla Group (ABG), for Excellence in Sustainability, at ABG's annual Awards for Outstanding Achievement given to its subsidiaries. A new category created this year, the sustainability award recognized Novelis for our sustainability strategy and the progress that has been made since its implementation.



Additional Awards

Along with the awards noted above, we received the following recent recognitions:

Novelis CEO Phil Martens was named one of the top 25 CEOs in the world by the Best Practice Institute. The American Metal Market recognized Novelis with an award for Environmental Responsibility and Stewardship. ➡ In China, Novelis received a Best Dedication Award from the Changzhou National Hi-Tech District for the impressive ceremony Novelis hosted when breaking ground on our automotive sheet manufacturing facility in the District.

Novelis is the global leader in aluminum rolled products and aluminum recycling. Novelis supplies premium aluminum sheet products to the automotive, transportation, packaging, construction, industrial and electronics markets. Novelis is a subsidiary of Hindalco Industries Limited (BSE: HINDALCO), one of Asia's largest integrated producers of aluminum and a leading copper producer. Hindalco is a flagship company of the Aditya Birla Group, a multinational conglomerate based in Mumbai, India. For more information, visit www.novelis.com and follow us on Twitter at twitter.com/Novelis.

We very much welcome your feedback or partnership on sustainability. If you have any questions or comments about this sustainability report or about sustainability at Novelis, please contact:

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