

# NOVELIS Sustainability Report 2012



A Whole Life Cycle Approach



# Contents

**Welcome.** In May 2011, Novelis announced a company-wide Sustainability Commitment to significantly improve the life cycle impact of our aluminum products and meet an ambitious set of targets for the year 2020. This, our second annual sustainability report, reviews our progress and challenges at each life cycle stage of our business: sourcing, manufacturing, customer use and end-of-life with consumers. It also includes context, case studies and forward-looking goals and targets. 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 (page 60) for more information about the report’s scope and boundaries, as well as our plans for future reporting.

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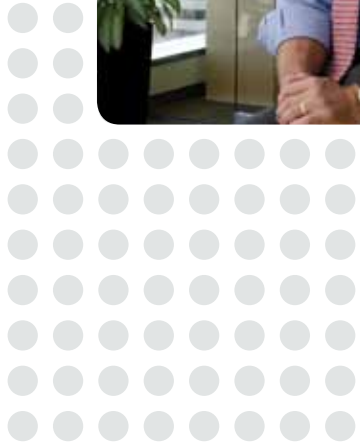
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## CEO Letter

“Our customers are keenly aware of the need to make their products more sustainable. By engaging with our customers and helping them meet their goals, we are transforming these relationships. Rather than a transactional relationship, we’re becoming thought partners, driven by a common sustainability agenda.”

**Phil Martens**  
President and Chief Executive Officer



# 39%

In the last year, we jumped from 33% to 39% recycled content.

**To our stakeholders:** At Novelis, we are building our company’s future on sustainability. In early 2011, Novelis put a first stake in the ground and adopted a new set of sustainability targets, among them the strikingly ambitious aim that 80% of our aluminum inputs will be comprised of recycled content by the year 2020. This, along with our other sustainability targets and efforts, is part of our strategy to become the low-carbon aluminum producer.

This strategic direction is based on what we think the world will look like in 2020, which includes these conditions:

- An increasingly urban population approaching 8 billion people.
- Consumers who are demanding affordable “green” products and who expect the companies, technologies and processes behind those products to be entirely sustainable.
- Hundreds of millions of tons of aluminum in use around the planet, the vast majority of which are retrieved, recycled and employed in the manufacture of new products.

We are embedding sustainability into our business and our way of life – how we make decisions and how we work to do the right thing for our people, our customers, our communities and other stakeholders.

In only a year, we jumped from 33% to 39% recycled content, and we will nearly double our recycling capacity through the strategic projects we have already announced. This achievement brings into view our interim goal of 50% by 2015. For example, we are investing about \$250 million at our plant in Nachterstedt, Germany, to build the world’s largest integrated recycling system. This facility will make Novelis the largest recycler – not just of beverage cans – but of all aluminum.

Importantly, from the perspective of our customers, our global recycling network will create the potential for large-scale closed-loop manufacturing. We’re working on this with our automotive, beverage can and specialty customers. We melt, cast, and roll the material; ship it to them; take back their scrap; then re-melt, cast and roll it again. Our customers are keenly aware of the need to make their products more sustainable – with a smaller carbon footprint and the opportunity to close recycling loops. By engaging with our customers and helping them meet their goals, we are transforming these relationships. Rather than a transactional relationship, we’re becoming thought partners with our customers, driven by a common sustainability agenda.

We envision a future where greater carbon constraints, rising energy demands, depletion of natural resources, government regulation and consumer preferences drive dramatically increased demand for aluminum. Forging the path towards the future is going to require

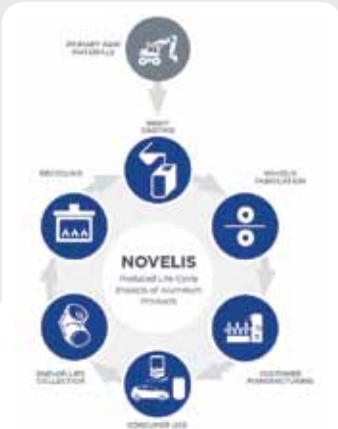


Did you know ?

On a life cycle basis, recycled aluminum avoids 95% of the GHG emissions associated with primary aluminum production, and every recycled aluminum metric ton saves 7.8 metric tons of carbon dioxide equivalents (CO<sub>2</sub>e) over the total aluminum value chain.

Life Cycle Thinking

Aluminum can be recycled to make exactly the same product over and over. Unlike other commonly recycled materials, such as paper, using recycled aluminum does not affect the quality of the product. This unique characteristic has become a value driver in our business. We aim to increase our use of recycled material to 80% by 2020. Reaching this goal requires changing the way we conduct business in every stage of aluminum's life cycle.



See page 8

innovation to re-imagine our products and new technology to re-shape our manufacturing processes. And it's going to require changes to fundamental aspects of our industry that have been in place for over a century. At Novelis, we call this "disruptive innovation," and it's become a core value of the company.

That's why we are so excited about our new Global Research & Technology Center near Atlanta. This state-of-the-art facility will bring product and process innovation together to develop better manufacturing and product specifications, as well as provide a forum for partnering with customer companies.

In addition, to underscore our commitment to being a positive force in local and global communities, we signed up to the United Nations Global Compact in 2012. We remain committed to the initiative, and we are working to implement its 10 principles.

We also face challenges. For example, while our overall safety record compares well to the industry and is improving, as we shrink overall incident rates, the percentage of severe accidents has increased. And severe accidents, of course, are what we especially want to drive to zero. This continues to be one of the top - if not the top - priorities in the company.

We also still have much work to do on the consumer end of the aluminum life cycle to help improve recovery rates for post-consumer aluminum. We're collaborating with customers, governments, regulators and other stakeholders to develop partnerships that will result in higher levels of recycling. And, more broadly, we are supporting dialogue and action to address climate change and to facilitate the transition to a low-carbon economy.

Many companies state that their sustainability strategy is inextricably entwined with their business strategy. With this report - and in our future reports - we hope to demonstrate that this is truly the case for Novelis. The truth is, this is uncharted territory for Novelis, and for most companies. We are fortunate to have the benefit of invaluable insights and advice from our world-class Sustainability Advisory Council. Already, the Council's input is helping us learn about the perspectives of sustainability thought-leaders, tap into the Council's thinking about the future, and get their critical feedback. Novelis is both benefiting from the sustainability movement and feeding it. It's where our attention, our resources, our investments, and our brand are headed. We welcome additional dialogue and partnership, and we hope to get your feedback on our strategy and our report.

*Philip R. Martens*

**Phil Martens**  
President and Chief Executive Officer



“We believe that achieving our targets will enable us to become the undisputed low-carbon leader in our industry through innovation and sustainability.”

**John Gardner**  
Chief Sustainability  
Officer, Novelis



## Our Targets and Progress

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 table below shows our baseline averages for our targets, FY11 and FY12 results, progress in reference to our baseline, and our FY20 targets.

### Key

- Unchanging
- Behind schedule
- Improving or on track to meet target

Our Targets		Baseline	Performance		Progress	Targets
		FY07–FY09 Average	FY11	FY12		FY20
<b>Overall Targets</b>						
<b>Profitability</b>	Approximately double FY11 adjusted EBITDA by FY16	\$0.6 billion	\$1.1 billion	<b>\$1.1 billion</b>		>\$2 billion
<b>Recycled metal content</b>	80% by 2020	30%	33%	<b>39%</b>		80%
<b>2020 Operational Targets</b>						
<b>Energy usage</b>	Reduce by 39% per metric ton of sales	12.4 GJ/mt	10.5 GJ/mt	<b>10.0 GJ/mt</b>		7.6 GJ/mt
<b>Water usage</b>	Reduce by 25% per metric ton of sales	3.7 m <sup>3</sup> /mt	3.1 m <sup>3</sup> /mt	<b>3.2 m<sup>3</sup>/mt</b>		2.7 m <sup>3</sup> /mt
<b>GHG emissions</b>	Halve our absolute amount (Scope 1, 2 and 3)	21 m mt	20 m mt	<b>19 m mt</b>		11 m mt
<b>Landfill</b>	Zero landfilled waste	60 K mt	52 K mt	<b>49 K mt</b>		0 K mt
<b>2020 People Targets</b>						
<b>Safety</b>	Zero recordable injuries	1.01	0.76	<b>0.59</b>		0
<b>Employees</b>	100% of eligible employees receive annual performance feedback	NA	38%	<b>38%</b>		100%
	World-class leadership development program, benchmarked in the top 10% of companies	NA	NA	<b>in progress</b>		Benchmarked in top 10%
<b>Community</b>	100% of operations have implemented local community engagement process	NA	NA	<b>in progress</b>		100%
<b>Code of Conduct</b>	Employee and supplier codes rolled out, process in place for noncompliance	NA	NA	<b>in progress</b>		100%



## Our Company

### 40 billion\*

Approximate number of used beverage cans we recycle annually.

### 11 countries\*

Novelis operates in 11 countries and four continents.

### \$11.1 billion\*

Revenue (FY11 \$10.6 bn).

Novelis is the world's largest manufacturer of rolled aluminum, producing an estimated 17% of the world's total aluminum rolled products. Novelis is also the global leader in beverage can recycling; we recycle approximately 40 billion used beverage cans annually. The company serves customers in sectors including automotive, beverage can, high-end specialties such as electronics and architecture, and others (see figure 1).

Headquartered in Atlanta, Georgia, USA, Novelis is a wholly owned subsidiary of Hindalco Industries Limited, one of Asia's largest integrated producers of aluminum and a leading producer of copper. Hindalco's stock is publicly traded on the Bombay Stock Exchange, the National Stock Exchange of India Limited and the Luxembourg Stock Exchange. Hindalco is the flagship company of the Aditya Birla Group, a \$40 billion multinational conglomerate with more than 133,000 employees and operations in 36 countries.



#### A global workforce

Approximately 11,620 employees on four continents.



#### Increased recycled content

From FY11 to FY12, increased recycled input of products from 33% to 39%.



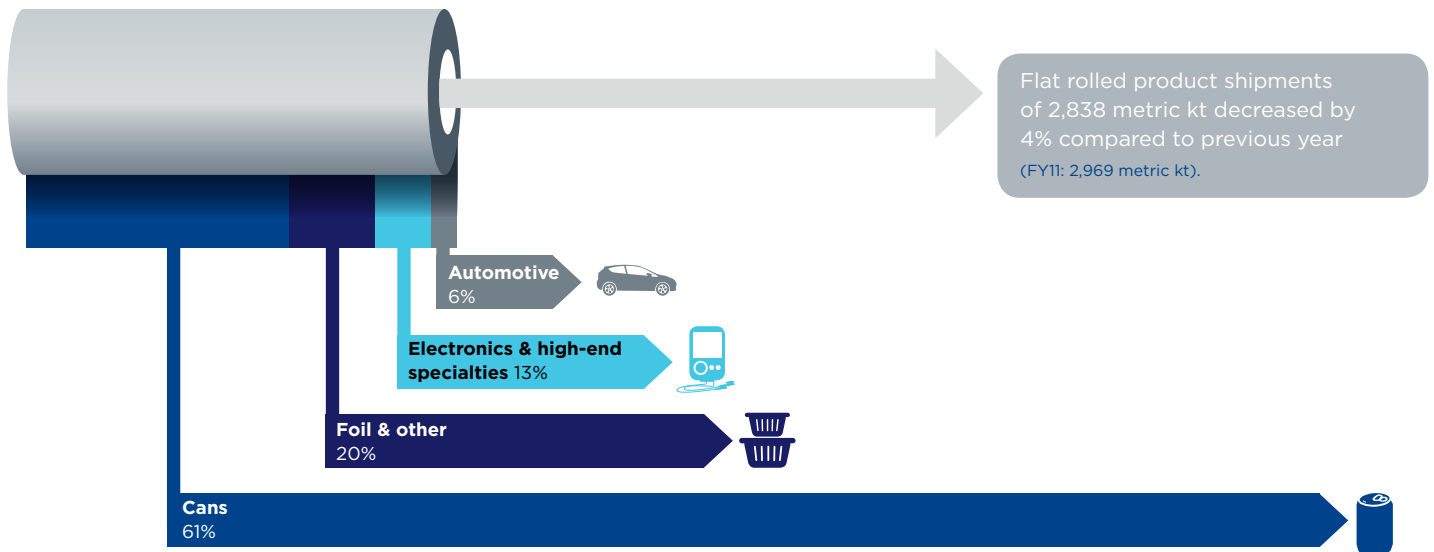
#### Financial highlights

Net income attributable to common shareholder: \$63 m (FY11: \$116 m).

Adjusted EBITDA: \$1,053 m (FY11: \$1,072 m).

Free cash flow: \$98 m (FY11: \$310 m).

FIGURE 1: Novelis Flat Rolled Product Shipments by Market.



\*FY12



**FIGURE 2:** Our operations and global presence – from the locations where we operate to the products and applications in which our aluminum is used, Novelis’ presence is both diverse and worldwide.



Middelfart Savings Bank, Denmark



Beverages with aluminum packaging



The Jaguar XK



Cell phones and laptop computers



The New Library of Alexandria, Egypt

	North America	South America	Europe	Asia
<b>Headquarters</b>	Atlanta, USA (global HQ)	São Paulo, Brazil	Zurich, Switzerland	Seoul, South Korea
<b>Employees*</b>	2,860 + 240 HQ	1,710	5,210	1,600
<b>Sales</b>	\$4.0 bn	\$1.3 bn	\$3.8 bn	\$1.8 bn
<b>Operations</b>	Aluminum sheet for the beverage can, automotive, and construction markets; light gauge products	Aluminum sheet for the beverage can and industrial markets; light gauge products; aluminum smelting; power generation	Aluminum sheet for the automotive, beverage and food can, construction, electronics, industrial, and lithographic markets; foil products	Aluminum sheet for the beverage can, electronics and industrial markets; light gauge products
<b>Operating facilities*</b>	Global Research & Technology Center  11 plants (4 with recycling operations) in Canada and the USA	2 rolling plants (1 with recycling operations)  1 primary aluminum smelter and a hydroelectric power system in Brazil	12 plants (5 plants with recycling operations) in France, Germany, Italy, Luxembourg, Switzerland and the United Kingdom	3 plants (2 with recycling operations) in South Korea and Malaysia

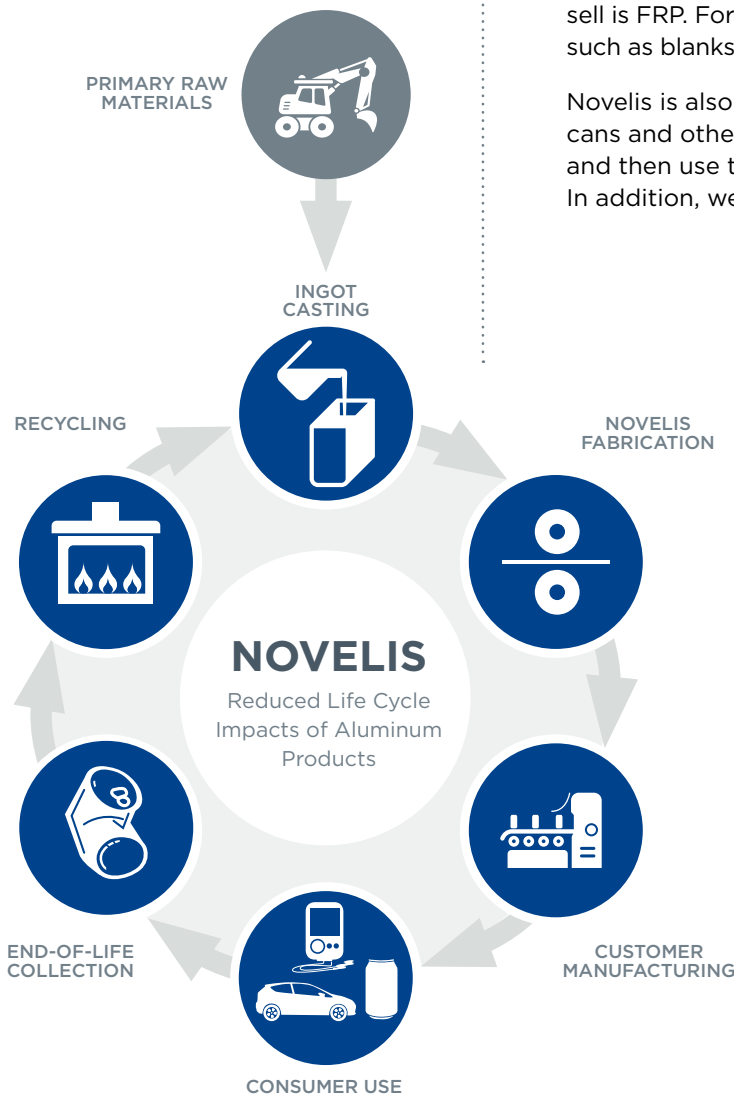
\*as of March 31, 2012



# 2.1 million

Novelis has already announced plans to nearly double its recycling capacity - from 1.2 million metric tons to 2.1 million metric tons - by FY15.

FIGURE 3: Our Product Life Cycle.



## Novelis' Role in the Aluminum Value Chain

Aluminum products are produced by using primary aluminum - which is made through a process of extracting alumina from the mined substance bauxite - or by using recycled aluminum. Recycled aluminum is made from either pre- or post-consumer scrap, which is shredded and de-coated, re-melted and cast into ingots. Aluminum is infinitely recyclable, which means that, unlike most other materials, the quality is not degraded through the recycling process. Consequently, recycling has always been an important part of the aluminum value chain.

Novelis is almost entirely an aluminum converter, rather than an aluminum producer. When we use primary aluminum as our raw material, we mainly buy aluminum ingots from producers, which we then convert into flat rolled products (FRP). These are semi-finished aluminum products used in the manufacture of finished goods such as cars and packaging for beverages and food. More than 98% of what we sell is FRP. For some customers, we produce more finished products such as blanks or flexible tubing used by the automotive industry.

Novelis is also an aluminum recycler. We purchase used beverage cans and other aluminum scrap, process it at our recycling facilities, and then use the recycled aluminum in our production of new FRP. In addition, we operate one small aluminum smelter in Brazil.

### Did you know ?

Aluminum has become the second most-used metal in the world after steel.  
Source: [www.world-aluminium.org](http://www.world-aluminium.org)



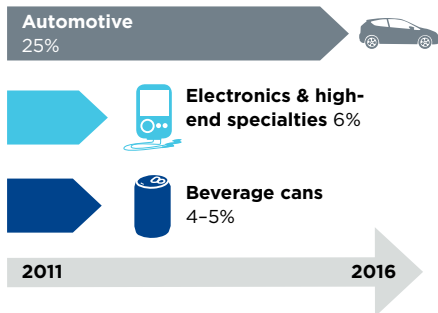


## Our Industry

### 2012

Aluminum is heavily featured in the design of many of the 2012 Olympic Game sites, including the Aquatic Centre and the Velodrome.

**FIGURE 4:** Long-term Global Aluminum Demand (2011-2016 CAGR\*).

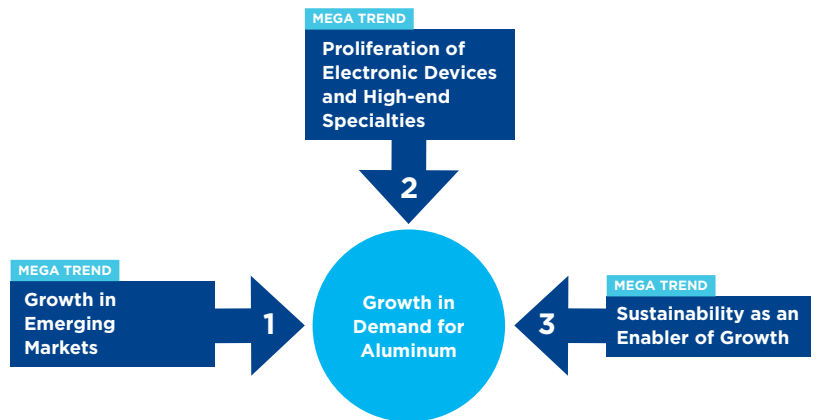


Source: Novelis estimates

This growth is expected to be due to global shifts such as towards more fuel-efficient cars driving substitution with aluminum, as well as widespread urbanization.

Over the last 25 years, demand for aluminum has grown by approximately 5% per year, which is a considerably faster growth rate than that of other comparable metals (such as steel, lead or copper). While the historic growth in demand for aluminum has been relatively strong, many predict it will be even stronger over the next five years. Between 2011 and 2016, global demand for flat rolled aluminum is expected to grow by 6.4 million metric tons, or 34%, reflecting rapidly accelerating demand in some key sectors (see figure 4).

This strong growth in demand will be driven by three key mega trends:



### 1 Growth in Emerging Markets

Emerging market countries, including China, India, Brazil and many in Southeast Asia, are in the midst of a massive demographic shift. Rapidly growing populations are increasingly migrating to urban areas, with concurrent industrialization and accelerated economic development. The result is an ascendant consumer class in these markets, with the ability and desire to purchase a range of new products – from automobiles, appliances and personal technology to packaged foods and more. That, in turn, drives demand for aluminum; two-thirds of the projected growth in demand over the next decade will come from Asia alone.

\* CAGR= Compound Annual Growth Rate



Novelis estimates that by 2020, global demand for aluminum FRP could be more than double the amount produced in 2010.

## 2 Proliferation of Electronic Devices and High-end Specialties

Consumers in developed economies and, increasingly, in emerging markets are dramatically increasing the number of electronic devices they buy. In the USA, the average household owns 25 consumer electronic devices – a considerable increase over the last three decades. Emerging markets look set to follow a similar – and accelerated – trajectory. For example, by the middle of 2011, China had approximately 900 million cell phone users – a nearly 25% increase from two years prior. Burgeoning consumer demand for light, sleek, portable electronic devices – many made with aluminum – promises to be a significant contributor to increased demand for our products.

## 3 Sustainability as an Enabler of Growth

Rising energy demands, greater carbon constraints, depletion of natural resources and related government regulation, and consumer preferences are all key factors driving demand for our products. Aluminum is inherently strong, malleable, conductive, versatile, infinitely recyclable and, most importantly amid energy and carbon constraints, lightweight. As a result, aluminum offers unique potential to help mitigate these sustainability challenges.

The recent and projected growth in demand for aluminum in the automotive industry is one example. Driven by fuel economy requirements, car manufacturers are increasingly turning to aluminum to “lightweight” vehicles and, in turn, reduce emissions. Today, aluminum sheet has a 2% to 3% share of the global automotive structural and body metals market, but between 2011 and 2016, we expect demand to increase by 25% (see page 53 for a more detailed look at aluminum use in automobiles). The consumer electronics sector is another example where sustainability issues are driving demand for our products. Aluminum casings save weight, remove heat and add to recyclability – especially important amidst expanding product take-back legislation.

Aluminum’s sustainability properties are exceptional, but challenges exist to maximizing the sustainability potential of aluminum. While producers have made major efficiency improvements in recent years, the production of primary aluminum still consumes large amounts of energy and water, and creates waste. Recycling aluminum requires 95% less energy and results in 95% fewer greenhouse gases (GHGs), compared to manufacturing primary aluminum. Novelis estimates that the global aluminum recycling rate is approximately 70%. However, the long life of many products that use aluminum – such as cars or buildings – means that it can be as many as 50 years before that aluminum makes its way back into the recycling stream. For products with shorter life cycles, such as beverage cans, the challenge is increasing recycling rates in locations where rates remain low.





# Strategy and Management

Novelis estimates that by 2020, the global demand for aluminum flat rolled products could be more than double the amount produced in 2010. Our sustainability- and innovation-driven business strategy is designed to ensure our company capitalizes on this strong market growth, effectively manages potential risks, and solidifies our position as the undisputed leader in the aluminum rolled products industry.

## Our Corporate Strategy

Novelis is aggressively positioning our company for rapid growth. In 2009, we initiated a process to transform our company and lay the foundation for this growth. The process is well underway and has touched on nearly every aspect of our business. It has required us to make some difficult decisions and has already yielded measurable impacts on our financial performance. Looking forward, we are focused on executing our four-fold strategy for growth:

- **Growing our premium product portfolio.** We are reshaping our product portfolio to be more focused on the beverage can, automotive, and high-end specialties market segments, and to be more balanced across these markets. Given our particular skills and expertise, these products provide Novelis a competitive advantage and deliver higher value for our company, while at the same time lowering life cycle carbon emissions. Novelis has already announced investments of \$1.7 billion to come online before 2015 to dramatically expand our production capacity for these products, as well as our research and development (R&D) capabilities and our recycling capacity. While these investments will significantly grow our business overall, we are also downsizing in some areas as we reshape our portfolio to focus on higher-value, lower-carbon products.
- **Driving constant improvement in operations.** An essential part of our business transformation has been an effort called *One Novelis*. The vision for *One Novelis* is to create a truly global organization - in scale and practice - and to achieve it has meant a realignment of our culture, customer interactions, processes and systems to ensure a consistent approach across our operations. As part of this effort, we are implementing a global business transformation initiative, *Novelis 2.0*, that will enable us to operate as a globally integrated company with consistent business practices and systems (see page 28). In addition, we are strengthening and standardizing the safety aspect of our Environment, Health & Safety management system (see page 28). We are also enhancing and harmonizing our global talent development programs (see page 44), increasing our internal and external





### R&T Spotlight

#### New R&T Center Supports Growth Plans and Sustainability Commitments

In June 2012, Novelis opened a new, state-of-the-art global research and technology (R&T) center near Atlanta, Georgia, USA. The nearly 15,000 square meter facility will serve as the hub of Novelis' R&D activities worldwide and is designed to expand our R&D program to support our aggressive growth plans. The center will offer unparalleled R&D capabilities to help Novelis meet the global long-term demand for aluminum used for the automotive, beverage can and specialties markets. To meet the company's sustainability commitments, a key focus at the center will be to help develop sustainable products and increase the amount of recycled metal input across our product lines while meeting performance requirements. With the new location in Kennesaw, Georgia, USA, we will enable our researchers to interact more closely with our global commercial, manufacturing excellence, engineering, EHS, leadership and strategic teams headquartered in Atlanta.



communications, and undertaking a range of other efforts aimed at ensuring that across all of our operations, we are using consistent, world-class systems and processes that will enable us to deliver world-class results.

- **Capturing growth in emerging markets.** Emerging markets will drive demand for aluminum in the coming decade, and Novelis is positioning itself to capture that growth. We are already capable of producing high-end rolled products on all four major industrialized continents, and now we are expanding our existing production and recycling capacity in Brazil and South Korea to better serve the growing Asian and South American markets. In Asia, where we expect demand for Novelis' products to more than double by 2020, we are focusing, in particular, on serving the automotive and can industry, which will be a major source of increased demand. In April 2012, Novelis announced it is investing \$100 million in its first manufacturing facility in China. The Novelis-owned and operated plant, set to open in 2014, will be the first facility in China dedicated to the production of aluminum sheet for the automotive market.
- **Driving results through sustainability.** Novelis is fundamentally altering its business model to ensure we will capitalize on aluminum's potential – as a lightweight, infinitely recyclable metal – to be a key part of solving the global sustainability challenge. As one example, we have set an aggressive target to increase our use of recycled aluminum to 80% of all input material by 2020. To meet the target, we are building the world's largest aluminum recycling network and working with our customers to develop new, more recyclable products and closed-loop recycling systems (see [Sourcing, page 21](#) for details on our recycling strategy). When we reach 80%, we will not only eliminate 10 million metric tons of GHGs from the aluminum production chain, but we will also help ensure security of supply and, over the long term, lower the cost of feedstock. Additionally, we will have a product portfolio that is well positioned for future carbon tax measures. Through our strategic investments to increase capacity serving the automotive, beverage can and high-end specialty markets, we are also actively positioning Novelis to capitalize on and help accelerate the trend towards aluminum use that is being driven by energy and carbon constraints.

By executing this strategy, we aim to approximately double our profitability (adjusted EBITDA) between FY11 and FY16, and to solidify our position as the undisputed leader of our industry.



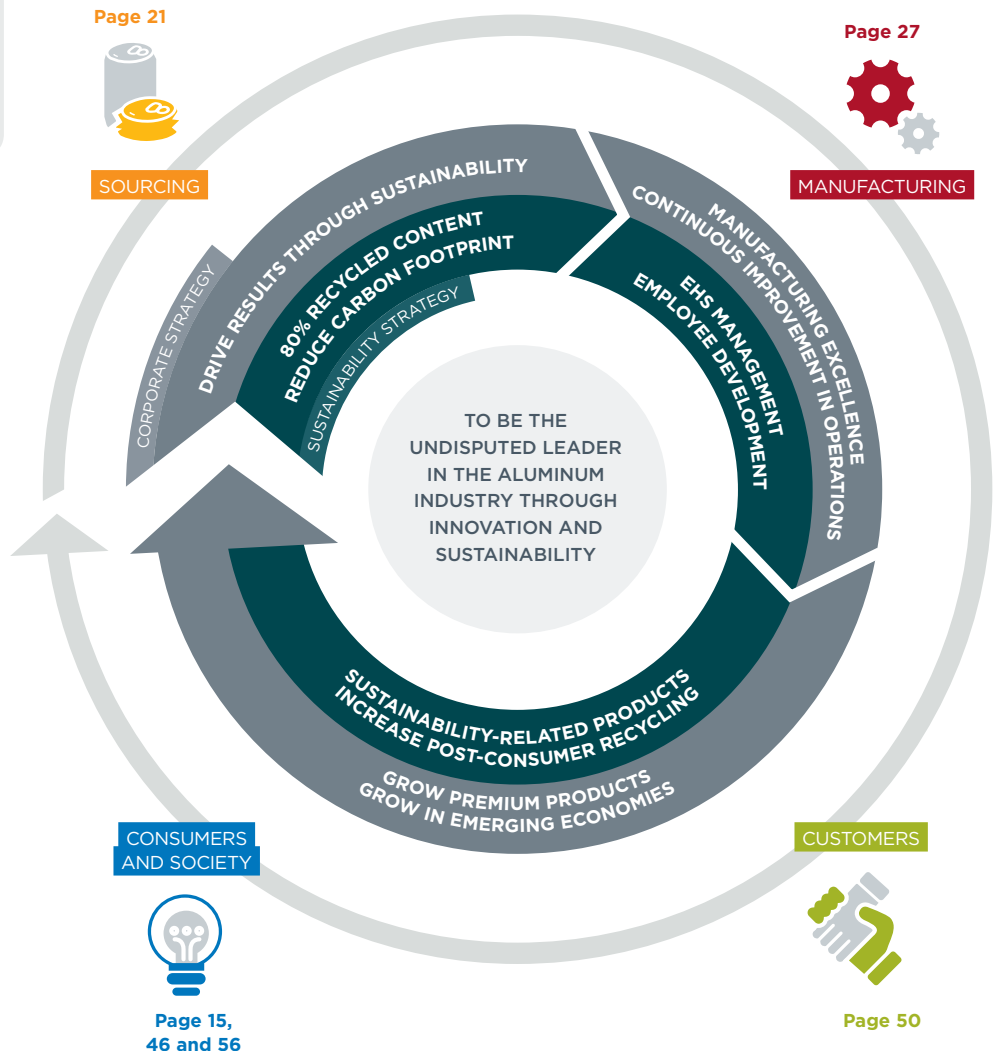
# Our Sustainability Strategy & Progress

## Becoming a UN Global Compact Signatory

In 2012, Novelis became a signatory of the United Nations Global Compact, which is a major policy initiative for businesses that are committed to aligning their operations and strategies with 10 universally accepted principles in the areas of human rights, labor, the environment and anti-corruption. We believe participation in the Global Compact is well aligned with and supports Novelis' sustainability strategy. Our involvement will enable us to continue to enhance our understanding of and further drive our performance on sustainability. See page 68 for our Global Compact index.



Our sustainability strategy is directly linked to, and reinforces, our overall corporate strategy. For example, sustainability is driving a shift in our product mix towards higher-value, lower-carbon products that enable our customers to achieve their sustainability objectives through lightweighting, increased recycling and other benefits of aluminum. Sustainability is also at the core of our approach to manufacturing excellence and its emphasis on Environment, Health and Safety (EHS) management and continuous improvement in resource efficiency. It is behind our target to reach 80% recycled input (see Sourcing, page 21, for details on our recycling strategy). And it is heavily influencing our capital investments as we dramatically expand recycling capacity and increase production capabilities for lower-carbon products. Indeed, sustainability is requiring us to re-think the basic science and technology behind our products - and is fundamentally changing our very business model.





Did you know ?

Globally, aluminum achieves among the highest material recycling rates for end-of-life products, with up to 90% for transport and construction applications.

Source: www.world-aluminium.org

Cutting our GHG Emissions in Half: How Does 95% of 80% Make 50%?

In what on the surface seems a paradox, implementing a life cycle approach will actually increase Novelis' direct (Scope 1) GHG emissions because as we grow our recycling business (which requires additional energy inputs), our direct GHG emissions will also grow. However, recycling cuts the embedded carbon of aluminum products by 95% compared to primary aluminum, resulting in reduced Scope 3 emissions. When we reach our target of using 80% recycled content, we will cut our total life cycle GHG emissions by nearly 50% despite considerable growth in production, thereby avoiding 10 million metric tons of GHG emissions per year. For us, this is a far more beneficial societal outcome - and an outcome that ultimately ensures the sustainability of our whole industry - than simply reducing our own direct emissions. (see Greenhouse Gas Emissions, page 35 for details).

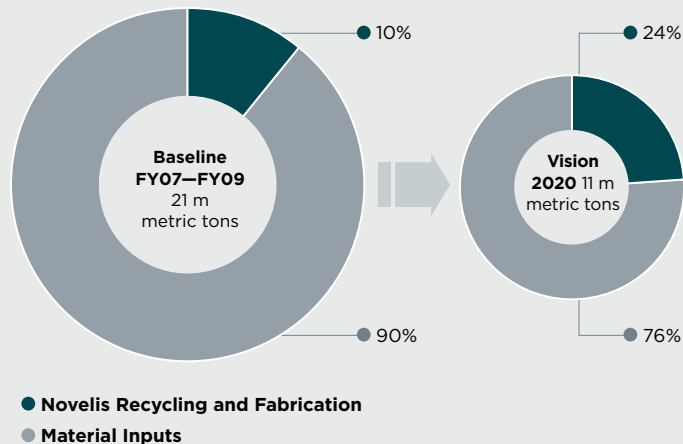
Taking a Life Cycle Approach

In developing our sustainability strategy, Novelis was guided by life cycle thinking. In practice, that means our strategy is designed to address the "cradle-to-cradle" or "cradle-to-grave" impacts of our products across the full aluminum mining, production, use and recycling value chain - including those phases where Novelis does not have direct operations, such as bauxite mining and alumina refining or end-use by the consumer.

The life cycle approach reflects our awareness of the particular sustainability attributes of aluminum. Namely, although primary aluminum production is relatively energy- and carbon-intensive, when viewed over the full product life cycle, aluminum's sustainability "footprint" improves considerably as a result of its inherently energy-saving, light-weight and corrosion-resistant nature. Aluminum's infinite recyclability is the other essential component of its sustainability footprint, and recycling aluminum uses dramatically less energy than manufacturing primary aluminum.

In light of this, we are using life cycle assessment (LCA) as a key strategic tool to increasingly focus our business on those products with more favorable life cycle attributes, including lower energy and carbon intensity, higher levels of recycling, and greater profitability. The life cycle approach is also driving our aggressive efforts to expand our recycling business and dramatically increase our use of recycled content.

Reducing GHG Emissions across the Life-Cycle





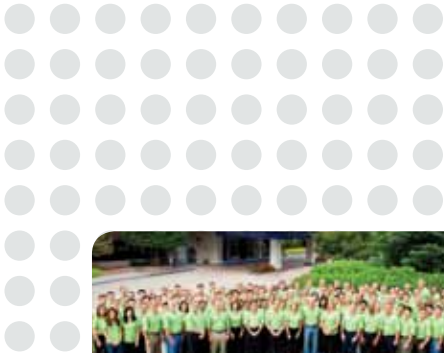
### Using Materiality to Shape Our Sustainability Strategy

As part of our effort to develop a comprehensive sustainability strategy, we conducted a materiality assessment to help us identify and prioritize the sustainability issues that are most important for our business and to our stakeholders. The assessment was conducted via our ongoing engagement with external stakeholders and also informed by Novelis’ planning and strategy development efforts.

Energy use and climate change are the most material issues related to our operations and products – in particular, the “upstream” effects of our sourcing of raw materials – and the central sustainability challenge for our industry. At the same time, aluminum’s potential as a solution in an increasingly carbon-constrained world is enormous. In addition to energy and carbon reduction, our sustainability strategy is focused on the issues that are most important to our company and our stakeholders (see below).

**FIGURE 5:** Materiality Assessment Across the Life Cycle of Our Products.

	Material Issues			
THEMES	<b>Sourcing</b> Page 21	<b>Manufacturing</b> Page 27	<b>Customers</b> Page 50	<b>Consumers/ Society</b> Page 46 and 56
<b>Strong economic performance</b>	Metal and other resource availability	Profitable growth Attracting, developing and retaining talent	Continuous improvement in customer service	
<b>Increasing recycling to decrease life cycle environmental impact of aluminum</b>	Increasing recycled content of metal supply	Reduced life cycle environmental impact and carbon emissions of our products	Reduced life cycle environmental impact and carbon emissions of our customers’ products	Increasing recycling rates Reducing waste and resource use Engaging in policy dialogue on sustainable aluminum products
<b>Sustainable product innovation</b>			Innovation, sustainable products for the future	Safe, environmentally sound products
<b>Ethical, safe, responsible operations</b>	Responsible sourcing	Improving our health and safety performance Reducing the environmental footprint of our operations, including: <ul style="list-style-type: none"> <li>• greenhouse gas emissions</li> <li>• energy use</li> <li>• water use</li> <li>• waste</li> </ul> Ethical behavior and compliance		Engaging and contributing to our communities



Novelis employees gather at the end of the annual Leadership Summit in September 2011 in Atlanta, Georgia, USA.

### **Demonstrating Progress and Improving Performance**

In FY12, we made strong progress on many of our key targets, including increasing our use of recycled input from 33% to 39% in just one year and making steady progress towards our energy efficiency goal. In some instances, however, our progress is not what we had hoped. For example, although our recordable rates have improved, we unfortunately experienced two fatalities in FY12. As a result, we are taking steps to strengthen our safety management system – as well as to address other performance setbacks – which we believe will lead to improvements in the future.

### **Focusing on Internal Engagement on Sustainability**

One of our key areas of focus in the past year has been on communicating and engaging with our employees about Novelis’ sustainability commitment. Our objective is to educate employees about our approach to sustainability and how they can contribute to our efforts. We have dramatically increased our internal communications on sustainability using management briefings, company publications, our intranet, and other vehicles. We also created an employee-specific summary of our 2011 sustainability report, translated into the local language at all Novelis operating sites, and distributed to every employee, which outlined how sustainability relates to all areas of our business and how employees could become engaged. We will continue to regularly update our employees on our sustainability initiatives.

We have also used forums, such as our annual Leadership Summit and plant manager meetings, to communicate about and engage employees on sustainability. While we have made good progress building greater awareness of sustainability among our employees, we still have more work to do to fully embed sustainability into our culture. We will continue to hold workshops and other sessions with all the different functions within Novelis to further educate and engage them in the company’s sustainability efforts.





## Sustainability Management & Governance

### Did you know ?

Of the estimated 900 million tonnes of aluminum produced since 1880, three-quarters is still in productive use. Around 35% is located in buildings, 30% in electrical cables and machinery and 30% within transport applications.

Source: [www.world-aluminium.org](http://www.world-aluminium.org)

Recycling the metal currently stored in use would equal up to 17 years' worth of current annual primary aluminum production.

Source: [www.world-aluminium.org](http://www.world-aluminium.org)



At Novelis, we are working to take an integrated, cohesive approach to managing sustainability issues alongside, and on par with, our other financial and operational objectives. Indeed, because sustainability is such an integral part of our corporate strategy, our sustainability and business performance are increasingly interrelated.

### Corporate Governance & Policy Framework

Management of our company starts with our strict adherence to corporate governance principles. Novelis' Board of Directors is comprised 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 day-to-day management.

Novelis has a Code of Conduct for the Board of Directors and Senior Managers that reflects our ethical principles and our core values. This code is a key pillar of corporate governance practices and complies with both the Sarbanes-Oxley Act and the regulations of the US Securities and Exchange Commission.

This is supplemented by 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. It sets out specific principles to guide the company's senior financial officers in the performance of their duties. Senior financial officers are, therefore, bound by the requirements of both documents.

### Updated Employee Code of Conduct

Novelis also has a Code of Conduct for all employees, which prohibits conflicts of interest, political activity, kickbacks and anti-competitive behavior, among other things. We have been updating the Code of Conduct, which will be rolled out to all employees in FY13, supported by communication and training programs.

### Sustainability Management at Novelis

Novelis' Vice President and Chief Sustainability Officer, who reports to the company's 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 page 28).

Our sustainability targets, alongside financial and operational ones, essentially form our company's scorecard, which we use to monitor our company's performance against our strategic objectives.



## Stakeholder Engagement

Stakeholder engagement is an essential component of managing sustainability. Consistent with our life cycle approach, we are committed to working to understand and be responsive to the full range of stakeholders who are impacted across the aluminum value chain.

Our key stakeholders include employees and employee representatives, customers, suppliers, bond holders, our parent company, regulators and policymakers, the communities in which we live and work, and sustainability organizations (including non-governmental organizations concerned about the social, environmental and climate impacts of the production and use of aluminum products).

We engage with our stakeholders on an ongoing basis and through a variety of forums and communication channels. One way that we are accomplishing this is through our community engagement, or Corporate Social Responsibility (CSR), program. In FY12, we launched an effort to begin implementing a more formalized process at each of our facilities for engaging in dialogue with nongovernmental organizations, local government officials, other companies, and other interested community stakeholders through a training process for our *Novelis Neighbor* site champions. Our objective is to obtain input that enables us to better identify, understand and address the most important issues in the communities where we operate. We have established a target that 100% of our operations will have implemented such a process by 2020 (see page 47).

Another way that we engage with stakeholders is through participation in various industry associations and packaging organizations, such as Automotive Industry Action Group, Curbside Value Partnership, Can Manufacturer's Institute, European Organization for Packaging and the Environment (Europen), Metal Packaging Europe, the Aluminum Association, European Aluminium Association, and others (see Public Policy Engagement section on page 20).



The Candonga Consortium partners with public and private entities to address the needs of the community in Brazil (see page 49).



As the keynote speaker at AMM's Aluminum Summit in June 2012, Phil Martens described the bright future of the aluminum industry and of Novelis.



“With the rapid rise of China, India, Brazil and other emerging economies, it is becoming increasingly clear that eco-efficiency – reducing negative impact from current operations – will not be sufficient. Instead, we will need to move “beyond greening” to reinvent industries through regeneration, reuse, and recycling. Novelis has set in motion an audacious strategy to reinvent the entire aluminum industry – to effectively become “above-ground miners.” If they are successful, not only will they dramatically reduce greenhouse gas emissions and put in place a global aluminum cycle, but they will also lower cost and increase profitability in the process. This captures the essence of “sustainability” in action.”

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



### Formation of our Sustainability Advisory Council

In FY12, we formed a Sustainability Advisory Council, which is made up of well-respected experts in the sustainability field who collectively offer Novelis a wealth of knowledge, experience and perspectives. Members are:

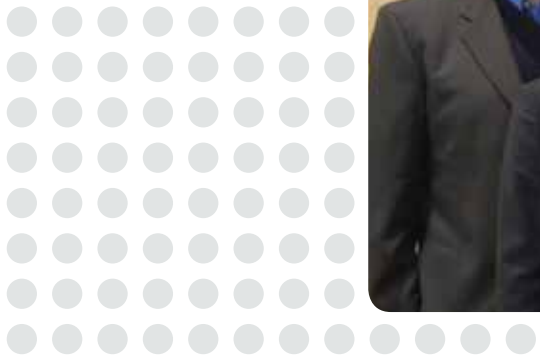
- Matt Arnold, Head of Environmental Affairs, JP Morgan Chase
- Stuart Hart, S.C. Johnson Chair in Sustainable Global Enterprise, Cornell University
- Jeffrey Keefer, Former Executive Vice President, DuPont
- Miguel Milano, Board Member Instituto LIFE, Fundação O Boticário de Proteção a Natureza
- Jonathon Porritt, Founder, Forum for the Future

The objective of the Council is to provide a regular channel for Novelis to solicit external expertise, advice and critical analysis of our sustainability goals, efforts, performance and reporting. We also ask members of the Council to help Novelis identify and understand key current and emerging sustainability issues and challenges, to share their insights on evolving stakeholder expectations and to provide examples of how other companies are demonstrating leadership in sustainability. We urge Council members to genuinely challenge and expand Novelis’ thinking as we work to achieve our sustainability vision.

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 Council has two formal meetings per year, and members are engaged on an ad hoc basis between meetings.

The Novelis Sustainability Advisory Council.  
 (Left to right: Jonathon Porritt, Erwin Mayr, Matt Arnold, Jeffrey Keefer, Phil Martens, Miguel Milano, Stuart Hart and John Gardner).





In May 2012, executives from Rexam visited Novelis' new Global Research & Technology Center in Kennesaw, Georgia, USA, to discuss joint innovation projects, objectives and priorities with Novelis leaders. (Left to right: Tomas Sjölin, Mauro Moreno, Pierre Labat, Stefan Erdmann, Claude Marbach, Michael Demmer, Iain Percival, John Gardner, John Caton, Frances Tolley, Derek Prichett, Richard Downes, Mike Reiner, Andy King and Jose-Luiz Tortelli.)

Did you know ?

As of 2012, recycling of post-consumer aluminum products saves over 90 million tonnes of CO<sub>2</sub> and over 100,000 GWh of electrical energy, equivalent to the annual power consumption of the Netherlands.

Source: recycling.world-aluminium.org

Engaging with Our Customers on Sustainability

Our customers have been one of the key stakeholder groups driving demand for sustainability at Novelis. They are not only concerned about Novelis' own sustainability practices, but also are interested in engaging with us to find shared solutions to common challenges. In both FY11 and FY12, we met with key contacts across our customer base to learn more about their companies' sustainability goals and how Novelis can help them achieve them. This has resulted in increased collaboration and alignment with our customers, which has helped both Novelis and our customers achieve our sustainability goals (see Customers, page 50 and Awards, page 70).

Public Policy Engagement

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

Our primary objective is to track and understand the environmental regulations and other policies that may affect our business and, when we feel it is necessary, to seek to constructively advocate for particular policies.

Climate change is a key policy priority for Novelis, and we support dialogue and action to address climate change and to 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.

End-of-life recycling is another key policy priority for Novelis, and we are committed to collaborating with regulators and other stakeholders in support of policies that encourage and facilitate efficient recycling.

Novelis made no political contributions in FY12, either directly as a company or through employee political action committee donations.





# Sourcing A Holistic Look at Our Material Inputs



A Whole Life Cycle Approach

As we move towards our recycled aluminum goal, we are expanding our capacity to collect and process aluminum from a variety of pre- and post-consumer sources. We are also developing a Supplier Code of Conduct, which we plan to implement in FY13.

The sourcing phase of our life cycle is important because it is where the most significant environmental impacts occur and where there are some key social challenges. It is also an area where we are making profound changes as we work to dramatically increase our use of recycled metal input.



		Baseline	Performance	Targets
Our Targets		FY07-FY09 Average	FY12	FY20
<b>2020 Operational Targets</b>				
<b>Recycled metal content</b>	80% by 2020	30%	<b>39%</b>	80%



## Novelis' Global Recycling Strategy

### 25%

Between 2011 and 2016, Novelis expects to see an approximately 25% compound annual growth rate (CAGR) in demand for aluminum by the automotive industry. Over the same period, we expect demand for aluminum in the electronics and high-end specialties sector to increase by approximately 6% per year, and by 4% to 5% per year in the beverage can sector.

During FY12, our percentage of recycled input increased from 33% to 39%, bringing us within sight of reaching 50% recycled input by mid-decade. We are also on course to meet our longer-term target of 80% recycled aluminum input by 2020. Moving forward, many aspects of our business will need to align in order to achieve our recycling target. This section details our progress as we shift our sourcing model towards recycling and manage the impacts this has on both our supply chain and our company's entire business strategy.

While our 80% recycled target is aggressive, it nonetheless recognizes that we continue to require some primary aluminum in order to manufacture our products (see case study on "Why Not 100%?" page 25). Compared to recycled aluminum, creating aluminum from bauxite uses significantly more energy and raw materials, and results in more greenhouse gas emissions. For additional information about how aluminum is made, please see our website.

At the most basic level, our recycling target is a sourcing issue. Achieving it in practice, however, will mean taking steps at all stages of the product life cycle. The following outlines the core pillars of our recycling strategy and describes steps we are taking in each area.

### Increase Recycling Capacity

In order to process increased volumes and variable types of aluminum scrap, we first need to significantly increase our global recycling capacity. Over the past two years, we have announced investments that will nearly double our global recycling capacity from 1.2 million metric tons to 2.1 million metric tons through either new operations or expansions of our current facilities, as detailed in the Manufacturing section of this report. A key project we have recently made public is the Nachterstedt recycling facility, located in Germany, which will come on line in late 2014 as the largest recycling center in the world (see below).



### Nachterstedt: Future Direction of Novelis Plants

When our Nachterstedt, Germany, recycling facility comes on line in late 2014, it will be the largest aluminum recycling center in the world - and also one of the most sophisticated. Novelis will invest \$250 million in the 400 metric kt per year facility, which incorporates cutting-edge processing technology like advanced melting furnaces and high-speed sorting with eddy-current, optical and other sensors. The plant will be capable of recycling more than 18 different categories of scrap from consumers, construction and industrial applications, helping to diversify our source of raw materials. Technology employed at Nachterstedt will be replicated in Novelis' other new recycling facilities, providing a glimpse of the scale and advanced technology we are developing for recycling.



### Oswego Plant Forges New Approach to Scrap

Historically, Novelis' Oswego, New York, USA plant relied mainly on used beverage cans for the recycled aluminum supply it used to make can products. More recently, to expand and diversify its options for using recycled materials, the Oswego plant pioneered sourcing of other types of scrap and their use in other types of products. To make this happen, Novelis brought metallurgists together with procurement and operations team members to tackle the challenge as a group through innovative new approaches. As a result, Oswego has developed expertise and systems for recovering materials, like car radiators, helping to shift its material base towards large volumes of scrap metal. Lessons from the Oswego plant have been shared with other plants across the Novelis system.



#### Did you know ?

Aluminum is infinitely recyclable – it can be recycled to make exactly the same product over and over, and using recycled aluminum does not affect the quality of the product.

### Evolve Design Specifications

We are also collaborating with our customers to advance research and development of products with greater recycled input that are more easily recycled, such as a single-alloy can. These products offer not only a lower carbon footprint, but also new sources of recycled aluminum for Novelis to use. Examples of our collaborative work in this area are provided in this section and the Customers section of this report ([see page 50](#)).

### Reshape Product Portfolio

We are shifting our product portfolio to be more focused on sustainable, higher-value products that offer the potential of greater recyclability and recycled input, and hence lower embedded carbon. As a result, we are reducing production of or divesting some product lines like foil that are largely produced from primary aluminum ([see case study on site closures in Our People, page 44](#)).

### Expand Scrap Purchasing System

Significantly expanding our purchases of scrap aluminum is driving changes in how we source materials. We are diversifying the kinds of recycled aluminum we can use, and our goal is to purchase half of our scrap from applications other than used beverage cans by 2020. We estimate that while 65% of Novelis' scrap purchases are currently from cans, can scrap as a whole represents only 17% of the scrap market. Although this means a large supply of alternative scrap exists, other sources of scrap tend to be more variable than cans in their size, shape and alloy composition, and can present technical issues in collection, processing and manufacturing. Sources we are exploring include:

- End-of-life automobiles and auto manufacturing scrap.
- Construction and industrial scrap.
- Wire, foil, cable and extrusion scrap.

To boost our supply of available aluminum inputs, we are also becoming more systematic about taking back scrap our customers produce during manufacturing processes. As much as possible, new Novelis contracts in the beverage can and automotive segments, as well as some others, now incorporate closed-loop provisions. In other words, we almost always try to buy back aluminum scrap that our clients generate during production – and we recycle it. This approach will double our pre-consumer scrap supply by FY20, providing approximately 25% of our total recycled materials. Steps we are taking to increase our sourcing from customers are discussed in the Customers section.



### Vertically Integrating through Scrap Collection in Brazil

Brazil has very high recycling rates and a fairly well developed recycling infrastructure. However, there is room for further improvement as the market grows, and we have invested in expanding post-consumer recycling in Brazil by opening five Novelis-owned and operated used can collection centers. This new on-the-ground presence has allowed Novelis to develop relationships with small collectors and scrap yards, rather than purchase only from commercial companies that handle very large volumes. Through these relationships, we are building a closer-knit network in order to secure sources of used aluminum that Novelis previously could not access due to logistical challenges. The new collection centers can process 700 metric tons of used beverage cans a month. The new centers are located throughout Brazil in Florianopolis, Salvador, Recife, Pindamonhangaba, and Sao Paulo.

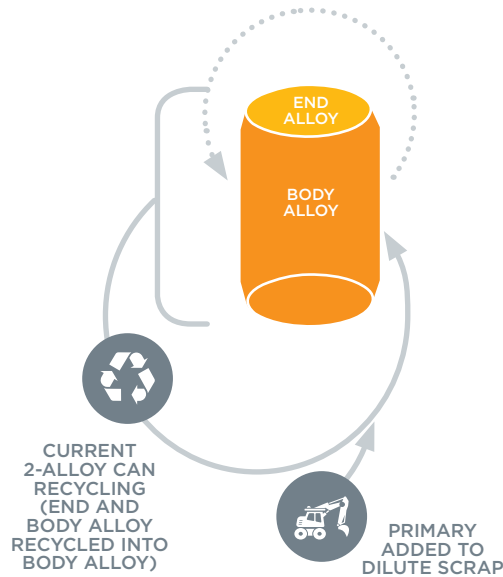


### Increase Post-Consumer Recycling

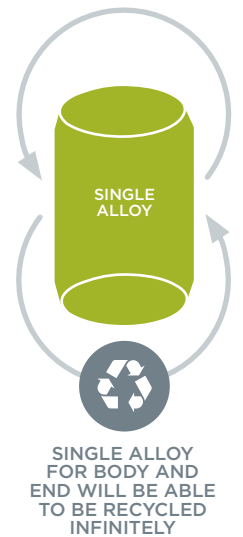
As we seek to expand our use of recycled aluminum, procuring the needed supplies of scrap and used aluminum presents several challenges. Historically, used beverage cans have been the preferred source of recycled aluminum because they offer a uniform, high-quality material. However, the worldwide demand for used beverage containers is growing faster than supply. Can-recycling rates vary by country, but in most regions room for improvement exists. As a result, we are collaborating with a range of stakeholders to provide or support expanded post-consumer collection and recycling infrastructure and to develop partnerships that facilitate efficient recycling. We are also supporting and developing consumer education and awareness programs (see Consumers, page 56).

FIGURE 6: Moving Towards Infinite Recyclability.

#### CURRENT



#### FUTURE







“Ball welcomes Novelis working with the industry to think about innovative concepts to make beverage cans even more sustainable in the future than they are today.

Novelis’ target to increase the use of recycled aluminum to 80% is a bold initiative and will require Novelis to make considerable investment in research and development, as well as substantial changes in how our industries support post-consumer recycling. It will also require the entire supply chain to collaborate and communicate more effectively.

At Ball, we also want to better understand environmental and social impacts in our supply chain – not only from our tier-one suppliers like Novelis, but also further back in the chain.”

**Björn Kulmann**  
Director, Sustainability,  
Ball Corporation



### Why Not 100%? The Beverage Can as Object Lesson

Our goal of 80% recycling is ambitious, but why not 100%? There are several reasons, some of which are structural and are unlikely to change, and some of which are technical and are a current focus for our innovation efforts.

Fundamentally, our ability to get to 100% recycled inputs (or any percentage, for that matter), depends on our having a sufficient supply of scrap aluminum. Aluminum often has a very long life cycle, which can slow down its return to the recycling stream. While a recycled beverage container can be back on the shelf in 60 days, aluminum in automobiles has a life span of 15 to 20 years, and aluminum in buildings lasts up to 50 years. In fact, of all the aluminum that has been manufactured over the past 100 years, 75% is still in use. Even if all aluminum that could be recycled were captured, the significant growth in demand for aluminum products would continue to require additional primary production.

Another challenge, detailed in the Consumers section of this report, is the need to increase rates of post-consumer recycling to ensure that all recyclable scrap re-enters the aluminum life cycle.

Finally, given current manufacturing processes, primary aluminum must often be added to recycled scrap to ensure the appropriate alloy composition during the production process. For example, the current aluminum can is composed of two different types of alloy, one for the can body and one for the can end and tab. Primary aluminum must be added to get the recycled can material back to one or the other of those alloy types. Even if beverage can recycling rates worldwide were 100%, we still would not be able to efficiently produce a can sheet that is made of 100% recycled material because of the two-alloy design.

To address this barrier, Novelis is re-thinking the manufacturing process itself. We are working with our customers on the next generation of aluminum can, employing a single-alloy design for both can body and end sheet (see graphic on page 24). This disruptive innovation has brought an up to 100% recycled-content can within our reach – the ultimate sustainable package. This is the model that preserves the highest value for the scrap and delivers the highest environmental benefit.

#### Did you know



In 2010, Americans recycled approximately 56 billion aluminum cans, increasing the recycling rate to 58% – saving the energy equivalent of 17 million barrels of crude oil, or nearly two days of all US oil imports.

Source: Canned Water for Kids website



## Sustainability in Our Supply Chain

### 75%

While a recycled beverage container can be back on the shelf in 60 days, aluminum in automobiles has a life span of 15 to 20 years. In fact, of all the aluminum that has been manufactured over the past 100 years, 75% is still in use.

Beyond our efforts to change our sourcing model, we are working to understand and manage a broader range of sustainability aspects within our supply chain, from human and labor rights to the environmental, health and safety (EHS) practices of our suppliers. As a first step, we are gathering more information from our suppliers, such as which certifications they have achieved (e.g., ISO 14001) and data regarding their EHS policies. The specific type and amount of information we are asking for varies depending on the level of the supplier.

In addition, we are working to develop a new Supplier Code of Conduct to ensure that the standards set out in our internal Code of Conduct are also observed by our business partners. The Supplier Code will be rolled out to our current suppliers, who will be asked to confirm their commitment to adhere to it, and it will be part of the process of contracting with new suppliers. The Supplier Code will apply to suppliers of both metal and non-metal products. To support the release of the Supplier Code, we are developing an informative portal that highlights the importance of sustainability in our overall procurement program and relationships.

In addition, in October 2011 we signed the United Nations Global Compact. With this commitment, we agreed to abide by and report on our implementation of 10 principles in the areas of human rights, labor, the environment, and anti-corruption. Among these commitments are eliminating forced or child labor and upholding collective bargaining rights.



Novelis products transported between the Norf, Göttingen and Nachterstedt facilities in Germany are carried on a daily train.



# Manufacturing Our Products

Novelis is a global manufacturer with operations spanning 11 countries, world-class rolling mills, recycling centers, and advanced manufacturing technology. This section discusses our *One Novelis* culture, management systems, and how we are implementing the manufacturing aspects of our global recycling strategy. It also reviews our performance in FY12 and our progress towards targets in the key areas of environment, people and community.

A Whole Life Cycle Approach

The manufacturing life cycle stage is the heart of our business. It is where our human, environmental and financial capabilities come together to produce consistent, premium-quality rolled aluminum, sustainably.



Our Targets		Baseline	Performance	Targets
		FY07-FY09 Average	FY12	FY20
<b>2020 Operational Targets</b>				
<b>Energy usage</b>	Reduce by 39% per metric ton of sales	12.4 GJ/mt	<b>10.0 GJ/mt</b>	7.6 GJ/mt
<b>Water usage</b>	Reduce by 25% per metric ton of sales	3.7 m <sup>3</sup> /mt	<b>3.2 m<sup>3</sup>/mt</b>	2.7 m <sup>3</sup> /mt
<b>GHG emissions</b>	Halve our absolute amount (Scope 1, 2 and 3)	21 m mt	<b>19 m mt</b>	11 m mt
<b>Landfill</b>	Zero landfilled waste	60 K mt	<b>49 K mt</b>	0 K mt
<b>2020 People Targets</b>				
<b>Safety</b>	Zero recordable injuries	1.01	<b>0.59</b>	0
<b>Employees</b>	100% of eligible employees receive annual performance feedback	NA	<b>38%</b>	100%
	World-class leadership development program, benchmarked in the top 10% of companies	NA	<b>in progress</b>	Benchmarked in top 10%
<b>Community</b>	100% of operations have implemented local community engagement process	NA	<b>in progress</b>	100%
<b>Code of Conduct</b>	Employee and supplier codes rolled out, process in place for noncompliance	NA	<b>in progress</b>	100%



## “One Novelis” Manufacturing Excellence

A sheet of aluminum from a coil is cut into strips using an industrial metal slitter at the Novelis plant in Göttingen, Germany.



We have a *One Novelis* goal of operating as a fully integrated global company. We are implementing *One Novelis* through initiatives such as standardizing our global manufacturing processes to ensure that high-quality products are delivered across the globe. Through both people and processes, *One Novelis* leads to manufacturing excellence.

We rely on our people to continuously improve our operations by initiating lean principles and developing new ways to maximize use of our plants, increasing both productivity and customer service. Our people are also the key to creating a culture that ensures that everyone remains safe by embracing the aspects of our EHS “*Together We Are Safe*” global program (see sidebar page 41).

Another way Novelis is improving processes is through its investment in a new data management system called *Novelis 2.0*. The system will allow us to operate as a truly globally integrated company with consistent business practices and information systems. *Novelis 2.0* will improve tracking of our Environment, Health & Safety (EHS) data as well as retrieve human resources, financial, manufacturing, commercial and other business data at the global level.

## Environment, Health & Safety Management Systems

Achieving EHS manufacturing excellence requires rigorous, consistent management systems. Because of this, all Novelis manufacturing sites are required to obtain registration to two internationally recognized management systems:

- The ISO 14001 environmental management standard, which provides a framework for continuous improvement of our environmental performance, and
- The OHSAS 18001 Occupational Health and Safety Specification, which serves as the foundation of our management approach to employee health and safety.

Additionally, all of our manufacturing facilities are certified to ISO quality standards.

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.





Aluminum coils in our Logan plant in Russellville, Kentucky, USA.



The newly created role of Chief Technical Officer at Novelis oversees several areas to ensure that we are streamlined and integrated across our functions, including operations, engineering, research and development, and EHS. The global EHS team develops standards, provides expertise and facilitates best practice sharing across *One 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.

**Did you know**



From 1972-2003, consumers in the USA threw away over one trillion aluminum cans - enough to reach around the earth 3,048 times. The trillion wasted beverage cans weigh in at 17.5 million tons - a quantity of scrap aluminum worth about \$21 billion at today's market prices.

Source: Container Recycling Institute





## Investing in Global Expansion

Novelis is in the midst of a significant global expansion. Since the start of FY11, we have announced major investments totaling approximately \$1.4 billion into expanding our rolling, finishing and recycling capacity. Our global recycling strategy calls for Novelis to achieve recycling capacity of over 4 million metric tons of scrap by 2020. During FY12, we announced expansions that will double our recycling capacity from 1.2 million to 2.1 million metric tons by 2015. In November 2011, we completed construction of new recycling capacity in the Alunorf facility near Dusseldorf in Germany, the world's largest aluminum rolling complex. The expansion adds 50,000 metric tons per year of aluminum scrap recycling capacity, for a total recycled scrap capacity at Alunorf of 100,000 metric tons per year.

The following table details the major investments we have made since April 2010 to expand our production capacity:

**FIGURE 7:** Major Expansion Investments Announced Since April 2010.

Location	Capacity	Timing
<b>Alunorf, Germany</b>	50 metric kt recycling	November 2011
<b>Changzhou, China</b>	120 metric kt finishing	Late 2014
<b>Nachterstedt, Germany</b>	400 metric kt recycling	Early 2015
<b>Oswego, USA</b>	200 metric kt finishing	Mid-2013
<b>Pieve Emanuele, Italy</b>	15 metric kt recycling	Late 2012
<b>Pinda, Brazil</b>	220 metric kt rolling 190 metric kt recycling 100 metric kt coating	Late 2012 Late 2013 Late 2013
<b>Ulsan &amp; Yeongju, South Korea</b>	220 metric kt recycling 350 metric kt rolling	2012/2013 Late 2013

In addition to these investments, in FY12 Novelis increased its share of ownership of Novelis Korea Ltd from 68% to over 99%.

Pindamonhangaba, Brazil



Yeongju, Korea



Oswego, USA





# Environmental Performance

We are taking a life cycle approach to our environmental strategy. We recognize that increasing our use of recycled material will also increase Novelis' energy and water use – even though over the life cycle of our products less energy and other resources will be used. That is why we have set targets to improve our efficiency and cut our impacts across key environmental performance areas as we are working to achieve our sustainability goals.

Measure	Unit	Baseline Average FY07-FY09	FY11	FY12	Change (baseline to FY12)
<b>Energy intensity</b>	GJ/metric ton FRP Sales	12.4	10.5	10.0	-19%
<b>GHG emissions intensity (Scope 1, 2 and 3)</b>	metric tons CO <sub>2</sub> e/metric ton FRP Sales	7.2	6.8	6.9	-5%
<b>Water intensity</b>	m <sup>3</sup> /metric ton FRP Sales	3.7	3.1	3.2	-11%
<b>Waste intensity</b>	kg/metric ton FRP Sales	20.7	17.6	17.4	-16%

## Solar Panel Installation

In FY12, Novelis' Bresso, Italy plant turned a routine maintenance chore into an opportunity to reduce its environmental footprint by using innovative solar technology. Plant managers decided to replace an obsolete warehouse roof with one that incorporates an integrated solar photovoltaic electricity generation system and uses aluminum extensively in its structure. The 156 solar panels, which have a capacity of 37.4 KW, generate about 36,000 KWh per year and prevent 16 metric tons of CO<sub>2</sub> emissions. The investment will be repaid in six years and the panels are expected to last more than 20 years.

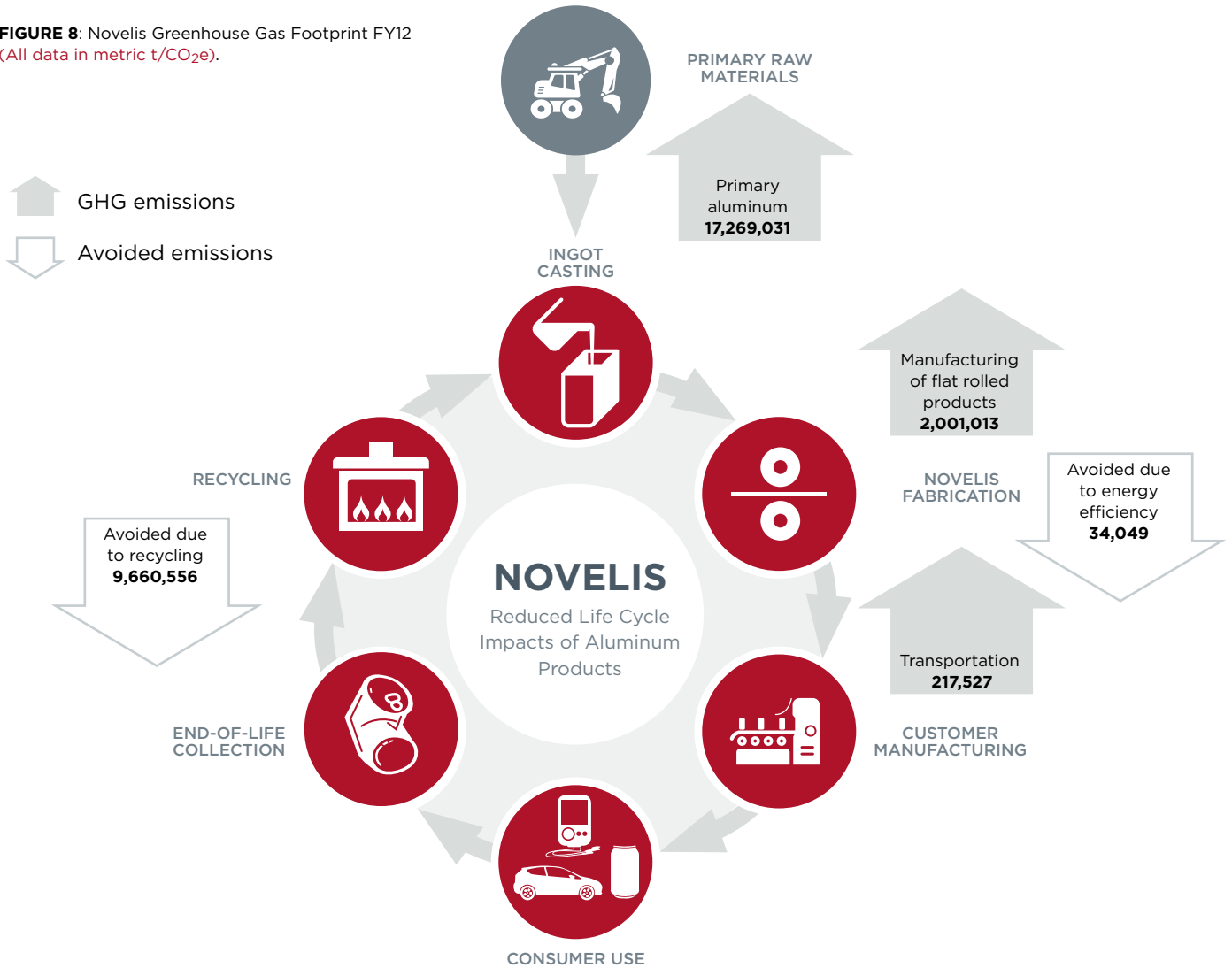


## Energy Use and Greenhouse Gas Emissions

Energy use and greenhouse gas (GHG) emissions are the most significant environmental issues related to our operations and products. Within our own operations, the most substantial portions of our GHG emissions are CO<sub>2</sub> and NO<sub>x</sub> emissions related to energy use (the remainder are perfluorocarbon (PFC) and anode consumption CO<sub>2</sub> emissions related to our single primary aluminum facility).

Taking a life cycle view, the vast majority of energy use and GHG emissions associated with our products occur "upstream" in our supply chain (see figure 8 on page 32), which is also where our biggest opportunities for contributing to climate change solutions occur. Recycling cuts the embedded carbon of aluminum products by 95% compared to primary aluminum. This means that the overall life cycle GHG emissions related to our products will decrease dramatically (by nearly 50%) as we increase our use of recycled inputs (see page 21). However, recycling requires more energy use in our facilities because of the additional de-coating, shredding and re-melting steps in the process. That is why we've committed to increasing the efficiency of our own operations, while also shifting to significantly higher use of recycled aluminum.

**FIGURE 8:** Novelis Greenhouse Gas Footprint FY12  
(All data in metric t/CO<sub>2</sub>e).



**Did you know** ?

Recycling scrap from used products has avoided over one billion metric tons of CO<sub>2</sub> emissions.

Source: [www.world-aluminium.org](http://www.world-aluminium.org)

We developed this approach based on a review of the risks and opportunities associated with GHG emissions and climate change issues. We expect the public interest in this area 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 Korea). This situation will impact Novelis in a number of areas, from our energy procurement operations to our key markets. The recognition of these risks and opportunities has been a significant driver of our sustainability strategy, a chief objective of which is to reduce the carbon footprint of Novelis and our customers. We see supplying sustainable low-carbon products that benefit society as fundamental to our long-term growth. The company's most senior governance bodies have endorsed this strategy and the adoption of our GHG-reduction targets. We have supported dialogue to reduce GHG emissions, and we engage on the climate change issue with stakeholders, including customers, suppliers, government and nongovernmental organizations (NGOs).





## Sustainable Energy Use

# 5%

Novelis' overall energy intensity improved 5% in just one year (from FY11 to FY12) – and has improved by 19% from our baseline.

We use several sources of energy in the production and delivery of our aluminum products. The majority of energy usage in our facilities occurs at our recycling casting centers, at our smelter in South America and during the process of hot and cold rolling aluminum.

Natural gas used directly at our facilities (particularly for melting) and purchased electricity (particularly for rolling) are the most important sources of energy for Novelis, supplying 88% of our total energy needs by cost (see figures 10 and 12). 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 60% of its electricity requirements and account for 11% of the company's overall direct electricity usage. Outside of South America, we purchase electricity from third-party suppliers. Of the energy we purchase, about 33% comes from renewable sources and 20% from nuclear power (see figure 10).

In FY11, Novelis appointed a new Global Energy Efficiency Manager to coordinate activities and facilitate the development and sharing of best practices. We are currently evaluating adoption of the new ISO 50001 standard, which specifies requirements for an energy management system and enables an organization to take a systematic approach to the continual improvement of energy efficiency and energy performance.

Our energy platform focuses on the key pillars for success in improving energy efficiency. Our plants are working to increase monitoring of energy use, identify the most promising targets for energy reductions and implement energy efficiency improvements for both our indirect and direct energy use.

### Reducing Energy Use Through Lighting Efficiency

In FY12 we implemented extensive lighting efficiency projects at 10 of our facilities (Warren, Berea, Terre Haute, Toronto, Oswego, Ohle, Bresso, Göttingen, Pieve, and Ulsan). These projects not only provide better quality light in our facilities from a health and safety perspective, but also reduce our electricity use.

### Direct energy efficiency improvements

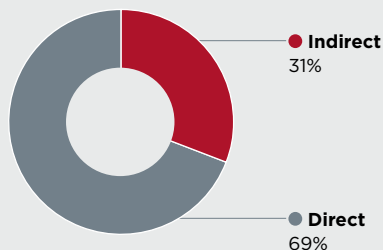
**We implemented several equipment upgrades that reduce direct energy use, including the following:**

**In Warren, Ohio, USA,** the incinerator of the coating line stack was exhausting approximately 600°F air directly to the atmosphere. By installing an additional heat exchanger on the incinerator to pre-heat the make-up air, the plant cut its entire natural gas use by 25%, equivalent to 48,000 gigajoules (GJ).

**In Sierre, Switzerland,** several process experts worked with pre-heating, loading, melting and alloying operators to improve operating practices, resulting in a 15% increase in re-melt energy efficiency. The plant also standardized and optimized operational procedures including the number of metal pre-heaters that should be used.

**In Norf, Germany,** five new high-efficiency annealers have been installed to meet the growing demand for aluminum. Equipment was selected to ensure an optimum life cycle cost with low maintenance and energy costs. The annealers were designed with state-of-the-art insulation, furnace control and heat recovery solutions, which have resulted in savings of 30% in gas, 50% on power and 70% of nitrogen emissions compared to the annealers used previously. The yearly energy saving is more than 112,000 GJ.

**FIGURE 9:** Novelis Energy Use FY12: Direct and Indirect (GJ).





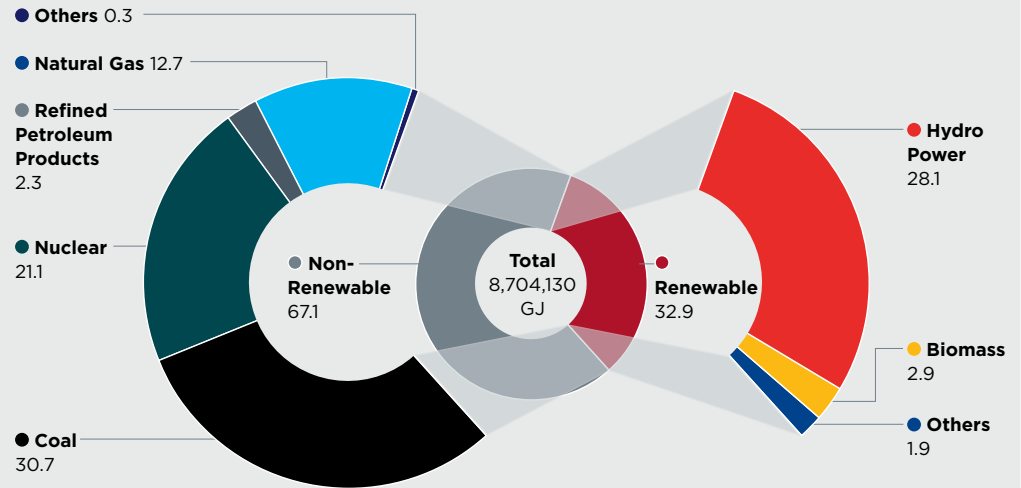
### Global Energy Policy

In 2011, Novelis created a new Global Energy Policy. The policy's goals are aligned with those of our overall 39% energy reduction target. It also covers decision making, planned maintenance, developing our people and evaluating our processes.

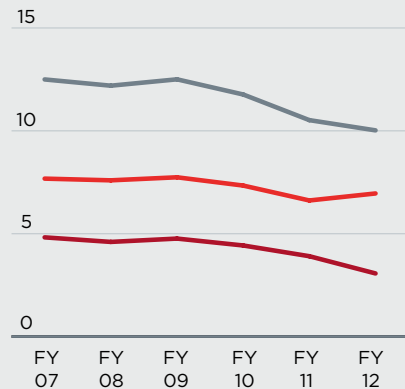
Our overall energy intensity (measured in gigajoules per metric ton of product) has improved by 19% from our baseline (average of FY07 to FY09) and 5% from FY11 to FY12. Our direct energy intensity has improved by 9% and our indirect energy intensity has improved by 35% compared to the baseline. In FY12, the largest contributing factor to the reduction in our overall energy use was the closure of our aluminum smelter in Aratu, Brazil. In line with our strategy, the closing of the smelter and our Bridgnorth foil packaging plant reflect our commitment to align our portfolio to favor sustainable products. The energy reductions due to the restructuring were slightly offset by an increase in energy intensity at our other operations due to declines in production between FY11 and FY12. In general, our manufacturing processes run most efficiently when they operate at close to capacity.

**FIGURE 10:** Novelis Indirect Energy Use FY12 (%).

**Note:** The amount of our indirect energy use and breakdown by source have not changed significantly since FY07.

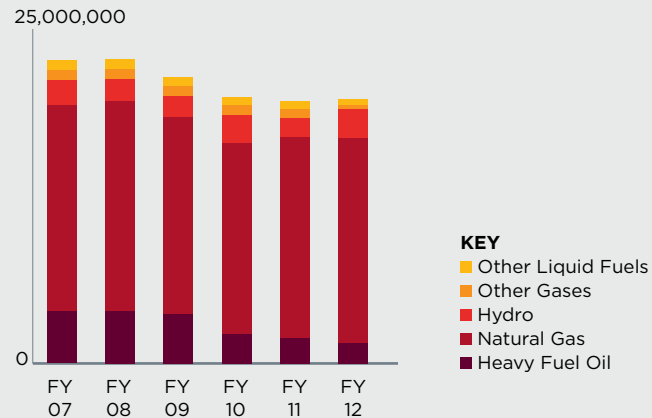


**FIGURE 11:** Novelis Energy Intensity FY07-FY12 (GJ/metric ton).



**KEY**  
 - Total Energy Intensity FRP Sales  
 - Direct Intensity (GJ/metric ton FRP Sales)  
 - Indirect Intensity (GJ/metric ton FRP Sales)

**FIGURE 12:** Novelis Direct Energy Use FY07-FY12 (GJ).





## Greenhouse Gas Emissions

### Ulsan Korea to cut GHG emissions by 16.5%

On March 9, 2011, Korea's Ministry of Environment, the City of Ulsan and 23 local companies, including Novelis Korea, agreed to reduce GHG emissions in Ulsan. The goal of this voluntary agreement is to cut the emissions of the participating organizations by 16.5% by 2016 compared to 2008. As part of this initiative to reduce our air emissions, in FY12 our Korean plants invested in equipment to be able to use natural gas instead of heavy fuel oil for their operations.

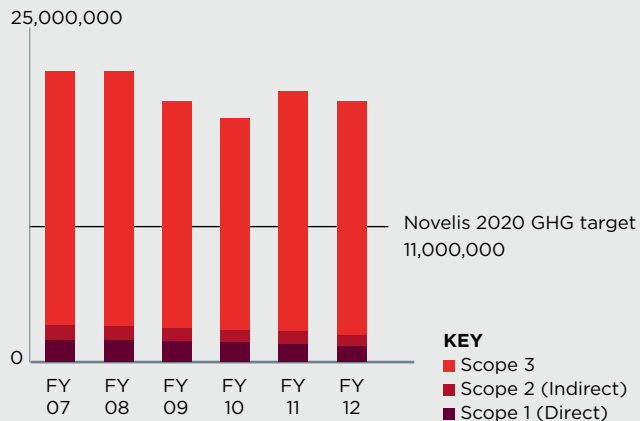


Location of Novelis plant in Ulsan, Korea.

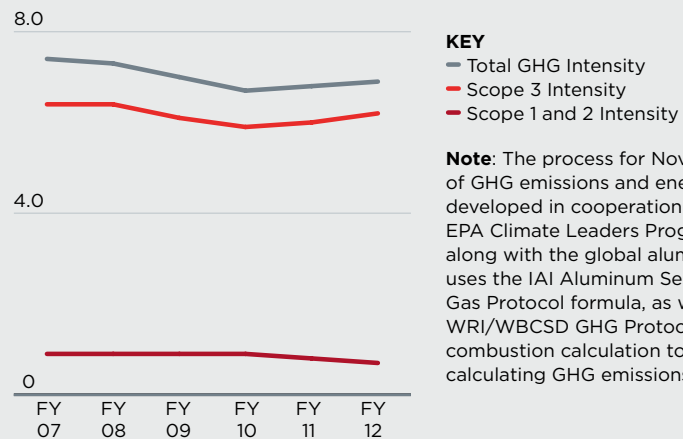
Since our baseline, we have reduced our absolute GHG emissions (Scopes 1, 2 and 3) by 7% (see figure 13), while our GHG emissions per metric ton have declined in a similar fashion. We take a life cycle view and account for the Scope 3 emissions – those related to our purchase of primary aluminum, which is made using energy-intensive processes, and emissions related to the transportation of our products.

In addition, our use of recycled aluminum as a raw material avoids life cycle GHG emissions compared to primary aluminum production. We estimate these avoided emissions at 9.66 million metric tons of CO<sub>2</sub>e in FY12. We also estimate that we avoided 34,049 metric tons of GHG emissions by implementing energy efficiency projects.

**FIGURE 13:** Scope 1, 2 and 3 GHG Emissions (metric tons CO<sub>2</sub>e).



**FIGURE 14:** Scope 1, 2 and 3 GHG Emissions Intensity (metric tons CO<sub>2</sub>e/metric ton FRP Sales).



**Note:** The process for Novelis' calculation of GHG emissions and energy use was developed in cooperation with the US EPA 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.



**Did you know**



Every recycled aluminum metric ton saves 7.8 metric tons of carbon dioxide equivalents (CO<sub>2</sub>e) over the total aluminum value chain.

Source: IAI, [www.world-aluminium.org/cache/fl0000329.pdf](http://www.world-aluminium.org/cache/fl0000329.pdf)

As we move towards our 80% recycled aluminum input target, we project that both the GHG intensity and total amount of emissions from our own operations (Scopes 1 and 2) will increase, while emissions in our supply chain (Scope 3) will decrease dramatically. **Figure 14** shows the trends in these Scope 3 emissions, which also illustrates the magnitude of our Scope 3 emissions compared to our Scope 1 and 2 emissions.

Between FY11 and FY12, Novelis achieved a 3.3% reduction in absolute Scope 1, 2, and 3 GHG emissions. About two-thirds of the total reduction can be attributed to a reduction in Scope 3 emissions resulting from our increased purchases of recycled aluminum (and reduced purchases of primary aluminum), which is also in line with our recycling strategy. Our Scope 1 and 2 emissions decreased for three main reasons: Overall production declined, we reduced our emissions when we closed our smelting operation in Aratu, Brazil, and we increased our use of hydropower for our Ouro Preto plant. Moving forward, we expect continued reductions overall to be largely due to the reduction in our Scope 3 emissions as we increase our recycled input.

## Water Use

Water conservation and water quality management are important to Novelis' own operations and to our contribution to addressing global water issues. Since 2002, Novelis has been measuring and managing the amount of water used at its facilities and has set a series of targets to use water more efficiently.

Much of our focus in FY12 was to improve our understanding of our water requirements and how water is used in our operations. We measure our overall water withdrawal 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.

As we increase the amount of recycled content in our products, we also increase the recycling operations at our plants. One step in the recycling process – the casting of ingots after re-melting the recycled materials – uses cooling water. At locations that cast ingots, the trend towards using more scrap aluminum requires more water for processing. As we continue to expand our recycling operations, the additional water requirements will make meeting our water intensity goal challenging.



Hot mill in Norf, Germany.



The hydroelectric plant on the Doce River in the Minas Gerais state of Brazil was built through a partnership between Vale and Novelis Brazil.

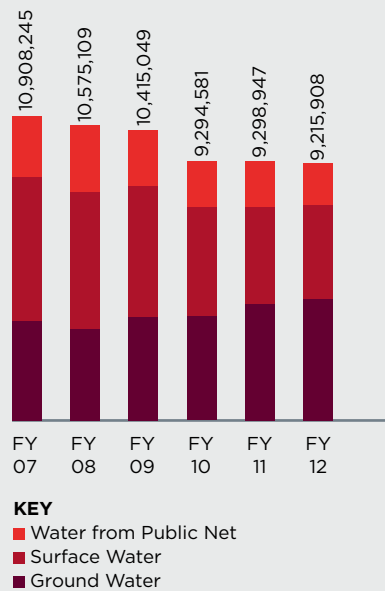


Compared to our baseline, we have improved our water use intensity by 11% due to many water conservation and internal recycling efforts. From FY11 to FY12, our overall water usage decreased about 1%, primarily due to the decrease in production volume. Water use intensity, however, increased about 4%. This increase is largely due to an increase in recycling, variation in product mixes and baseline demands at a lower production volume.

In FY12, we conducted an initial survey of our water recycling and reuse efforts. Based on this survey, we found that water usage is reduced by over 90% by using recirculated cooling water systems and over 2% of Novelis' water demand is satisfied by recycling wastewater back into different process requirements.

Our water recycling efforts have focused on product lines that offered significant water savings.

**FIGURE 15:** Water Withdrawal (m<sup>3</sup>).



**FIGURE 16:** Water Use Intensity (m<sup>3</sup>/metric ton FRP Sales).





Water is used for chilling molten aluminum during the ingot casting process in our recycling facilities.



### Water Conservation Projects

In FY12, we pursued water conservation projects including these:

#### Ulsan

Our Ulsan facility in South Korea uses significant amounts of cooling water for the aluminum casting process and equipment cooling. The facility utilizes cooling towers to reduce the temperature of the water so that it can be reused repeatedly. The cooling towers pass ambient air across the water stream to reduce its temperature. In FY12, the Ulsan facility upgraded two cooling towers by replacing many of the internal parts. This increased the heat transfer of the cooling tower, resulting in a water use reduction of approximately 14,000 m<sup>3</sup> per year.

#### Yeongju

Our Yeongju facility in South Korea uses water for metal cooling during its can-coating operation. In FY12, the plant installed piping that allowed coating-line wastewater to be transferred to another operation for reuse. The project reduced water usage by an estimated 10,000 m<sup>3</sup> per year.

#### Logan

Our Logan joint venture in Russellville, Kentucky, USA, filters large volumes of fresh water daily to ensure the necessary water quality for production operations. During the filtering process, a partial stream of the raw water did not pass the filters and was traditionally discharged to the facility's storm-water settling ponds. In FY12, Logan upgraded equipment that now allows nearly all the discharged water from the filters to be treated with existing equipment and reused, reducing water usage by an estimated 56,000 m<sup>3</sup> per year.

#### Latchford

Our Latchford facility in the United Kingdom reduced the amount of water required for process cooling by improving its cooling tower equipment and practices. Improvements included:

- Recirculating process water for pump cooling.
- Expanding allowable cooling water chemistry requirements.
- Changing cooling water chemical additives.

The resulting water reduction is estimated to be 4,000 m<sup>3</sup> per year.



## Waste

### Zero Landfill Waste Progress

Waste reduction hinges on the participation and support of all of our employees. We are working to make recycling a part of our culture at the plant as well as in our communities. Whether in the plant or in the offices and lunch areas, we need buy-in from everyone to make it truly happen. Most things we throw in the garbage are actually recyclable. From filter media generated at the mill, to organics in the cafeteria, finding suppliers across our global network to take the different waste products and recycle them will be one of our biggest challenges.

The following plants are moving close to zero waste with less than 5 kg of waste for every metric ton of product produced:

- Burnaby
- Dudelange
- Kingston
- Kingston Technical Center
- Ludenscheid
- Nachterstedt
- Novelis PAE
- Pieve
- Sierre
- Terre Haute

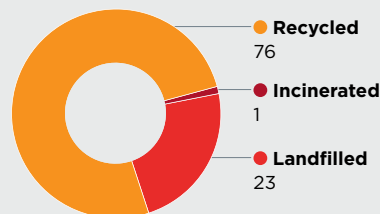
About two-thirds of all our waste is generated during our re-melt recycling and casting processes, and over three-quarters of the operational waste we generated in FY12 was recycled (see figure 17). Most of our locations have improvement programs aimed at reducing waste generation and reducing waste sent to landfill. More than 60% of Novelis' landfilled waste is generated from the recycling of "dross." Dross forms from impurities that float on molten aluminum during melting or reprocessing. Most dross generated by Novelis is sent off-site to be recycled by specialized processing companies. These companies recover the aluminum (comprising approximately 50% in dross). We track and account for the dross managed for us by third parties. In some regions, the dross waste remaining after aluminum is extracted is used in road construction and other applications.

Novelis recycling and casting facilities use large amounts of refractory material (i.e., insulating bricks) to ensure that their furnaces are energy efficient when melting aluminum. 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 non-hazardous landfills. In FY12, Novelis North America, working with several processing companies, was able to recycle 1 million kg of refractory material. After processing, the refractory material was used as input in the production of steel and cement. Our plants outside North America also reuse refractory material as input for steel and cement.

Our target of zero landfill disposal of waste by 2020 includes dross managed by third-party recyclers. Reaching our target will require us to expand the recycling of dross by-products, refractory brick and other wastes, and to find new ways to handle materials that are not currently recyclable.

Although the total amount of waste Novelis generates has increased since our baseline, when we look at the breakdown of the waste stream, the amount recycled has increased by 22% while landfilling has declined by 18% since our FY07-09 average. Between FY11 and FY12, the amount of waste landfilled declined by 6%, mostly due to lower production volumes globally and enhanced processing prior to recycling offsite. Additionally, the amount recycled has increased by 11% due to significant improvements in dross recycling. As shown in figure 16, incineration has remained low across our global operations relative to the amount we landfill and recycle.

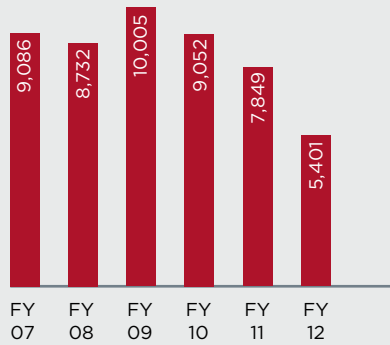
**FIGURE 17:** Waste by Process Method (%)





## Non-GHG Air Emissions

**FIGURE 18:** Novelis 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.

Novelis total air emissions have declined over the past few years due to the reduction in smelter operations. Particulate matter and fluoride emissions, which comprise the majority of the emissions coming from our smelter operations, were reduced significantly with the closure of our Aratu plant.

Within our flat rolled product operations, we saw a slight reduction in air emissions due to our reduction in production volumes. Moving forward, we expect to see a reduction in nitrogen oxide emissions as we continue to increase our fuel efficiency. We also expect an even greater reduction in sulfur dioxide emissions as we upgrade our equipment to operate on natural gas instead of the heavier petroleum-based fuels. As mentioned on [page 35](#), as an effort to reduce not only our costs but also our CO<sub>2</sub> and SO<sub>2</sub> emissions, our Korean plants converted from heavy fuels to natural gas in FY12.

We anticipate that volatile organic compounds (VOCs), NO<sub>x</sub> and SO<sub>2</sub> emissions will become increasingly challenging to reduce as we increase our recycling operations.

## Biodiversity

Through the Candonga Consortium program, native trees and vegetation are planted to ecologically restore the Riparian Forest in Brazil.



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 occur during the primary aluminum production phase of the life cycle of our products. Bauxite mining results in land disturbances, and alumina refining may require red mud lakes. Additionally, the use of hydroelectric power plants to provide electricity for the energy-intensive aluminum production process can impact biodiversity.

It is difficult to express the value of biodiversity consistently across the various regions, land features and cultures in which we operate. We recognize the need to improve our understanding in this area and are currently seeking input from experts in this area and other stakeholders.

None of our currently operational and our 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, as we look to broaden our understanding and characterization of areas with high biodiversity value, this assessment could evolve.





# Our People

## Standardizing Our Safety System Through "Together We Are Safe"

In 2012, Novelis 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 increased quality and consistency of EHS communications across all of our facilities. In 2012, Novelis also hired a new Vice President of EHS to lead our overall EHS program and strategy, including our safety management standardization effort, as well as efforts to strengthen our overall safety culture.



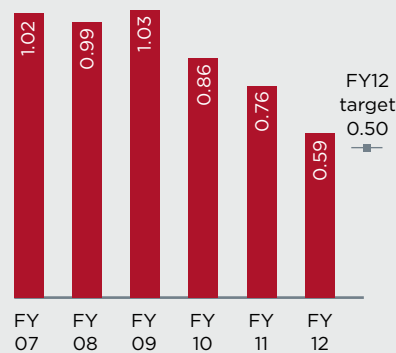
Protecting the health and safety of our employees and others who work on our behalf is our first, and most fundamental, priority. And ensuring we attract, retain and develop employees with the right skills and experience is critical to achieving our company's aggressive growth plans.

## Our Health and Safety Performance

Management of safety issues is integrated into our overall Environment, Health & Safety (EHS) management system (see page 28). We have safety processes in place at all of our operations, and we collect and track global safety data for our employees and project contractors using the Novelis Injury and Illness Record keeping System (NIRS). As part of our *One Novelis* effort, however, we identified an opportunity to take a more consistent and standardized approach to safety management globally (see sidebar).

During FY12, Novelis continued to improve our recordable case rate, which is an aggregate measure of injuries, illnesses and fatalities. In FY12, our recordable case rate was 0.59 cases per 200,000 hours worked, down from 0.76 in FY11 (see figure 19). While we are proud of our progress, we will not be satisfied until we reach our ultimate goal of zero. Very regrettably, during FY12 two Novelis employees lost their lives working for the company (see case study on page 42).

**FIGURE 19:** NIRS Recordable Case Rate.





“Novelis is committed to achieving world-class safety levels – and to building the culture required to do so. It’s important to have an honest culture, one where employees perform their tasks according to the safety procedures even when no one is watching. It also requires an interdependent mindset, where employees not only look out for themselves, but for their colleagues too.”

**David Johnson**  
**Novelis’ new Vice President,**  
**Environment, Health & Safety**



### Tragic Accidents Drive Greater Focus on Controlling Serious Risks

During FY12, Novelis experienced two employee fatalities. The first occurred on October 4, 2011, at our Oswego, New York, facility when a cold mill employee, Ed Carvey, was working with the mill crew to restart the cold mill after a maintenance day. Mr. Carvey was connecting oil mist hoses behind the mill. Another crew member was not aware that Mr. Carvey had gone behind the mill and activated some large hydraulic equipment. The equipment movement trapped and crushed Mr. Carvey, who died the following day.

The second fatal accident occurred on November 11, 2011, at our Yeongju, South Korea, facility. A cold mill operator, DongSup Shin, was in the cold mill preparation station coil conveyor area talking to a crane operator. Mr. Shin noticed that there was a coil in the conveyor that still had banding around it. He did not tell the preparation station operator that he was going to help by removing the banding. Mr. Shin stood between two of the coils to cut the banding. At that moment the coil conveyor moved one of the coils, and Mr. Shin was caught between the coils. He died from internal injuries to the chest area.

As is our practice following any injury or fatality, Novelis conducted in-depth investigations to determine the root causes and implemented corrective actions to help prevent similar events in the future. For example, in Oswego, the connection point for oil mist hoses was moved to place the employee outside the pinch point area. At Yeongju, barriers were installed to prevent personnel from entering the coil conveyor system when it is in operation.

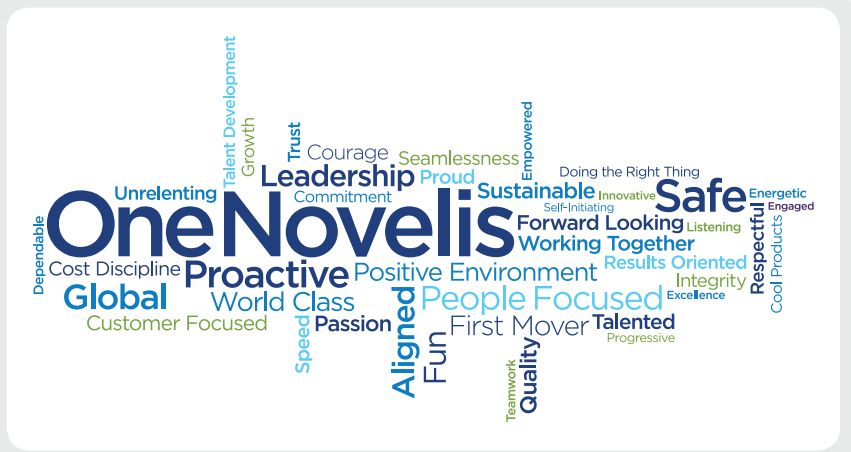
Additionally, across Novelis we are working to implement a more risk-based approach that focuses on effectively identifying and controlling the potential hazards that pose the greatest risk of a serious injury. These tragic accidents serve as an important reminder of the need to be continually vigilant about building and maintaining a strong safety culture.

## Aligning Our Culture to Support Growth

Novelis is in the midst of transforming our company to lay the foundation for aggressive growth (see [Our Corporate Strategy, page 11](#)). Essential to this foundation is a more aligned culture, built on a shared vision of what kind of company we want to be. We are striving to create a culture where every employee across our global operations feels invested in helping Novelis achieve its goals – and where they get the support and development they need to be satisfied and productive in their jobs.

### The Novelis Culture Map

The Novelis Culture Map is a visual tool we use to engage and communicate with our employees as part of our culture change effort. There is no significance to the color or the direction of the words. However, there is significance to the relative size of the words. Importantly, “*One Novelis*” is the largest because that is the single most important call-to-action for our company at this time. The second largest word is “safe”: This is a core value for Novelis, and everyone in the company must be focused on it if we are to reach our ultimate goal of zero injuries.



### Employee Engagement

Our most recent employee survey in 2008 found a relatively strong sense of pride among our employees, but indicated that we needed to do a better job communicating and engaging with them. We knew that this would also be an essential step in realigning our culture. In response, we have dramatically increased our internal communications efforts, expanding or launching new ways to encourage two-way communication between management and our employees. These include regular interactive webcasts conducted by our CEO, additional plant visits by regional presidents and other senior leaders, an enhanced intranet that enables employees to make comments and raise questions, a new magazine sent to every employee, and more. The efforts are all designed to improve employee engagement and strengthen our culture. We will conduct our next employee survey before the end of FY13 to assess the results.

In addition to these efforts, Novelis is committed to maintaining our good record of open communication and dialogue with both our unionized and non-unionized employees. In FY12, approximately 58% of our employees were represented by labor unions, and their employment conditions were governed by collective bargaining agreements.



### Changes in Our Operational Footprint

As we have reshaped our portfolio to focus more on the beverage can, automotive, electronics and high-end specialties market segments, our organizational footprint has changed. While we are investing to significantly grow our business, reshaping our portfolio has also resulted in the sale or closure of some plants and, in some cases, job losses.

In March 2012, we announced that we planned to sell three of our European foil manufacturing operations to American Industrial Acquisition Corporation. The sale, completed in June 2012, included our operations in Rugles, France; Dudelange, Luxembourg; and Berlin, Germany. The transaction included the Foil Innovation Centre in Belvaux, Luxembourg. The sale was driven by the need to align our operations with our growth strategy. Approximately 850 individuals work at these facilities. These changes to our manufacturing footprint were also a result of the challenges involved in incorporating significant levels of recycled content into the products made at these facilities.

In April 2012, Novelis announced that we will close our Saguenay Works facility in Jonquière, Quebec, Canada. Closure occurred in August 2012. This very difficult decision was driven by the need to right-size production capacity in North America, along with the increasing logistics costs and structural challenges facing the location. A total of 157 people were employed at the site. As a result of the closure of these operations, Novelis has been taking steps to assist the affected employees through severance packages, as well as outplacement and re-training support to aid them in finding future employment.

### Employee Evaluations

A key part of creating a growth culture is ensuring that employees understand their roles and how they can contribute to the company's success, that they receive regular feedback about their performance, and that they have an opportunity to have discussions with their line managers about how they can advance their careers.

Novelis has a consistent, centralized performance management system for our managers. At the plant level, however, performance management has been decentralized and variable in terms of the processes used and how many employees receive regular evaluations. In FY12, approximately 38% of our employees worldwide received annual performance reviews both through our centralized system and local performance reviews, the same percentage as the prior year. Of the employees currently in our centralized system, more than 85% are receiving annual performance reviews. We plan to expand this centralized program globally over the next several years.

During FY11, we established a corporate-wide sustainability target that 100% of eligible employees will receive annual performance feedback by 2020. We recognize that this reflects a considerable shift from our current level and that it will require time and effort to reach our target. To help us do so, we are including a performance management component in *Novelis 2.0*, the integrated, global data management system we are building.

### Training and Development

Novelis has a range of training programs designed to ensure our employees have the skills and capabilities they need to do their jobs well, from "on-boarding" sessions for all new hires to job-specific technical training programs. As we look to the future, we know that ensuring we have a strong pool of talent in the leadership pipeline will be especially critical to our company's long-term success.

That's why, in FY11, we launched a major effort to develop a world-class leadership development program and, in FY12, we have continued to expand the program. Our goal is that our program will be benchmarked by 2020 within the top 10% of world-class companies that have development programs.





### Developing the Next Generation of Engineers

There is intense competition for qualified employees among companies like Novelis that require engineering and technical skills. That is why, as part of our overall leadership development effort, we launched the Novelis Engineering Development Program in FY11.

The two-year program, which is geared towards recent engineering graduates or early career engineers, includes technical, professional and leadership training in one of our plants around the world. It also includes classroom coursework, work-based assignments, coaching, on-the-job projects and other developmental opportunities. The goal is to attract the best and brightest young engineers into Novelis – and to put them on a career track that keeps them there. In FY12, 66 engineers participated in the program.



EDP class of 2012.

Novelis now offers six levels of leadership development programs, each geared to participants' experience. Through these programs, managers develop their leadership and management skills in managing conflict, leading across global cultures, identifying and developing personal and team strengths, and more. Some of the programs engage participants in business cases; others have participants partake in a project to identify solutions to real challenges our company is facing. In FY12, we also expanded the curriculum for four of our leadership programs to include a hands-on community engagement component. Novelis' goal is to make our employees leaders both in our company and in the communities where we operate (see [Engaging with Our Communities, page 46](#)).

We also recognize that having qualified engineers is vital to our business, and our Engineering Development Program is intended specifically for new graduates and early career engineers (see [sidebar](#)).

While not all of these programs are available to all employees at every level, we do have some form of professional development or training program at the local level for all employees. In addition, in the coming years, formal development opportunities will be offered on an ongoing basis to the different functional areas within Novelis, specific to their role.

In FY12, approximately 331 engineers, first-line leaders, managers and executives participated in these six leadership development programs. Since their inception, 521 employees have participated in these programs.

### Employee Code of Conduct and Human Rights

Protection of human rights and nondiscrimination are imperatives to Novelis and are reflected in our employee Code of Conduct. Additionally, we are in the process of updating the Code to strengthen the company's commitment to acting with integrity, good faith and in accordance with good corporate governance. We also want to more clearly affirm Novelis' commitment to human rights and sustainability. In addition, we are introducing a new ethics hotline for confidential reporting of incidents or violations of the Code. The new Code will be rolled out, and the hotline will go live, in FY13.

As part of the rollout, every employee will receive a copy of the Code and training on it and use of the hotline. The Code will also be incorporated into orientation sessions for new employees, and all employees will undergo an annual acknowledgement process to ensure their understanding of, and intent to comply with, the Code.

In 2012, Novelis further affirmed and strengthened our commitment to protecting human rights by becoming a signatory of the United Nations Global Compact. As a signatory, Novelis commits to align our operations and strategies with universally accepted principles in the areas of human and labor rights, as well as the environment and anti-corruption (see [page 68](#)).



# Engaging with Our Communities

## Using Community Engagement to Build Leadership Skills

Novelis believes that an essential quality for a leader is a commitment to give back to the community. We also believe that participating in community engagement efforts provides employees with an opportunity to develop valuable skills and experience that can be applied not only in the community, but also in their work at Novelis. As a result, we have expanded the curriculum for four of our leadership development training programs to include a hands-on community engagement component.

For example, in 2011, members of the Engineering Development Program built prosthetic hands to help children who have lost limbs to landmines. Also during the year, participants in Novelis' Accelerated Leadership Program visited the company's Yeongju plant in Seoul, South Korea, and took part in the plant's "Sharing Briquettes of Love" program. The program is a *Novelis Neighbor* initiative, which the company has supported since 1999, that provides charcoal to local residents for heating and cooking purposes. Additionally, participants in the Global Leadership Program visited the Primavera Group in Campinas, Brazil, which offers educational guidance, a safe haven, and hope for youth in a neighborhood historically plagued with drug trafficking and prostitution.



"Sharing Briquettes of Love" program in Korea.

With facilities in dozens of communities on four continents, we like to say that Novelis is a global company with a local presence. While we focus many of our community engagement programs near our manufacturing facilities, we also contribute in a variety of ways in the communities where our employees and business partners live and work, and where our products are used.

## Aligning Community Engagement with Company Strategy

Our goal is to always be a good neighbor. All of Novelis' operating sites have community programs in place, which we call "*Novelis Neighbor*." Through the programs, 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.

Over the past year, as part of our broader effort to fully integrate sustainability across our business, we saw an opportunity to better align our community efforts with our business strategy and to take a more coordinated, global approach, while also recognizing local issues or needs. In addition, we recognized the need to better focus our charitable investments and to more formally measure our impact. By doing so, we believe we can increase our positive impacts in the community, while also strengthening employee engagement and further embedding *Novelis Neighbor* into our company culture.

As a first step in this direction, we developed themes for charitable investment and volunteering aligned with our company's strategy.

### Specifically, the *Novelis Neighbor* program seeks to meet community needs through three areas of focus:

#### Brighter Futures

Aims to develop more scientists, engineers and technologists through the support of math and science education.



#### Better Environment

Supports aluminum recycling and education, as well as other environmental initiatives, in communities around the world.

#### Lighter Living

Extends our "safety first" value into our communities.



### Supporting Habitat for Humanity

In FY12, Novelis supported Habitat for Humanity through contributions of \$170,000 and volunteer hours. In the USA, Novelis donated funds and employees volunteered time to make homes move-in ready for up to three families. The donation from Novelis will help support Habitat's Global Mission Fund, which is used to assist communities that are most in need across the globe, and will help fund Habitat's IndiaBUILD initiative. Also during the year, Novelis Asia donated funds and nearly 900 volunteer hours to Habitat for Humanity. This contribution allowed for one home to be built for a family in the suburb of Seoul.

### Novelis Continues Support of the Make-A-Wish Foundation

In FY12, Novelis continued its support of the Make-A-Wish Foundation, an organization that works to grant the wishes of children with life-threatening illnesses, with a donation of \$275,000. This donation to the Georgia and Alabama chapter was the largest in its history. Novelis has supported Make-A-Wish since 2009 and, over that time, has granted more than 65 wishes through its contributions.

Novelis is proud to work with Make-A-Wish and, over the last few years, our partnership has also inspired our employees to get involved in local events, including the Walk for Wishes and the Tournament of Wishes.

Additionally, we have worked with Make-A-Wish on can recycling in Atlanta schools, and many Novelis employees also volunteer for the organization year-round.

In practice, this means we are increasingly targeting our charitable investments to organizations and initiatives focused in our three areas of safety, math and science education, and recycling. At the same time, we are still working to meet the unique needs of the diverse communities where we operate. For example, in Ouro Preto, Brazil, we have been a long-time supporter of a program that provides educational materials for elementary school children to learn about environmental conservation and recycling. In the USA we partner with organizations, including Rebuilding Together, to help repair and safeguard the homes of the elderly and disabled, allowing these homeowners to maintain their independence.

## Strengthening Our Community Engagement Processes

While we have engaged with local stakeholders in a variety of ways as long as we have been in operation, the process has been largely informal and has varied across our different locations. That is why, in FY11, we adopted a corporate-wide sustainability target to implement 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.

To help us achieve our target, in FY12 we conducted training for all of our *Novelis Neighbor* "site champions" - individuals who are responsible for managing and tracking the community programs at each facility. During this training, the site champions learned how to implement our newly formalized process of dialogue and engagement with members of their local communities. Additionally, the training included information on how to better measure the impacts of our community programs. We will report on our progress implementing the process in future sustainability reports.





### “Recycle a Smile” Raises Money for Community Groups in Brazil

Since 2006, Novelis South America has conducted an annual “Recycle a Smile” program that educates the public about the importance of recycling while also raising money for nongovernmental organizations working to address the needs of communities in Brazil. Through the program, can collection bins are placed in shopping malls near our facilities. Novelis then recycles the cans and turns them into “smiles” by donating the proceeds to local organizations.

Beginning in 2011, all money raised from the Recycle a Smile program has been donated to the Ação Criança Foundation, a group fighting malnutrition and helping more than 700 Brazilian children each year. Since its inception in 2003, the program has collected over 3.7 million cans, which generated approximately R\$118,000 (over \$57,000) in donations.



### Using Community Engagement to Attract and Develop Employees

In addition to bringing benefits to the community, it is clear that effectively engaging with, and contributing to, the communities where we operate has a number of direct benefits for Novelis. Companies that build strong relationships with their local communities are better positioned to attract and retain employees who live there. As a result, we view our community engagement efforts as one of the ways our overall sustainability platform is becoming an additional factor in our company’s acquisition of new talent.

We also believe that community engagement is a responsibility of leaders at Novelis. To this end, we have incorporated *Novelis Neighbor* service projects into our leadership development programs (see case study on page 46). Whether through these programs or our *Novelis Neighbor* volunteer opportunities, we believe that when our employees engage in service projects, they learn valuable skills that develop them as leaders both in their communities and at Novelis.

### Community Giving and Volunteerism: By the Numbers

In FY12, Novelis’ charitable giving through the *Novelis Neighbor* program totaled just over \$1.8 million, including company matches to employee donations. Together with donations given by employees through the Novelis matching gift program and other workplace giving campaigns, the total impact of donations made by Novelis and its employees reached approximately \$2.1 million.

Through *Novelis Neighbor*, we also encourage and facilitate employee volunteerism by helping to identify and organize volunteer opportunities in the communities in which we operate. In FY12, our employees volunteered for approximately 3,500 hours of *Novelis Neighbor* and community service projects.





### Novelis' Plant Manager Recognized for Quick Company-Wide Response to Flooding

In late 2011 and early 2012, heavy rains caused major flooding and landslides in the area surrounding Novelis' facility in Ouro Preto, Brazil. As he saw the emergency unfolding, Novelis' plant manager, Eli Murilo, realized that Novelis had equipment and trained personnel that could help. He assembled a team and worked with the mayor and other local officials on the overall emergency response. Eli and his team marshaled the equipment and donated the resources needed to clear roads and help stabilize local infrastructure. In addition to personal donations from Novelis South America employees, Novelis contributed \$17,000 to support these relief efforts.

In April 2012, in recognition of Novelis' assistance to the community during the disaster, Eli was presented with the Medalha da Inconfidência, the highest civilian award in the Minas Gerais state by the state's mayor, Angelo Oswaldo. Mr. Oswaldo also cited Novelis' strong track record of engaging with the local community to understand and meet local needs.



Eli Murilo, second from left, shown after the ceremony with other Minas Gerais authorities and local leaders.

### Candonga Consortium Continues to Implement Resettlement Agreement in Brazil

In 2012, 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 income generation projects, vocational training and initiatives to facilitate the inclusion of the affected individuals in the labor market. It also works on projects to reduce the environmental impact of the power plant on the local ecosystem. Currently, nearly 70% of the economically active population that was resettled participates in the Consortium's economic development programs.

In recognition of its environmental awareness efforts, the Vale do Piranga Municipalities Association gave the Consortium its Merito Regional 2012 Award.

### Oswego Cans for the Community

In 2010, Novelis' Oswego, New York, facility started a program called "Cans for the Community" to give grants to local schools and nonprofits. Through the program, Novelis collects cans through our own internal recycling efforts and in partnership with businesses and nonprofits such as the Oswego Speedway, Harborfest, Tri-Oswego and Oswego City Schools. The value of the cans is then donated to local organizations. In FY12, Cans for the Community collected more than 140,000 cans valued at more than \$12,500; the money was used to provide grants and matching donations to schools and other organizations. The money funds music and library equipment, classroom supplies, field trips and other programs to encourage education.

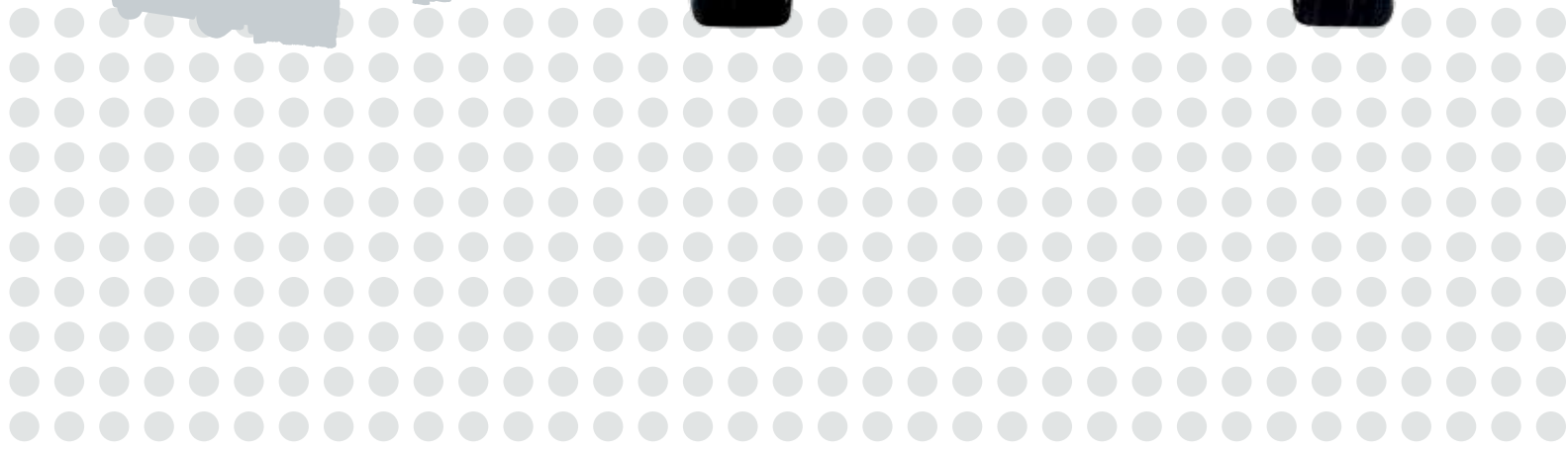




# Delivering Value to Our **Customers**



Our customers span many industries and geographies. One interest they have in common is a growing focus on purchasing sustainable products. We are taking a collaborative approach, working with customers to improve design and recyclability over the product's life cycle.





## Value of Aluminum to Our Customers

Our customers choose to work with us because we provide high-quality aluminum, work with them to meet their needs and are systematically improving the sustainability of aluminum products. Aluminum offers many benefits: It is strong, malleable, versatile, corrosion-resistant and lightweight. It is also long-lived, and as it is infinitely recyclable, it offers significant low-carbon benefits when it is recycled. Different markets value these characteristics differently. Increasingly, many customers and end consumers are appreciating that aluminum use reduces weight and results in direct savings to their bottom line and a better environmental footprint for their product.

The inherent properties of aluminum, along with growing economies and populations, are driving growth in demand for aluminum. As we expand to meet this demand, we are also implementing our recycling strategy. This requires close collaboration with our customers.

## Evolving Design Specifications

A key area of innovation for Novelis is using our research and development capabilities to target particular products that are less easily recycled, often because of the nature of the alloys they are made of. By redesigning alloys for specific uses, it will be easier for Novelis to incorporate them back into products in a closed loop, to separate them, or to recycle them with other types of aluminum scrap. As new products are developed, we will work with customers to ensure that we continue to meet their needs.



“With a world-class team and equipment available in the new R&T center, our customers are already taking note. We have had great feedback from customers who have visited and multiple requests from others to come see the center. This center and the creation of a Global Research and Technology team further show Novelis’ commitment to leading the industry in innovation and technology.”

**Jack Clark,**  
VP and Chief Technical Officer



### Meeting Customer Needs through Innovation

Our new Novelis Global Research & Technology Center (see page 12 in the Strategy section), which opened in June 2012, is the focal point for Novelis’ own research as well as collaborative efforts with customers to develop new products and applications.

These are some of the areas Novelis researchers are exploring:

- Development of new sustainable products.
- Improved rolling process technologies.
- Techniques that take advantage of the value of alloy ingredients derived from mixed streams of scrap aluminum. To be able to use these alloys, we must create new casting and fabrication processing methods.
- Alloy optimization for improved properties, including strength, formability and corrosion resistance.
- Molten metal and advanced solidification technology.
- Advanced surface treatment and coating technologies.
- Modeling of forming processes for applications such as automotive and can products (e.g., on lightweighting optimization).



## Delivering on Customers' Needs

“Working towards a more sustainable business is at the heart of Rexam’s vision to be the best in our industry. This means doing more to keep our cans in a closed material loop, preventing cans from going to landfill. Some markets require long-term support to establish and enhance collection mechanisms and to create a recycling culture. We are delighted to be working in partnership with Novelis on a number of such sustainability projects that will reduce the carbon footprint of the can and grow the market opportunities for our products.”

**John Revers**  
Head of Sustainability,  
Rexam PLC



Collaborating with customers to accelerate research and development of sustainable products is another element of our approach. We are working with customers in each of our core markets to meet their needs by delivering sustainable products.

First, we take the time to understand customer specifications. Customers’ products require a range of alloy mixtures (metal composition), tempers (hardness), gauges (thickness) and widths, as well as various coatings and finishes. To make the product more sustainable, we do several things. One is that we work with customers to design for increased recycled input in the alloy mixture. We also research ways to substitute aluminum for other components in the product by adjusting alloy combinations to ensure an equivalent strength to the component it is replacing, as well as to reduce the weight of the product. Additionally, we work with customers to optimize product designs to lightweight as much as is possible. Finally, we work with customers to create processes to take manufacturing (pre-consumer) scrap or post-consumer material back at its end of life so we can recycle it.

Our beverage can customers are very interested in the carbon footprint of their products. We are working with them to provide baseline data on their carbon footprint, to increase recycling, and to improve performance in relation to other packaging materials. The growing use of aluminum containers for craft beer has shown that the sustainability aspects of using aluminum are becoming more widely recognized (see “Why Not 100%” case study on page 25).

Manufacturers of consumer electronics are impressed with aluminum’s stylish “look and feel.” Beyond appearance, these manufacturers appreciate the light weight, recyclability, and heat conduction properties of aluminum. Novelis has helped electronics producers increase the recyclability of their products while providing superior performance. Aluminum use also reduces weight and disperses heat, which allows for a simpler, more streamlined and flatter design of screen-based devices.

### Did you know ?



Aluminum is a unique metal; strong, durable, flexible, impermeable and light-weight, it does not rust and is 100% recyclable.

Source: [www.world-aluminium.org](http://www.world-aluminium.org)



### Titanic Belfast

The construction industry appreciates aluminum’s stylish look in addition to its UV-, corrosion- and weather-resistant properties. Novelis was chosen to supply 120 metric tons of anodizing quality aluminum from its Nachterstedt, Germany, plant to create the 3,000 3-D aluminum panels covering the façade of the Titanic Belfast. The panels were crafted by forming Novelis aluminum sheets into complicated asymmetrical shapes. The use of aluminum brings “a modern dimension to the 100-year-old story.” Builders appreciate that the aluminum will age gracefully against salt-spray since it is located in a Northern Ireland harbor where the Titanic was built.



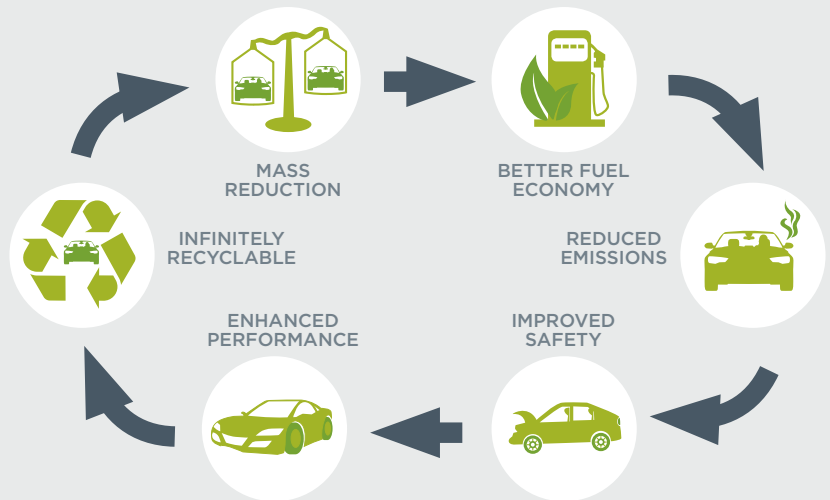
### Novelis and Automakers Team to Accelerate Progress in Fuel Efficiency

Modern automobiles are highly complex technological machines that present challenges for designers and material engineers. Automakers must continually innovate to provide their customers with ever-increasing levels of fuel efficiency, safety, convenience, performance and style. Some of these imperatives are driven by regulation and others by customer preferences.

A number of factors are now converging to make aluminum a key ingredient in the future of auto-making. Fuel economy requirements are rising rapidly. In the USA, for example, the fuel economy standard for passenger cars flat-lined at 27.5 miles per gallon (mpg) for two decades between 1990 and 2010. But driven by concerns about energy security, climate change and fuel cost volatility, standards have increased so that by 2016, cars and trucks together will need to achieve around 35.5 mpg. Those standards are expected to increase further to 54 mpg by 2025. Government agencies in the European Union, China, Japan and other major markets are demanding similar increases in fuel economy.

Reducing the weight of a vehicle is one of the key methods an automaker can use to improve fuel economy. Lightweighting an automobile also sets off a virtuous cycle: With less weight to pull, the engine can be downsized, further improving fuel economy. Lightweight design will be particularly important as the market for electric vehicles develops over the next 10 to 20 years: Using aluminum to design electric vehicles from the ground up will allow either smaller battery packs or improved range. And use of aluminum in certain vehicle applications can enhance safety and performance.

FIGURE 20: Aluminum Builds a Better Vehicle.



In addition, as the middle class grows in countries like China, India and Brazil, rates of car ownership and growth in auto sales are projected to soar. Novelis expects this market expansion – together with new technologies for aluminum use in automobiles – to lead to a compound annual growth rate of 25% in demand for aluminum in automotive applications over the next five years.

continued >>



“Customers have frankly been staggered by how challenging our targets are, yet at the same time they are excited about the opportunity we have to create the products that society needs and wants for the future. Sustainability touches every part of our business. It’s the right thing to do – and doing the right thing has always been part of Novelis’ DNA.”

**Erwin Mayr**  
Senior VP and Chief Strategy and Commercial Officer, Novelis



**Did you know ?**

The use of lightweight aluminum components in a vehicle can save 6 to 12 times the energy compared to that used in the production of the primary aluminum used in its construction (using recycled aluminum saves even more). Up to 8% fuel savings can be realized for every 10% reduction in weight.

Source: [www.world-aluminium.org](http://www.world-aluminium.org)

continued >>

Already, Novelis aluminum is used in 117 vehicle models around the world. To further expand in the automotive market, we are partnering with our customers to develop tailored applications and entirely new alloys. Material specifications for automobile parts are very demanding, and we’re often charting new territory when substituting aluminum for other materials. That’s why we work very closely with our customers’ engineers and designers to develop innovative solutions, including these examples:

- Our Novelis Fusion™ material has been used in the BMW 5 and 7 series’ one-piece aluminum doors and window frames, which are 25% lighter than a similar steel design and maintain the same performance. The multi-layer technology provides a unique combination of core properties and surface characteristics that make possible a design that couldn’t be achieved with conventional aluminum sheet. This application garnered Novelis the BMW Supplier Innovation Award in November 2011.
- Mercedes has collaborated with Novelis to develop a new alloy, Anticorodal®-300, which is being used in doors, hoods and various structural applications. The new alloy reduces weight and also provides enhanced crash safety and strength.
- The Land Rover Evoque features an aluminum hood, roof and structural parts made with Novelis automotive sheet. The advanced roof design is the first production application of Novelis’ new high-strength aluminum alloy Anticorodal®-600 PX. Our scientists developed this alloy specifically for automotive use. It is about 20% stronger than typical aluminum automotive sheet yet offers improved formability over other high-strength alloys. The increased strength also provides the opportunity to reduce the thickness of the sheet by as much as 15%, making it ideal for applications such as hoods, fenders, roofs and doors.

The vast majority of a vehicle’s greenhouse gas emissions occur during the use phase of the life cycle, where the light weight of aluminum offers immediate fuel economy benefits. But sustainability-minded automakers are also looking upstream in the life cycle, where the use of recycled aluminum reduces the embedded carbon in the material by 95% compared to primary aluminum. Novelis is working with automakers to increase the recycled input of the aluminum used in cars. Because the alloys have been designed for very specific uses, a key to increasing recycled input is recovering scrap from those uses for closed-loop recycling back into the same alloy. Jaguar Land Rover’s REALCAR program is an exciting example of this approach (see case study on page 55).

To meet the rapid growth in demand for automotive aluminum, Novelis is expanding existing facilities and building new ones dedicated to the automobile market. In April 2012, Novelis announced plans to build our first automotive sheet manufacturing facility in China. The wholly owned, \$100-million plant will have a capacity of 120,000 metric tons per year and is expected to be ready for operation in late 2014. This project is in addition to a \$200 million expansion of finishing at our Oswego, New York, facility announced in mid-2011. This expansion will result in a capacity increase of 200,000 metric tons per year, five times Novelis’ current capacity for aluminum sheet in North America. It will begin operations in the summer of 2013.



“Working with Novelis and other REALCAR project partners, we’re pushing the boundaries of current levels of recycled aluminum use in the automotive industry. The REALCAR project addresses the full range of questions involved in expanding recycled aluminum use, from the composition of alloys to where and how we will secure suppliers of scrap aluminum. Novelis’ sustainability goals are well aligned with those of Jaguar Land Rover. Novelis has been a thought partner at every step of the project, helping to tackle the technical issues and also think through how to create value through new models of sourcing and manufacturing.”

**Adrian Tautscher**  
**REALCAR Project Leader, Materials Engineering Technical Services (ETS)**  
**Jaguar Land Rover**



### Real Progress through REALCAR

REALCAR (REcycled ALuminium CAR) is a project led by Jaguar Land Rover to explore ways to increase the use of recycled aluminum in automobile manufacturing. The three-year project is partly funded by the UK Government Technology Strategy Board, and Novelis is a key partner. The overall goal of the project is to develop technologies and processes that will enable lightweight automotive body structures to be built using aluminum sheet derived from lower-cost, energy-efficient, recycled sources, in line with Jaguar Land Rover’s Environmental Innovation (EI) strategy to reduce the CO<sub>2</sub> footprint of manufacturing premium cars. REALCAR is targeting 75% recycled content for automotive aluminum sheet, including about 50% from manufacturing scrap and 25% from various post-consumer sources.

Project partners are investigating innovative high-recycled sheet aluminum developments by evaluating production processes at Novelis and continuous casting at Brunel University. REALCAR addresses the sourcing of aluminum scrap by exploring infrastructure and recycling approaches at the manufacturing facilities of Jaguar Land Rover and its Tier 1 suppliers. The project aims to drive progress towards a streamlined logistics/supply chain to facilitate closed-loop returns of aluminum scrap, which not only reduces the carbon footprint of the material but also provides a low-cost source. The project has also investigated potential scrap sources from non-automotive sources and end-of-life vehicle waste; this investigation has identified a number of future opportunities. REALCAR evaluated over 20 different sheet chemistries and processes, and developed two compositions based on commercially available aluminum scrap sources, with a view to replacing the sheet grade that accounts for the majority of aluminum structural sheet used in Jaguar Land Rover body construction in the next generation of Jaguar Land Rover products.

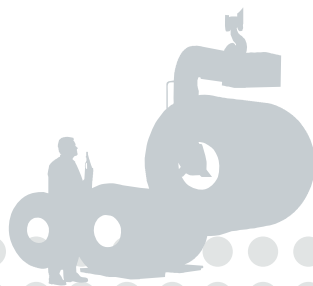
## Closing the Loop with Customers

As we implement our recycling strategy, our customers are becoming our suppliers by providing us with their scrap aluminum. This is not a new practice, but as we strive to secure new sources and types of scrap aluminum, we are institutionalizing the practice. Beginning in FY12, we changed our sales process so that, as a matter of course, our contracts include an agreement to buy back our customers’ aluminum scrap as much as possible.



# Helping Consumers Recycle

Novelis estimates that the average American touches our aluminum 15 to 20 times per day in everything from their car, to a beverage container, cell phone or television. Consumers are not only the end users of a wide range of aluminum products, they are also a critical linchpin in “closing the loop” of the aluminum life cycle. Their actions are a key determinant of how much aluminum makes it back into the recycling stream – and how much ends up in a landfill. Novelis is committed both to providing consumers with safe, innovative and high-quality aluminum products and to helping ensure they have a convenient and effective way to recycle them.





## Shifting the Post-Consumer Recycling Landscape

**FIGURE 21:** Recycling Opportunities for Consumers.



Post-consumer recycled aluminum currently accounts for approximately 25% of our overall aluminum inputs. We will need to source over 4 million tons of scrap by 2020 to meet our 80% recycling goal. Therefore, increasing recycling at the consumer level is very important to us and a big challenge in moving forward.

Novelis is keen to work with brandholders, retailers, municipalities and other stakeholders to increase end-of-life recycling and influence consumers. Novelis would like to make recycling aluminum products as easy to do as throwing them away. The hurdle is that consumer behavior and recycling infrastructure vary widely in different global locations. For example, differences exist in local and municipal recycling collection and processing infrastructure and in recycling public policy frameworks. Nonetheless, Novelis believes we can make an important contribution towards shifting the post-consumer recycling landscape by collaborating with others in the supply chain, and we are working to do so in three main ways:

- Further engaging stakeholder partners to expand collection infrastructure.
- Encouraging – and in some cases, directly creating – both can and non-can recycling infrastructure.
- Supporting and developing consumer education and awareness efforts in both mature and emerging markets.

## Supporting Collection and Recycling Infrastructure

The infrastructure for collecting and recycling aluminum products varies considerably around the world. In some locations, there are well developed, integrated, large-scale systems for collecting, sorting and processing a wide variety of aluminum scrap, while in other locations, the systems are less developed, more fragmented or more limited in the type of scrap they can process. Recycling services are provided by government agencies in some places and by the private sector or public-private partnerships in others.

Given the variability, there is no one-size-fits-all approach to developing and expanding the aluminum collection and recycling infrastructure. As a result, Novelis is developing tailored strategies to address gaps in key locations. While the specific tactics may vary, our objective across the board is to expand the supply of aluminum scrap – both in terms of volume and type – that we can use as an input for our products.

### Did you know ?

The amount of energy wasted from the aluminum cans not recycled in 2006 would be sufficient to supply the total energy needs of 1.8 million American homes for a year.

Source: Container Recycling Institute

### Curbside Value Partnership

Novelis is an active member and funder of the nonprofit Curbside Value Partnership (CVP). CVP's goal is to launch and study education programs designed to increase participation in US curbside recycling programs, while making the programs more profitable and sustainable. Novelis has been a sponsor of CVP for seven years, and Novelis' David Gill currently chairs the Board of Directors. CVP is the only US program engaging all recycling stakeholders to identify solutions to improve curbside recycling programs. CVP has worked with 27 communities in four states. In these communities, results have included an average 23% increase in recycling volume and 18% increase in the number of locations that recycle.

[www.recyclecurbside.org](http://www.recyclecurbside.org)

### Metal Packaging Europe

Novelis is proud to be a part of the Metal Packaging Europe group. This umbrella organization brings together European and national industry associations to use a unified voice to ensure the benefits of rigid metal packaging are understood and promoted. The organization uses communication tools, policy papers and results from technical studies on areas like life cycle inventories to share knowledge about these concepts:

- The value of responsible metal resource management in meeting sustainability objectives, and
- The importance of metal recycling to increase resource efficiency.

This partnership is a great example of a program that helps Novelis reach its goal of promoting aluminum recycling.

In Brazil, for example, we have opened five scrap collection centers to enable us to connect with small scrap yards to increase our supply of material for recycling (see page 24 in Sourcing). In the United Kingdom, we have helped develop a program called Every Can Counts that helps people recycle outside the home and provides information and resources about why recycling is important (see sidebar, page 59). In the USA, we are continuing to support nationwide programs that fund recycling programs both at the home, such as Curbside Value Partnership (see sidebar), as well as away from the home, such as the Can Crusade, a national awareness campaign that toured NFL games to encourage recycling when tailgating.

Globally we support efficient recycling policy and infrastructure development appropriate to local needs.



[www.everycancounts.co.uk](http://www.everycancounts.co.uk)



[cancrusade.com](http://cancrusade.com)

## Educating Consumers about Recycling

Finding ways to encourage consumers to recycle aluminum is as important as ensuring the infrastructure exists to process it. Consumer attitudes and behavior towards recycling vary widely across countries. For example, 98% of used beverage containers are recycled in Brazil (as of 2009), compared with about 58% in the USA (as of 2010). Recycling rates in Scandinavian countries are greater than 90%, while Austria and France have lower recycling rates, bringing the European average to approximately 64%. Novelis is taking a regionally specific approach to supporting consumer recycling efforts, helping to influence consumer behavior and helping to develop recycling infrastructure.

We organize and support a broad range of consumer education and awareness efforts around the world, particularly in locations with lower recycling rates. For example, Novelis' recycling program "ThinkCans" in the United Kingdom has established a consumer education campaign that has promoted awareness about recycling at work, home, school and in charities over the last eight years. In another approach, through one of our FY12 *Novelis Neighbor* community engagement program initiatives in the USA, Novelis employees go directly to schools to give presentations to educate schoolchildren about recycling. As of April 2012, employees from our corporate office presented programs at over 25 schools across metropolitan Atlanta, reaching nearly 1,500 students. We plan to expand this program in future years, so all Novelis employees can make presentations in their local communities. (See Engaging with Our Communities on page 46.)



[www.thinkcans.net](http://www.thinkcans.net)



## Product Safety and Health

### Every Can Counts

In Europe, 30% of beverage containers are used outside of the home. “Every Can Counts,” a beverage can recycling program sponsored by Novelis, helped collect 51 million additional used beverage cans from workplaces and “on the go” locations such as colleges, outdoor locations and tourist attractions in 2011. Since its inception, Every Can Counts has added nearly 5,000 recycling collection points in the United Kingdom and partnered with more than 800 organizations to promote recycling.

Through this program, Novelis has partnered with beverage can manufacturers, as well as aluminum and steel packaging companies and recyclers to provide branded recycling bins, stickers, assistance in finding a suitable collection center and recycling information. The program was also a part of the 2012 Olympic Games. Specifically, 20 Every Can Counts-branded can crushers were installed at Weymouth and Portland at sports locations, tourist sites and in areas that do not currently benefit from on-street recycling facilities.

Given its success, the program is being expanded elsewhere in Europe, including Austria, France and Eastern Europe.



Most of our products are further processed by our customers before they are used by consumers, but Novelis works with our customers to ensure we meet their safety needs. For some food, beverage and pharmaceutical applications, we certify that we meet demanding regulatory consumer safety requirements. We also comply with the rigorous safety requirements of our automotive customers.

Aluminum forms 8% of the Earth’s crust, making it the most common metallic element. It 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 aluminum: The average European adult’s diet typically includes 2.5 mg–13 mg per day, although people taking medication containing aluminum may consume much more. There is no known biological role for aluminum: Though it is present in small amounts in the lungs, soft tissues and bones, the vast majority of aluminum ingested is excreted. The body has highly effective barriers to exclude aluminum and similar metals. Only a very small fraction of aluminum in the diet is taken up from the gut, and in healthy individuals, the kidneys quickly excrete most of this 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 dialysis dementia, there are neither neurofibrillary tangles nor senile plaques, and the dementia can be reversed by treatment with drugs to remove aluminum. In 1997, a Task Group under the auspices of the World Health Organization and the United Nations Environment Programme published what is the latest comprehensive report. It concluded no evidence exists to support the premise that aluminum causes, exacerbates or accelerates Alzheimer’s disease.

### Bisphenol-A (BPA)

Epoxy-based coatings that include BPA are found in almost all aluminum and steel beverage cans. Regulatory agencies in the USA, Canada, Europe, Japan, Australia and New Zealand have stated that scientific evidence has consistently shown that these coatings are safe. In March 2012, the US Food & Drug Administration said that no compelling scientific evidence exists to justify new restrictions on BPA. However, Novelis recognizes that some consumers are concerned with BPA. As a result, Novelis is working with its customers on innovations in non-epoxy-based coatings.



# About This Report

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

## Scope and Boundaries

This report was prepared in accordance with the principles of materiality (see page 15), 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 page 61) in compiling this 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 page 15 for discussion of how we identified our material issues).

This report covers all Novelis Inc. divisions, subsidiaries and legal entities in the 11 countries in which we are present. 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 USA, where we own 40% of outstanding common shares, but receive 55% of plant output due to equipment investments. 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 FY. 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-on-year comparability of data, where applicable. Data measurement techniques and the bases of calculations, if relevant, are noted with the data graphics and tables.



Inside the Novelis Research and Technology Center in Kennesaw, Georgia, USA.



## Reporting Period and Future Reporting

### 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 third-party 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.

The information contained in this report covers the period April 1, 2011, to March 31, 2012, which is Novelis' 2012 fiscal year (FY12). Additional relevant baseline data or context from preceding years is included where specified. Data may have changed slightly 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).

We intend to publicly report our sustainability performance in a full report available annually in late summer.

## The Global Reporting Initiative

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. An abbreviated GRI Content Index can be found on pages 62 to 67. 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](http://novelis.com/sustainability)

## GRI Content Index

We aligned this report to both the Global Reporting Initiative (GRI) G3.1 Sustainability Reporting Guidelines and the GRI Mining and Metals sector supplement. We are not currently mining, but we do own mining rights in the Ouro Preto region of Brazil that are not being utilized. We also assessed our report against GRI requirements. We are reporting at a GRI-checked A Application Level (see [www.globalreporting.org](http://www.globalreporting.org) for more information).

We included a brief GRI G3.1 index below to help readers easily locate information on indicators spelled out in the GRI guidelines. A more comprehensive index, which includes additional information on indicators that were deemed less material, can be found online at [novelis.com/sustainability](http://novelis.com/sustainability) or by requesting a hard copy (see contact details on back cover).



### 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.



# GRI Index

● Fully Reported 
 ◐ Partially Reported 
 ○ Not Disclosed 
 ● Not Applicable

Indicator	Level	References	Indicator	Level	References
<b>STRATEGY AND ANALYSIS</b>					
1.1	●	CEO Letter (Pgs 3-4)	3.3	●	Reporting Period and Future Reporting (Pg 61) Full GRI Content Index
1.2	●	Our Targets (Pg 5) Novelis' Role in the Aluminum Value Chain (Pg 8) Our Industry (Pgs 9-10) Our Corporate Strategy (Pgs 11-12) Our Sustainability Strategy & Progress (Pg 13-16) Sustainability Management & Governance (Pg 17) Stakeholder Engagement (Pgs 18-20) Novelis FY12 10-K (Pgs 20-28)	3.4	●	Contact (Outside Back Cover) Full GRI Content Index
<b>ORGANIZATIONAL PROFILE</b>					
2.1	●	Our Company (Pgs 6-7)	3.5	●	Using Materiality to Shape Our Sustainability Strategy (Pg 15) About This Report (Pgs 60-68)
2.2	●	Our Company (Pgs 6-7) Corporate website: Who We Are	3.6	●	Scope and Boundaries (Pg 60) Full GRI Content Index
2.3	●	Our Company (Pgs 6-7) Scope and Boundaries (Pg 60) Full GRI Content Index Joint ventures: • Aluminum Norf GmbH (Alunorf) • Logan Aluminum Inc.	3.7	●	Scope and Boundaries (Pg 60) Reporting Period and Future Reporting (Pg 61) Full GRI Content Index
2.4	●	Atlanta, GA, USA Our Company (Pgs 6-7) Our Operations (Pg 7)	3.8	●	Scope and Boundaries (Pg 60) Reporting Period and Future Reporting (Pg 61) Full GRI Content Index
2.5	●	Our Company (Pgs 6-7) Full GRI Content Index	3.9	●	Scope and Boundaries (Pg 60) Reporting Period and Future Reporting (Pg 61) Full GRI Content Index NVL Environmental Metrics Reporting and Management Guideline
2.6	●	Our Company (Pgs 6-7) Sustainability Management & Governance (Pg 17) Full GRI Content Index	3.10	●	Reporting Period and Future Reporting (Pg 61) Full GRI Content Index
2.7	●	Our Company (Pgs 6-7) Delivering Value to Our Customers (Pgs 50-55)	3.11	●	Reporting Period and Future Reporting (Pg 61) Full GRI Content Index
2.8	●	Our Company (Pgs 6-7) Corporate website: Investors Novelis FY12 10-K (Pgs 6, 43, 52, 68, 69, 72) Full GRI Content Index	3.12	●	Full GRI Content Index
2.9	●	Novelis FY12 10-K (Pgs 11, 13-14) Changes in Our Operational Footprint (Pg 44) Full GRI Content Index	3.13	●	Assurance (Pg 61) Full GRI Content Index
2.10	●	Awards and Recognition (Pgs 5, 70-71) Full GRI Content Index	<b>GOVERNANCE, COMMITMENTS AND ENGAGEMENT</b>		
<b>REPORT PARAMETERS</b>					
3.1	●	Reporting Period and Future Reporting (Pg 61) Full GRI Content Index	4.1	●	Sustainability Management & Governance (Pg 17) Corporate Website: Executive Officers Corporate Website: Board of Directors Novelis FY12 10-K (Pg 136) Full GRI Content Index
3.2	●	Scope and Boundaries (Pg 60) Full GRI Content Index	4.2	●	Sustainability Management & Governance (Pg 17) Full GRI Content Index
			4.3	●	Sustainability Management & Governance (Pg 17) Corporate Website: Corporate Governance Novelis FY12 10-K (Pg 136) Full GRI Content Index
			4.4	●	Full GRI Content Index
			4.5	●	Full GRI Content Index
			4.6	●	Full GRI Content Index



GRI Index continued

● Fully Reported 
 ◐ Partially Reported 
 ○ Not Disclosed 
 ● Not Applicable

Indicator	Level	References	Indicator	Level	References
4.7	●	Full GRI Content Index	<b>Performance: Environmental</b>		
4.8	●	Updated Employee Code of Conduct (Pg 17) Global Energy Policy (Pg 34) Corporate Website: Code of Conduct for Board of Directors and Senior Managers Corporate Website: Code of Ethics for Senior Financial Officers Full GRI Content Index	EN	●	Our standards and protocols for environmental protection and health and safety management 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 through 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 whilst we deliver our products. We additionally use lightweight materials like aluminum where possible to lighten our load. <b>Materials</b> (Pgs 13-14, 21-26) <b>Energy, Water, Emissions/Effluents/Waste</b> (Pgs 5, 28-29) <b>Biodiversity</b> (Pgs 5, 17-19) <b>Products and Services</b> (Pgs 9-12, 50-55) Full GRI Index EN 26 <b>Compliance</b> Full GRI Index EN 28 <b>Overall</b> (Pgs 17, 28-29)
4.9	●	Full GRI Content Index	<b>Performance: Labor Practices and Decent Work</b>		
4.10	●	Full GRI Content Index	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, above) <b>Employment</b> (Pg 6) <b>Labor/Management Relations</b> (Pgs 43-45) <b>Occupational Health and Safety</b> (Pgs 28-29, 41-42) <b>Training and Education</b> (Pgs 17, 44-45) <b>Diversity and Equal Opportunity</b> Corporate Governance Website Novelis Code of Conduct (Pgs 17, 45) Full GRI Index LA13 <b>Equal remuneration for women and men</b> Corporate Governance Website Novelis Code of Conduct (Pgs 17, 45)
4.11	●	Full GRI Content Index			
4.12	●	Environmental Health & Safety Management Systems (Pgs 28-29) Becoming a UN Global Compact Signatory (Pg 13) Updated Employee Code of Conduct (Pg 17) Code of Conduct for Board of Directors and Senior Managers Code of Ethics for Senior Financial Officers Full GRI Content Index			
4.13	●	Full GRI Content Index			
4.14	●	Stakeholder Engagement (Pgs 18-20)			
4.15	●	Stakeholder Engagement (Pgs 18-20)			
4.16	●	Stakeholder Engagement (Pgs 18-20)			
4.17	●	Stakeholder Engagement (Pgs 18-20)			
<b>DISCLOSURES ON MANAGEMENT APPROACH</b>					
<b>Performance: Economic</b>					
EC	●	Our economic performance is reviewed quarterly with the Board. We do not have formal policies related to indirect economic impacts. However, through our <i>Novelis Neighbor</i> 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. <b>Economic Performance</b> (Pgs 5-7, 17) <b>Market Presence</b> (Pg 6-12) <b>Indirect Economic Impacts</b> (Pgs 6-7, 46-49) Full GRI Index SO1 and EC9			



GRI Index continued

● Fully Reported 
 ◐ Partially Reported 
 ○ Not Disclosed 
 ● Not Applicable

Indicator	Level	References	Indicator	Level	References
<b>Performance: Human Rights</b>			<b>Performance: Product Responsibility</b>		
HR	●	We have set a target to roll out employee and supplier codes of conduct and put processes in place for compliance. These codes will further strengthen our practices, and management and accountability in these areas. <b>Investment and Procurement Practices</b> (Pgs 17, 26) <b>Non-discrimination, Freedom of Association and Collective Bargaining, Child Labor, Prevention of Forced and Compulsory Labor</b> (Pgs 5, 26, 43, 45) UNGC Index Full GRI Index HR3, HR4, HR5, HR6, HR7 <b>Security Practices</b> We have a Global Security Team and Global Security Policies, which include IT security policies and oversight. <b>Indigenous Rights</b> (Pg 49) Full GRI Index responses to MM5 and HR9 <b>Assessment</b> (Pgs 43-45) <b>Remediation</b> (Pgs 43-45)	PR	●	Our Chief Sustainability Officer has overall responsibility for considering sustainability issues throughout the product life cycle. <b>Materials Stewardship</b> (Pgs 13-14, 21-26) Full GRI Index PR1 <b>Customer Health &amp; Safety</b> (Pg 59) Full GRI Index PR3 <b>Product and Service Labeling</b> Full GRI Index PR3-5 <b>Marketing Communications</b> Full GRI Index PR6-7 <b>Customer Privacy</b> Full GRI Index PR8 <b>Compliance</b> Full GRI Index PR9
<b>Performance: Society</b>			<b>ECONOMIC PERFORMANCE</b>		
SO	●	<b>Community</b> (Pgs 46-49, 58) Index response to SO1 <b>Artisanal and small-scale mining</b> Full GRI Index MM8 <b>Resettlement</b> Full GRI Index MM9 <b>Closure planning</b> Full GRI Index MM10 <b>Grievance mechanisms and procedures</b> Our Senior Vice President of General Counsel and Compliance Officer oversees management of any grievance-related issues. Full GRI Index HR11, MM7 <b>Emergency Preparedness</b> Our Vice President of Environment, Health & Safety and EHS Steering Committee, which our CEO leads, oversee any emergency-related issues related to our business. <b>Corruption</b> (Pgs 17, 45) Full GRI Index SO2, SO3, SO4 <b>Public Policy</b> (Pg 20) <b>Anti-competitive Behavior</b> (Pg 45) Full GRI Index SO 7 <b>Compliance</b> (Pg 45) We do not have formal targets but always strive for 100% compliance with legal and Novelis requirements.	EC1	●	Full GRI Content Index Novelis FY12 10-K (Pgs 6, 43, 52, 68, 69, 72) Our Company (Pgs 6-7) Community Giving and Volunteerism: By the Numbers (Pg 48)
			EC2	●	CEO Letter (Pg 3-4) Becoming a UN Global Compact Signatory (Pg 13) Using Materiality to Shape our Sustainability Strategy (Pg 15) Stakeholder Engagement (Pgs 18-20) Nachterstedt: Future Direction of Novelis Plants (Pg 22) Investing in Global Expansion (Pg 30) Energy Use & GHG Emissions (Pgs 31-36) Aligning Our Culture to Support Growth (Pgs 43-45) Novelis' Plant Manager Recognized for Quick Company-Wide Response to Flooding (Pg 49) Delivering Value to Our Customers (Pgs 50-55) Full GRI Content Index
			EC3	●	Full GRI Content Index
			EC4	●	Full GRI Content Index
			EC5	○	
			EC6	●	Sustainability in our Supply Chain (Pg 26) Full GRI Content Index
			EC7	◐	Full GRI Content Index
			EC8	●	Engaging with our Communities (Pg 46-49) Helping Consumers Recycle (Pgs 56-59) Full GRI Content Index





GRI Index continued

● Fully Reported 
 ◐ Partially Reported 
 ○ Not Disclosed 
 ● Not Applicable

Indicator	Level	References	Indicator	Level	References
EC9	●	Our Company (Pgs 6-7) Sustainability in Our Supply Chain (Pg 26) Community Giving and Volunteerism: By the Numbers (Pg 48) Full GRI Content Index	EN19	●	Full GRI Content Index
<b>ENVIRONMENTAL PERFORMANCE</b>			EN20	●	Non-GHG Air Emissions (Pg 40) Full GRI Content Index
EN1	●	Sourcing: A Holistic Look at Our Material Inputs (Pgs 21-26) Full GRI Content Index	EN21	◐	Water Use (Pgs 36-38) Full GRI Content Index
EN2	●	Sourcing: A Holistic Look at Our Material Inputs (Pgs 21-26) Full GRI Content Index	EN22	●	Waste (Pg 39) Full GRI Content Index
EN3	●	Sustainable Energy Use (Pgs 33-34) Full GRI Content Index	MM3	●	Full GRI Content Index
EN4	●	Sustainable Energy Use (Pgs 33-34) Full GRI Content Index	EN23	●	Full GRI Content Index
EN5	●	Sustainable Energy Use (Pgs 33-34) Full GRI Content Index	EN24	○	
EN6	●	Delivering Value to Our Customers (Pgs 50-55) Full GRI Content Index	EN25	○	
EN7	◐	Energy Use and Greenhouse Gas Emissions (Pgs 31-32) Sustainable Energy Use (Pgs 33-34) Full GRI Content Index	EN26	●	Our Targets (Pg 5) Delivering Value to Our Customers (Pgs 50-55) Full GRI Content Index
EN8	◐	Water Use (Pgs 36-38) Full GRI Content Index	EN27	●	Full GRI Content Index
EN9	○		EN28	●	Full GRI Content Index
EN10	●	Water Use (Pgs 36-38) Full GRI Content Index	EN29	○	
EN11	●	Biodiversity (Pg 40) Full GRI Content Index	EN30	○	
EN12	◐	Biodiversity (Pg 40) Full GRI Content Index	<b>SOCIAL PERFORMANCE</b>		
MM1	●	Biodiversity (Pg 40) Full GRI Content Index	<b>Labor Practices and Decent Work</b>		
EN13	●	Full GRI Content Index	LA1	◐	Our Company (Pgs 6-7) Full GRI Content Index
EN14	○		LA2	◐	Full GRI Content Index
MM2	●	Biodiversity (Pg 40) Full GRI Content Index	LA3	●	Full GRI Content Index
EN15	○		LA15	◐	Full GRI Content Index
EN16	●	Greenhouse Gas Footprint (Pg 32) Greenhouse Gas Emissions (Pgs 35-36) Full GRI Content Index	LA4	●	Employee Engagement (Pg 43) Full GRI Content Index
EN17	●	Greenhouse Gas Footprint (Pg 32) Greenhouse Gas Emissions (Pgs 35-36) Full GRI Content Index	LA5	●	Changes in our Operational Footprint (Pg 44) Full GRI Content Index
EN18	●	Energy Use and Greenhouse Gas Emissions (Pgs 31-36) Full GRI Content Index	MM4	●	Full GRI Content Index
			LA6	●	Environment, Health & Management Systems (Pgs 28-29) Full GRI Content Index
			LA7	◐	Our Health and Safety Performance (Pg 41) Full GRI Content Index
			LA8	●	Engaging with Our Communities (Pg 46-49) Full GRI Content Index
			LA9	●	Employee Engagement (Pg 43) Full GRI Content Index
			LA10	◐	Training and Development (Pgs 44-45) Full GRI Content Index



GRI Index continued

● Fully Reported 
 ◐ Partially Reported 
 ○ Not Disclosed 
 ● Not Applicable

Indicator	Level	References	Indicator	Level	References
LA11	●	Training and Development (Pgs 44-45) Using Community Engagement to Build Leadership Skills (Pg 46) Changes in Our Operational Footprint (Pg 44) Full GRI Content Index	<b>Society</b>		
LA12	◐	Our Company (Pgs 6-7) Employee Evaluations (Pg 44) Full GRI Content Index	SO1	●	Engaging with Our Communities (Pgs 46-49) Educating Consumers about Recycling (Pg 58) Full GRI Content Index
LA13	◐	Sustainability Management & Governance (Pg 17) Corporate website: Executive Officers Corporate website: Board of Directors Novelis FY12 10-K (Pg 136) Full GRI Content Index	MM6	●	Candonga Consortium (Pg 49) Full GRI Content Index
LA14	◐	Full GRI Content Index	MM7	●	Candonga Consortium (Pg 49) Full GRI Content Index
<b>Human Rights</b>			MM8	●	Full GRI Content Index
HR1	●	Investing in Global Expansion (Pg 30) Employee Code of Conduct & Human Rights (Pg 45) Full GRI Content Index	MM9	●	Candonga Consortium (Pg 49) Full GRI Content Index
HR2	●	Sustainability in Our Supply Chain (Pg 26) Full GRI Content Index	MM10	●	Full GRI Content Index
HR3	◐	Employee Code of Conduct and Human Rights (Pg 45) Full GRI Content Index	SO9	●	Stakeholder Engagement (Pgs 18-20) Energy Use and GHG Emissions (Pgs 31-36) Water Use (Pgs 36-37) Waste (Pg 39) Non-GHG Air Emissions (Pg 40) Biodiversity (Pg 40) Changes in Our Operational Footprint (Pg 44) Candonga Consortium (Pg 49) Product Safety and Health (Pg 59) Full GRI Content Index
HR4	●	Full GRI Content Index	SO10	●	Stakeholder Engagement (Pgs 18-20) Energy Use & GHG Emissions (Pgs 31-36) Water Conservation Projects (Pg 38) Waste (Pg 39) Zero Landfill Waste Progress (Pg 39) Non-GHG Air Emissions (Pg 40) Biodiversity (Pg 40) Changes in Our Operational Footprint (Pg 44) Candonga Consortium (Pg 49) Educating Customers about Recycling (Pg 58) Product Safety and Health (Pg 59) Full GRI Content Index
HR5	●	Becoming a UN Global Compact Signatory (Pg 13) Sustainability in Our Supply Chain (Pg 26) Employee Engagement (Pg 43) Full GRI Content Index	SO2	●	Becoming a UN Global Compact Signatory (Pg 13) Employee Code of Conduct and Human Rights (Pg 45) Full GRI Content Index
HR6	●	Becoming a UN Global Compact Signatory (Pg 13) Sustainability in Our Supply Chain (Pg 26) Employee Engagement (Pg 43) Full GRI Content Index	SO3	●	Becoming a UN Global Compact Signatory (Pg 13) Employee Code of Conduct and Human Rights (Pg 45) Full GRI Content Index
HR7	●	Becoming a UN Global Compact Signatory (Pg 13) Sustainability in Our Supply Chain (Pg 26) Employee Engagement (Pg 43) Full GRI Content Index			
HR8	○				
MM5	●	Full GRI Content Index			
HR9	○				
HR10	●	Our Company (Pgs 6-7) Becoming a UN Global Compact Signatory (Pg 13) Full GRI Content Index			
HR11	●	Full GRI Content Index			



### GRI Index continued

● Fully Reported   ● Partially Reported   ○ Not Disclosed   ● Not Applicable

Indicator	Level	References
SO4	●	Becoming a UN Global Compact Signatory (Pg 13) Employee Code of Conduct and Human Rights (Pg 45) Full GRI Content Index
SO5	●	Public Policy Engagement (Pg 20) Full GRI Content Index
SO6	●	Public Policy Engagement (Pg 20) Full GRI Content Index
SO7	●	Full GRI Content Index
SO8	●	Full GRI Content Index
<b>Product Responsibility</b>		
MM11	●	Novelis' Role in the Aluminum Value Chain (Pg 8) New R&D Center Supports Growth Plans & Sustainability Commitments (Pg 12) Taking a Life Cycle Approach (Pg 14) Stakeholder Engagement (Pgs 18-20) Novelis' Global Recycling Strategy (Pgs 22-25) Investing in Global Expansion (Pg 30) Aligning Community Engagement with Company Strategy (Pg 46) Delivering Value to Our Customers (Pgs 50-55) Helping Consumers Recycle (Pgs 56-59) Full GRI Content Index
PR1	●	Product Safety and Health (Pg 59) Full GRI Content Index
PR2	●	Full GRI Content Index
PR3	●	Full GRI Content Index
PR4	●	Full GRI Content Index
PR5	●	Evolving Design Specifications (Pg 51) Delivering on Customers' Needs (Pg 52) Full GRI Content Index
PR6	●	Full GRI Content Index
PR7	●	Full GRI Content Index
PR8	●	Full GRI Content Index
PR9	●	Full GRI Content Index



## UNGC Communication on Progress Index

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
<b>Human Rights</b>	
1 Businesses should support and respect the protection of internationally proclaimed human rights; and	<p>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, HR 1-9                      Corporate Website: Code of Conduct for Board of Directors and Senior Managers &amp; Code of Ethics for Senior Financial Officers</p> <p>CEO Letter (Pgs 3-4)                      Becoming a UN Global Compact Signatory (Pg 13)                      Sustainability Management &amp; Governance (Pgs 17-20)                      Sustainability in Our Supply Chain (Pg 26)                      Environment, Health &amp; Safety Systems (Pgs 28-29)                      Employee Engagement (Pg 43)                      Employee Code of Conduct and Human Rights (Pg 45)                      Engaging with Our Communities (Pgs 46-49)                      Educating Consumers about Recycling (Pg 58)</p>
2 Make sure that they are not complicit in human rights abuses.	<p>Full GRI Index: 4.4, 4.9, 4.11, 4.13, HR DMA, HR 1-9                      Corporate Website: Code of Conduct for Board of Directors and Senior Managers &amp; Code of Ethics for Senior Financial Officers</p> <p>CEO Letter (Pgs 3-4)                      Becoming a UN Global Compact Signatory (Pg 13)                      Sustainability Management &amp; Governance (Pgs 17-20)                      Sustainability in Our Supply Chain (Pg 26)                      Environment, Health &amp; Safety Systems (Pgs 28-29)                      Employee Engagement (Pg 43)                      Employee Code of Conduct and Human Rights (Pg 45)                      Engaging with Our Communities (Pgs 46-49)                      Educating Consumers about Recycling (Pg 58)</p>
<b>Labor</b>	
3 Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining, and	<p>Full GRI Index: 4.9, 4.13, LA DMA, LA 3, LA 14, HR DMA, HR 9-11</p> <p>Becoming a UN Global Compact Signatory (Pg 13)                      Sustainability Management &amp; Governance (Pgs 17-20)                      Sustainability in Our Supply Chain (Pg 26)                      Aligning Our Culture to Support Growth (Pgs 43-45)</p>
4 The elimination of all forms of forced and compulsory labor,	<p>Full GRI Index: 4.9, 4.13, LA DMA, LA 3, LA 14, HR DMA</p> <p>Our Company (Pgs 6-7)                      Becoming a UN Global Compact Signatory (Pg 13)                      Sustainability Management &amp; Governance (Pgs 17-20)                      Sustainability in Our Supply Chain (Pg 26)                      Aligning Our Culture to Support Growth (Pgs 43-45)                      Engaging with our Communities (Pgs 46-49)</p>
5 The effective abolition of child labor,	<p>Full GRI Index: 4.9, 4.13, LA DMA, LA 3, LA 14, HR DMA</p> <p>Becoming a UN Global Compact Signatory (Pg 13)                      Sustainability Management &amp; Governance (Pgs 17-20)                      Sustainability in Our Supply Chain (Pg 26)                      Aligning Our Culture to Support Growth (Pgs 43-45)                      Engaging with our Communities (Pgs 46-49)</p>
6 The elimination of discrimination in respect of employment and occupation.	<p>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, LA 3, LA 14, HR DMA, HR 4</p> <p>Becoming a UN Global Compact Signatory (Pg 13)                      Sustainability Management &amp; Governance (Pgs 17-20)                      Sustainability in Our Supply Chain (Pg 26)                      Employee Code of Conduct and Human Rights (Pg 45)</p>



## UNGC Communication on Progress Index

### TEN PRINCIPLES OF THE UN GLOBAL COMPACT CONTINUED

Principle	References	
<b>Environment</b>		
<p>7 Businesses should support a precautionary approach to environmental challenges, and</p>	<p>GRI Index: 4.9, 4.11, 4.13, EN DMA, EN 27</p>	<p>CEO Letter (Pgs 3-4)                      Our Targets and Progress (Pg 5)                      Becoming a UN Global Compact Signatory (Pg 13)                      Our Sustainability Strategy &amp; Progress (Pgs 13-16)                      Sustainability Management &amp; Governance (Pg 17)                      Stakeholder Engagement (Pgs 18-20)                      Sourcing: A Holistic Look at Our Material Inputs (Pgs 21-26)                      Environment, Health &amp; Safety Systems (Pgs 28-29)                      Environmental Performance (Pgs 31-40)                      Changes in Our Operational Footprint (Pg 44)                      Employee Code of Conduct and Human Rights (Pg 45)                      Engaging with Our Communities (Pgs 46-49)                      Delivering Value to Our Customers (Pgs 50-55)                      Helping Consumers Recycle (Pgs 56-59)</p>
<p>8 Undertake initiatives to promote greater environmental responsibility,</p>	<p>GRI Index: 4.9, 4.11, 4.13, EN DMA, EN 27</p>	<p>CEO Letter (Pgs 3-4)                      Our Targets and Progress (Pg 5)                      Becoming a UN Global Compact Signatory (Pg 13)                      Our Sustainability Strategy &amp; Progress (Pgs 13-16)                      Sustainability Management &amp; Governance (Pg 17)                      Stakeholder Engagement (Pgs 18-20)                      Sourcing: A Holistic Look at Our Material Inputs (Pgs 21-26)                      Environment, Health &amp; Safety Systems (Pgs 28-29)                      Environmental Performance (Pgs 31-40)                      Changes in Our Operational Footprint (Pg 44)                      Employee Code of Conduct &amp; Human Rights (Pg 45)                      Engaging with Our Communities (Pgs 46-49)                      Delivering Value to Our Customers (Pgs 50-55)                      Helping Consumers Recycle (Pgs 56-59)</p>
<p>9 Encourage the development and diffusion of environmentally friendly technologies.</p>	<p>GRI Index: 4.9, 4.11, 4.13, EN DMA</p>	<p>CEO Letter (Pgs 3-4)                      Our Targets and Progress (Pg 5)                      Becoming a UN Global Compact Signatory (Pg 13)                      Our Sustainability Strategy &amp; Progress (Pgs 13-16)                      Sustainability Management &amp; Governance (Pg 17)                      Stakeholder Engagement (Pgs 18-20)                      Sourcing: A Holistic Look at Our Material Inputs (Pgs 21-26)                      Environment, Health &amp; Safety Systems (Pgs 28-29)                      Environmental Performance (Pgs 31-40)                      Changes in Our Operational Footprint (Pg 44)                      Employee Code of Conduct &amp; Human Rights (Pg 45)                      Engaging with Our Communities (Pgs 46-49)                      Delivering Value to Our Customers (Pgs 50-55)                      Helping Consumers Recycle (Pgs 56-59)</p>
<b>Anti-corruption</b>		
<p>10 Businesses should work against corruption in all its forms, including extortion and bribery.</p>	<p>Novelis does not tolerate corruption, extortion or bribery.                      GRI Index: 4.1, 4.6, 4.8, 4.11-12, SO DMA, SO 7-8</p>	<p>Becoming a UN Global Compact Signatory (Pg 13)                      Sustainability Management &amp; Governance (Pg 17)                      Stakeholder Engagement (Pgs 18-20)                      Sustainability in Our Supply Chain (Pg 26)                      Employee Code of Conduct and Human Rights (Pg 45)</p>



## Awards and Recognition

### Great Place to Work in Brazil

Novelis South America was in the top 20% of more than 900 Great Places to Work in Brazil in 2011. Employees completed a voluntary survey conducted by the Great Place to Work Institute.



### American Metal Market Environmental Responsibility and Stewardship Award

In June 2012, the American Metal Market recognized Novelis Inc. with an award for Environmental Responsibility and Stewardship at American Metal Market's first Awards for Aluminum Excellence. Novelis was recognized for its commitment to sustainability.

Novelis President and CEO, Phil Martens, said, "The award is a testament to the talented, dedicated individuals who make Novelis an industry leader and partner of choice to our customers every day. I'm proud that Novelis is being recognized for blazing a trail in increasing the sustainability of our products and our industry."



### New York CenterState Corporation for Economic Opportunity Business of the Year

As a result of the company's community involvement, innovation and job creation, Novelis won the "more than 50 employees" category for Business of the Year for its contributions to the 12-county CenterState New York region.



Image courtesy of: Wainwright Photography

### 2012 AluFoil Trophy

In March 2012, Novelis received the AluFoil Trophy in the Technical Innovation category from the European Aluminium Foil Association (EAFA). Novelis created a heat shield in partnership with Lydall Inc., an automotive parts group, in order to add noise reduction functions to traditional heat protection products. This is the second year that Novelis has received the Alufoil Trophy.

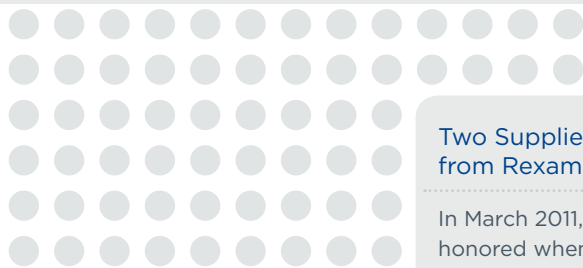




### BMW Innovation Award



Novelis won BMW's Supplier Innovation Award in the Lightweight Construction category in November 2011. The award recognized Novelis' development of a new type of multi-layer aluminum sheet that enables BMW to manufacture one-piece aluminum door structures, with integral window frames, to a design that is not achievable with conventional aluminum products.



### Two Supplier Awards from Rexam

In March 2011, Novelis was doubly honored when Rexam, the world's largest beverage can maker, recognized us with awards from both their European and North American business units. Rexam Europe presented Novelis with its 2011 "Rexam Way" prize for alignment with Rexam's core values, while Rexam Beverage Can North America gave Novelis its Supplier of the Year award for exceeding the company's expectations in its Supplier Excellence Program.



### Novelis Wins Award for Work Life Balance in Korea

In August 2011, Novelis' Yeongju, Korea, plant was recognized for its family-friendly policies. The award, presented by Korea's Ministry of Health and Welfare and the Center for the Make the World a Good Place for Families Campaign, recognized Novelis for its policies that promote work and family balance.



**NOVELIS INC.** is the global leader in aluminum rolled products and aluminum can recycling. Novelis supplies premium aluminum sheet and foil products to automotive, transportation, packaging, construction, industrial, electronics and printing markets throughout North America, Europe, Asia and South America. 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](http://www.novelis.com) and follow us on Twitter at [twitter.com/Novelis](https://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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