

Metals

Sector climate change responses



Background

Many sector companies are already taking pro-active steps to reduce greenhouse gas (GHG) emissions and energy consumption. The Japanese steel industry stands out with its Voluntary Action Plan to achieve a 10% reduction in energy consumption compared to a 1990 baseline. Some of Japan's major steel players are also making active efforts to share best practices with steelmakers around the world through the efforts of the Asia Pacific Partnership on Climate Change's steel sector and collaboration with the World Steel Association (worldsteel).

The majority of trade organisations in the sector are actively involved in promoting global efforts to reduce emissions. In both the steel and aluminium sectors, key trade associations are making the case for increased use of life-cycle analysis. High quality metal parts are seen as integral to decreasing the weight of vehicles and improving their energy usage and as components in greener construction techniques, both areas with significant potential to have a positive indirect impact on carbon emissions. Promoting recycling is an important agenda item, as greater use of recycled raw materials significantly improves the carbon footprint of both steel and aluminium production.

Emissions regulation is likely to have a significant financial impact on the sector. In the EU, metals producers are already subject to the EU Emission Trading System (EU ETS); in the US, regulation for a cap-and-trade system is also under consideration. Steel and aluminium producers in both regions have emphasised the need for truly global efforts to lower emissions — particularly given the global nature of trade in the sector and the likelihood that an inconsistent regulatory environment would distort trade flows. In the US, current draft legislation includes some placeholders for measures to prevent 'carbon leakage.' Some provisions, such as requiring importers to purchase emissions allowances, could potentially intensify existing trade challenges between the US and China around steel imports, although specific details are not yet agreed.

Where general agreement does exist is around the need to improve the carbon footprint of ironmaking,

steelmaking and aluminium production. Accurate, consistent measurement is viewed as a critical first step towards managing and mitigating emissions. Worldsteel is facilitating the collection and reporting of carbon dioxide emissions for steel plants throughout the world, using an intensity measurement for CO₂ produced per tonne of steel. The trade association has issued a statement on climate change which emphasises the need for global standards of measurement; it also highlights the need for regulatory strategies which incentivize the expansion of efficient steel companies and the decline of inefficient ones.

We note in our main analysis that in some sectors, greater regulatory clarity may help lead to further investment in step-change technologies. Some major advances are already in use, as in the extensive use of co-generation of heat and electricity in many steel plants, and Posco's new FINEX technology for blast furnaces in Korea. While implementing such existing best practices around the globe will certainly help reduce overall sector emissions somewhat, even more significant gains may be driven by what worldsteel calls 'breakthrough technologies.' For the steel sector, these include the use of hydrogen or electrons as a reducing agent or as blast furnace fuel (for example, in the 'Ironmaking by Hydrogen Flash Smelting' project at the University of Utah), use of molten oxide electrolysis (MOE) to produce iron with near zero emissions, use of biomass to create a reducing agent, as well as various approaches to carbon capture (for example, the top blast recycling furnace under development as part of the ultra low carbon steelmaking (ULCOS) Project). The aluminium sector is also researching the possibilities in carbon capture technology — in fact, Alcoa is already using a carbon capture technology (CO₂ captured by bauxite residues) in a plant in Australia.

Given China's significant market share, particularly in the steel sector, achieving reductions to business as usual in this developing market will be particularly critical. Three of the top ten companies in the sector are headquartered in China, and the country overall is the world's largest producer of steel. The Chinese steel industry has the

potential be one of the primary beneficiaries of major new technology advances, although the jury is still out on which research directions will prove to be the most promising and how effectively the steel producers can implement the developing technologies. The Chinese government is encouraging energy efficiency and emissions reductions, and many companies have already begun taking steps in this direction, but more efforts will be needed (see sidebar, *China's path to a greener steel industry*).

Steel-making and aluminium production are not the only areas where metals companies are concentrating efforts on energy and emissions reductions. Many are also targeting the logistics process and looking to minimise

the carbon footprint of sending bulky, heavy products across the globe by ensuring a modal mix focused on rail and sea transport and utilising more efficient options such as Ultra Large Carrier Vessels (ULCVs). And efforts don't stop there — some companies are also actively encouraging employees to monitor and reduce their own carbon footprints.

The chart below summarises participation by metals companies in some of the key global indices and programmes around climate change.

On the following pages we review some additional achievements and plans of major players in the metals industry.

Metals companies' inclusion in external sustainability ratings/programmes

Company	Listed on a Dow Jones Sustainability Index	Carbon Disclosure Project Leadership Index Score	Pew Center for Global Climate Change Business Environmental Leadership Council (BELC) Member	UN Caring for Climate Signatory
ArcelorMittal	√	35		√
Alcoa	√	63	√	
Baosteel		n/a ¹		
BHP Billiton	√	82		
Chalco		n/a ¹		√
Hebei Iron and Steel		n/a ¹		
NipponSteel	√	— ²		
Posco	√	68		
Rio Tinto Alcan	√ ³	87 ³	√ ³	√ ³
UC Rusal		n/a ¹		√

Sources: PwC/SAM sustainability investing, The Sustainability Yearbook 2010; Carbon Disclosure Project, CDP 2009 Industry Snapshots – Global 500/S&P 500/FTSE 350; Pew Center for Global Climate Change website (http://www.pewclimate.org/companies_leading_the_way_belc/company_profiles); UN Global Compact website (http://www.unglobalcompact.org/Issues/Environment/Climate_Change/list_of_signatories.html)

1. Baosteel, Chalco, Hebei Iron and Steel and UC Rusal were not included in the sample for the CDP 2009 Industry Snapshots, which was based on the FTSE Global Equity Index Series (Global 500), Standard & Poor's 500 Index (S&P 500) and the FTSE 350 Index (FTSE 350).
2. The CDP reports Nippon Steel as having answered the questionnaire late, so its score is not recorded.
3. Scores were for Rio Tinto Alcan's parent company, Rio Tinto.

China's path to a greener metals industry

China's steel and non-ferrous metals industries are two of the largest users of energy in the People's Republic. Over the past several years, the Chinese government has announced the intention of radically reducing GHG emissions from industry; for the metals industry, taking inefficient older production capacity offline is seen as one key route to achieving this goal. In November 2009 China's National Development and Reform Commission reported that 43.47 million tonnes of "backward production" of steel had been closed down between 2006 and 2008. More such closures may follow, as the Chinese government increases pressure on provinces to reduce emissions.

Many of China's steel and non-ferrous metals companies are state-owned enterprises (SOEs). The State-owned Assets Supervision and Administration Commission of the State Council (SASAC) released new 'supervision and management of energy saving central enterprises Interim Measures' in March 2010. The interim measures provide guidance and supervision of central enterprises in energy conservation and changes. These measures essentially increase the accountability of SOEs to reduce energy consumption, as completion of energy-saving and emission reduction targets will be included in the central business performance evaluation system, and play an important part in the head's performance evaluation. Both non-ferrous metals and steel SOEs are considered "key enterprises" in the new interim measures. In provinces where metals producers are important employers, though, closures may face stiff political and public opposition.

Closing mills is not the only way to improve their efficiency. For some companies, retrofitting mills with existing technology may also be an option. Japan's steel industry is actively sharing its best practices with Chinese competitors. Japanese steel makers have significant expertise in co-generation technologies which produce heat and electricity as byproducts of the steel-making process. Such systems could enhance the overall profile of Chinese mills. Indeed, the options for improving both iron- and steel-making technology are manifold – so for some Chinese companies, the most difficult decision may be which new technology to introduce, rather than whether or not to upgrade. Some Chinese steelmakers are already participating in improvement projects under the Clean Development Mechanism (CDM), often in partnership with other steelmakers from around the globe. China is not relying solely on imported technology to improve its efficiency in primary metals production; major players like Baosteel and Chalco are also actively engaged in their own research initiatives.

Increasing the amount of steel produced from recycled steel scrap would also have a positive impact on the emissions profile of the Chinese industry, as this type of production is significantly less energy intensive. Only 8% of steel production in China currently uses scrap as a substitute for iron ore, compared to 50% in the US and 40% in Japan. China has strong incentives to increase the use of scrap steel over and above emissions considerations, as pressure on iron ore prices continues to increase. Improving domestic scrap recycling is likely to gain significantly in importance, with positive environmental benefits.

A large industrial ladle is pouring molten metal into a mold. The metal is bright orange and yellow, creating a large splash of sparks. In the background, a worker in a hard hat and safety gear stands near a large piece of machinery, possibly a conveyor belt or a large wheel. The scene is set in a dark, industrial environment.

Featured Company Highlights

Note on methodology: We reviewed information publicly available on company websites in May/June 2010, including annual reports and sustainability reports for the 10 largest companies in the Metals sector, in order to provide a brief overview of what actions the sector is taking. Companies are featured where extensive information was available. The information in this report represents a snapshot of activities and approaches to addressing climate change; it does not provide a comprehensive list of every measure currently being undertaken, nor does it provide assurance of the accuracy of the data provided by individual companies.

Featured company: Alcoa

Key achievements and targets: Achieved 2010 Goal of 25% reduction vs. 1990 baseline seven years ahead of schedule, representing a 44% drop in emissions during that period. New target: 20% reduction in total carbon dioxide equivalent (CO₂e) intensity by 2020 and 30% by 2030 from a 2005 baseline.

Will include an annual reduction target as a component of the company's 2010 incentive compensation programme.

Research directions: "Transformational production technology".

Innovative use of new technologies: 'Carbon Capture' technology using CO₂ to treat bauxite residue currently in operation at Alcoa's Kwinana Refinery in Australia. According to the company, the plant uses waste CO₂ transported by a pipeline from a nearby ammonia plant and locks up around 70,000 tonnes of waste CO₂ a year. Product design innovations; "design for sustainability" product pilots involving the aluminium-intensive redesign of a laptop and cell phone demonstrated possible reductions in the products' net carbon footprint and use of natural resources.

Collaboration with government, trade associations, etc.: Active involvement in various regions including participation in the 2009 United Nations Climate Change Conference in Copenhagen, and involvement in the U.S. Climate Action Partnership (USCAP). Signatory of the UN Global Compact. Involved in various partnerships including the business leadership team for the Pew Center on Global Climate Change, the World Resources Institute, Conservation International, the Brazilian Business Council for Sustainable Development, the Business Roundtable, and the World Economic Forum Global GHG Registry.

Green product offerings: Increased emphasis "on helping key customers understand both the role that aluminum can play in the mitigation of global warming and the benefits of our products through product-specific life-cycle analyses."

Reporting: Uses an internal quantitative model to forecast the impact of emerging legislative programs in terms of compliance requirements and the cost of energy. An Index is provided on line to allow comparison with Global Reporting Initiative G3 guidelines, the GRI Mining and Metals sector supplement, and the 10 International Council on Mining and Materials' sustainable development principles; Alcoa also draws on other standards in the design of their reporting. Testing a protocol under development by the World Resource Institute (WRI) and World Business Council for Sustainable Development (WBCSD) for accounting and reporting GHG emissions across a product's life cycle. The testing will use an Alcoa aluminium wheel as the pilot; final standards are expected in late 2010.

Renewable energy: Strong focus on use of renewable energy where possible, for example around 60% of smelter activity is powered by hydroelectric sources, and some plants have installed solar or wind generation projects.

"Even with so much of our focus on financial sustainability during 2009, we never wavered from our commitments to environmental excellence and social responsibility.

We took a major step forward in 2009 to integrate all aspects of our sustainability agenda into our core business strategy. I commissioned an executive-level team to guide this integration throughout all of our businesses, focusing on our carbon and energy footprint, the life cycle of our products, and opportunities for innovations to offer sustainable solutions for our customers."

Klaus Kleinfeld,
Chairman and Chief Executive Officer
Alcoa

Featured Company: ArcelorMittal

Key achievements and targets: Group targeting a reduction of emissions by 170kg per tonne of steel produced by 2020, equivalent to an 8% reduction in specific emissions. (2007 baseline; use of scrap or direct reduced iron excluded).

Set new energy management objectives for every plant in 2009. These target an average saving of 5% by 2013 and are supported by best practice guidance and technology standards.

Diverse local awards, for example: Winner of the Época Award for Climate Change in Brazil, in recognition of the company's contribution to reducing GHG emissions and the work it has done to encourage other companies to adopt more sustainable business practices. In 2009, ArcelorMittal Kryvyi Rih in the Ukraine won three different prizes in a national energy efficiency competition, having implemented 179 different energy saving measures since 2008. Two US plants, Weirton, West Virginia, and Burns Harbor, Indiana, were singled out as an Energy Champion Plant by the US Department of Energy, while ArcelorMittal Indiana Harbor was granted funding for its blast furnace gas flare capture project, under a government scheme that promotes energy efficiency.

Research directions: Key member of the EU Ultra Low CO₂ Steelmaking project (ULCOS), the Group is developing a technology that combines CO₂ capture through top gas recycling and a possible storage later on. Collaborating with vehicle manufacturers to research solutions for the automotive sector. Using a Life Cycle Approach to research more efficient construction methods.

Innovative use of new technologies: Participated in the Villavenir project which converted a former mine site in Northern France into an urban area; two of the six houses were built using steel. Systems at ArcelorMittal Tubarão, Brazil re-use the gases generated by steel production in four thermoelectric plants. Direct Reduction of Iron Ore process based on natural gas, which results in lower emissions.

Collaboration with government, trade associations, etc.: Signatory of the UN Caring for Climate Project. Diverse R&D projects, for example, involved in SOVAMAT (Social Value of Materials), an initiative of a consortium of scientists. They discuss and study the impact of structural materials on our societies. Key member of the ULCOS project. Participant in the WBCSD's four-year Energy Efficiency in Buildings project.

Green product offerings: Advanced High Strength Steels — helps to reduce automotive component weight. HISTAR™ steel can reduce weight of steel columns, reduce CO₂ in construction projects. Ambelios™ solar panels.

Reporting: Reporting broadly complies with the Greenhouse Gas Protocol. Currently benchmarking within the group to bring less efficient plants up to standards of more efficient plants. Also working with the WRI and WBCSD to develop and test a more customised tool to track emissions.

Renewable energy: In Brazil, uses renewable biomass, in the form of charcoal from its eucalyptus forests, for the production of pig iron.

“.. intelligent innovation is also one of the most important ways we can help tackle climate change, both by improving our own industrial processes, and by developing more environmentally-sound applications for steel in buildings, appliances, machinery, cars, and road infrastructures.”

Lakshmi N Mittal, Chairman and CEO
ArcelorMittal

Featured Company: Baosteel

Key achievements and targets: Refitted acquired plants in 2006, with the energy consumption of output value decreased to 1.19 tonnes of coal equivalent/ RMB 10,000 in 2006 from 1.35 tonnes of coal equivalent/ RMB 10,000 in 2005, a decrease of 11.85%.

Research directions: “In the field of ‘Developing renewable energy source to substitute fossil fuel, and adopting means to catch and store CO₂’, we started research on reduction of CO₂ emission from industrial kilns and furnaces as demonstrative projects, to fully recover the waste heat and waste gas emitted from kilns and furnaces to produce hydrogen etc. as new energy source so as to serve the society.”

Innovative use of new technologies: Active development and application of energy-saving technology, which could effectively raise energy source efficiency and reduce CO₂ emission. In the Baosteel Branch Co. and Special Steel Branch Co., heat regenerative combustion technology was applied and a heat accumulator developed.

Collaboration with government, trade associations, etc.: Actively working with Chinese government: see research directions.

Reporting: Was the highest scoring company in the category ‘environmental intent’ and the third highest scoring company in the category ‘environmental reporting’ in a report comparing sustainability reporting for China’s largest companies.¹

1. Sustainability Reporting in China’s Largest Corporations: 2009 Pacific Sustainability Index Scores. J. Emil Morhardt, Owen Black Brewer, Elgeritte Adidjaja, Roberts Environmental Center.

Featured Company: BHP Billiton

Key achievements and targets: Group targeting a 13% reduction in carbon-based energy usage and a 6% emissions reduction over 2006, however in 2009, these goals had not yet been met.

Key Commitments: “We will understand the sources, scope and extent of greenhouse gas emissions associated with our activities. We will continually improve energy and greenhouse gas management at our sites. Emissions abatement and energy-saving considerations are built into our decision-making processes. We will work collaboratively with customers, communities and employees to reduce emissions and support internal emissions reductions projects. We will work with governments and other stakeholders on the development of policies that provide the necessary incentives and tools for effective, equitable abatement.”

Research directions: Providing funding from 2008-2012 for industry research, development and demonstration of low emissions technologies including collaborative research dedicated to accelerating the commercial update of technologies such as carbon capture and geosequestration.

Innovative use of new technologies: Developed a new start-up procedure at the Mozal aluminium smelter in Mozambique to prevent anode effects and resultant PEFC emissions.

Collaboration with government, trade associations, etc.: Working together with government, business and other stakeholders — have detailed their actions in a public response to the Carbon Disclosure Project.

Reporting: Using the ‘Carbon Pricing Protocol’ — an internal mechanism for costing carbon and determining carbon price impacts on greenfield and brownfield developments, and on mergers and acquisitions. Reporting in accordance with GRI G3 guidelines.

“Climate change is a source of increasing concern across the globe and it is important that we act together to address the challenges it presents. As a major natural resources company, we are committed to working with governments and other stakeholders in the design of effective climate change policies to achieve stabilisation of carbon dioxide concentrations in the atmosphere so that we avoid the worst impacts of global warming. To this end, we support the introduction of an international climate framework which includes binding commitments to reduce greenhouse gas emissions for all developed and major developing economies.”

Marius Kloppers, CEO
BHP Billiton

Featured Company: Nippon Steel

Key achievements and targets: Reduced the amount of CO₂ emissions per one tonne of crude steel production in FY 2008 by 8.6% from the 1990 level. Overall emissions reduced 15% in FY 2008 vs. FY 1990, combined impact of reduced production plus energy reductions. Part of Japanese steel industry Voluntary Action Plan to reduce energy consumption by 10% from FY1990 to the end of FY 2010 (March 31, 2011). Promoting local forest creation and sea forest creation.

Research directions: Member of 'COURSE50' — Japanese steel industry joint project (hydrogen reduction for the drastic reduction of CO₂ emission and CO₂ separation and recovery using unutilised waste heat).

Innovative use of new technologies: Independently researched and developed the 'coke oven chemical materials recycling method,' a technology that burns recycled plastics. Highly efficient energy usage, including CDQ (a power generation system using recovered waste heat). Use of steel slag and waste timbers to help the creation of seaweed beds which absorb CO₂.

Collaboration with government, trade associations, etc.: Strongly involved in 'global sectoral approach' to facilitate technology transfer, partnering with both the APP and worldsteel.

Green product offerings: 'Eco-products' — applications primarily for automotive industry, includes high-tensile steel for light-weight cars, plus products for hybrid car motors and bio-fuel compatible fuel tanks. Also 'Eco-Solutions' — the company supplies resource/energy recovery systems to the steel industry while providing materials for use in eco-friendly houses and energy-saving finished products and IT solutions.

Reporting: Uses comprehensive environmental accounting approach; has been publishing environmental information since 2000. The company's sustainability report includes a third-party opinion and references GRI G3 guidelines.

Renewable energy: Using and transferring new CDQ technology.

“We view the Environment as the cornerstone of our management policy and intend to conduct our own environmental programs independently and rapidly, while also steadily implementing other environmental projects in cooperation with local governments and other industries to contribute to the sustainability of society. In so doing, we continue to aspire to the status of 'a model steelmaker of the world'.”

Shoji Muneoka,
Representative Director and President
Nippon Steel

Featured Company: POSCO

Key achievements and targets: From 1999-2003 reduced energy use by 9.3% over 1997; from 2004-2008, reduced energy use 11% over 2003.

Research directions: POSCO CO₂ Breakthrough Framework — the World Steel Association describes as follows: “Objective is to find new solutions for CO₂ emission reduction in the steel industry, and climate change adaptation using steelmaking byproducts. The framework consists of six projects: (1) Pre-reduction & heat recovery of hot sinter, (2) CO₂ absorption using ammonia solution, (3) Bio-slag utilisation for the restoration of marine environments, (4) Hydrogen production using COG and wastes, (5) Iron ore reduction using hydrogen-enriched syngas, and (6) Carbon-lean FINEX process.”

Collaboration with government, trade associations, etc.: Actively involved in a number of CDM projects, including combined cycle power generation using FINEX byproduct gasses and 2 small hydroelectric power plants in Gwangyang.

Green product offerings: High strength steel sheets, high end electrical steel sheets. Proprietary FINEX iron-making technology. Renewable energy technologies (through non-steel business unit).

Reporting: Have developed a company-wide Carbon Management System to calculate CO₂ emissions. Calculation based on the WBCSD/WRI Greenhouse Gas Protocol guidelines (2004). Report is indexed to GRI guidelines and verified by an external auditor. First company in Korea to publish an environmental report in 1994.

Renewable energy: Actively involved in an array of group-wide renewable energy projects including solar, wind, small hydroelectric power plants and fuel cell and waste-turned-fuel projects.

As part of its sustainability management initiatives, POSCO is committed to environmental protection. It is developing a new steel-making process that will improve the industry’s shortcomings as a traditionally high consumer of energy and emitter of CO₂. It will build a new growth base in line with its goal of “carbon-lean green growth.”

Environmental Soundness Vision, POSCO

Featured Company: Rio Tinto Alcan

Key achievements and targets: Programme of energy and emissions reductions projects including 59 projects which realised an abatement of 159,000 tonnes CO₂e in 2008. Another 240 projects were evaluated with a combined potential saving of 673,000 tonnes CO₂e.

Research directions: CSIRO is helping Rio Tinto Alcan develop a new generation of aluminium production cells that will cut energy use by ten per cent, reducing operating costs and greenhouse gas emissions. Parent company Rio Tinto is investing in developing and commercialising Carbon Capture and Storage (CCS) technology.

Innovative use of new technologies: Deployment of the new AP series smelting technology in Sanguenay, Canada. The company reports the system is one of the most efficient in the industry.

Collaboration with government, trade associations, etc.: Diverse; for example, partnering with universities on research projects in Quebec; founding partner of the new Centre of Excellence in Energy Efficiency in Shawinigan, Canada, a joint effort between industry, financial institutions, the knowledge community and local stakeholders.

Green product offerings: AP series aluminium smelting technology.

Reporting: Emissions and energy use data is collated from more than 100 operating and project sites across the globe, and verified and reported centrally by the Rio Tinto Group (parent company). Data is verified externally as part of the SD assurance process. Rio Tinto's methods have been developed internally but are based on the most up to date reporting and methodological covenants available, including the IPCC and WBCSD methods.

Renewable energy: Explicit commitment to prioritise "low emissions energy sources for our existing and future operations"; operations in Quebec benefit from availability of hydroelectric power.

"We were among the first to rally to the shift to a green economy some years ago, demonstrating our respect for nature and for the environment in the communities where we operate. Thus, despite an 80 per cent increase in our aluminium production in Quebec since 1990, we have succeeded in reducing our total greenhouse gas emissions by more than 40 per cent. And because we want to do better still, we are continuing to invest in modernising our facilities, as in the case of Kitimat and Arvida, and to invest in research and development, all with the aim of continuously refining our industrial processes."

Jacynth Côté, CEO
Rio Tinto Alcan

Featured Company: UC RUSAL

Key achievements and targets: The Group's aluminium smelters have reduced GHG emissions in 2008 by more than 30% compared to 1990. The company has set a medium term goal to reduce direct GHG emissions across the company's existing smelters by 50% overall by 2015. Over the long-term, the company seeks to be carbon neutral, as part of the full life-cycle use (and re-use) of their aluminium products. Improved unit energy efficiency at operations will be the key element of the drive to carbon neutrality, supplemented by a broad offsetting programme.

Research directions: Inert anode smelting technology.

Innovative use of new technologies: New, more powerful reduction cells, including an RA-400 under development that the company believes to be among the world's top three aluminium production technologies.

Collaboration with government, trade associations, etc.: RUSAL signed a memorandum of understanding with the United Nations Development Programme (UNDP) in 2007 with the aim of implementing measures to minimise the company's impact on climate by reducing GHG emissions. Actively participating in the International Aluminium Institute's activities related to GHG emissions and energy efficiency. Member of the National Carbon Union in Russia, a partnership of leading businesses which aims to create a regulatory structure for the control of GHG emissions and to develop a strategy for the application of the Kyoto protocol in Russia. The Group also participates in activities conducted by the Russian Ministry for Economic Development concerning the development of Russia's carbon market.

Reporting: Implementing a corporate GHG emissions management system.

Renewable energy: Extensive use of hydropower (supplying power for up to 80% of aluminium output).

We also realise that being a leader today is just as much about taking responsibility as about being number one globally. These two characteristics of a modern leader are inseparable. Responsibility for our environment, achieved through stringent impact assessments everywhere we work, responsibility in terms of the highest international safety standard, and responsibility for the people around us are all critical. This is why we want to pave the way for Russian and international companies alike, as we all strive to live in a safer and cleaner world.

These objectives can only be achieved if we jointly and actively address the issue of climate change — an overarching reality. It is our firm belief that through collective effort the aim of reducing or avoiding a potential global disaster is achievable. Hence our call for action led by example.

UC Rusal, Climate Change Initiative - Paving the Way to a Safer World

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