Answers to shareholder and investor questions about UACJ's business and operating environment.

Q What business areas does UACJ engage in?

Aluminum is produced by smelting bauxite into alumina which is then used to form virgin aluminum. This virgin aluminum is then melted down and turned into materials for use in a variety of products through processes such as rolling.

UACJ does not engage in the smelting process. We purchase aluminum ingots and then use processes such as rolling to create a wide range of aluminum products. One of our standout characteristics is that we can carry out every process used in the aluminum rolling industry, including rolling for creating flat rolled and foil products, extruding to form shapes such as rods and pipes, casting, forging, as even processes for creating complex structures such as honeycombs. We then supply these materials for various uses in industry, as well as to create a range of familiar products in our daily lives.

Also, while the aluminum industry is known for producing

large amounts of CO₂ emissions, the majority of these emissions are produced during the smelting process. As we do not engage in smelting, our business activities do not produce an excessive amount of emissions. We are also working to curb overall CO₂ emissions by recycling aluminum products and using the recycled aluminum as a raw material.

The amount of emissions generated in the production of recycled aluminum is 97% lower than the amount generated in the production of new aluminum from bauxite. Therefore, using recycled aluminum in business activities will realize the biggest possible CO₂ emissions reductions for the aluminum industry. We have made promoting aluminum recycling into one of the major policies of our Third Mid-term Management Plan and we are actively advancing initiatives in this area.



How do you produce flat rolled products?

The manufacturing process begins by melting an aluminum ingot, then removing impurities and forming the liquefied aluminum into a large cuboid slab. The Fukui Works produces slabs that can be as large as 2.3 meters wide and 10 meters long, and weigh up to 32 tons. The surfaces are scraped and the slab is treated by heating to a uniform temperature up to 600°C throughout the slab. The slab is then sent to a hot rolling line where a hot-rolling machine presses it into sheets as thin as 3mm. The

sheets are then wound into a coil. The sheets are then passed through a cold-rolling machine that rolls the aluminum to the specific thickness, flatness, and strength needed for its intended use. The final process is the finishing, where the surface is treated and coated for the final product, such as cans, before being delivered to the customer.

> The UACJ website has a video explaining the full manufacturing process. https://www.uacj.co.jp/english/ir/other/movie/index.htm



Flat Rolled Product Production Process



How is aluminum important for reducing the weight of automobiles, and which automobile parts are made of aluminum?

Aluminum is lighter than steel-about one-third the weight of steel—as well as strong, easy to process, resistant to corrosion, thermally conductive, and recyclable. Due to those excellent properties, it has been adopted for major automobile parts such as engines, transmissions, and wheels. Automakers have been increasingly using aluminum in recent years for body sheet and frames in preparation for stricter fuel efficiency standards that will

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Vehicle wheels and

exchanger materials

be go into effect in many countries in 2020. Our mid-term management plan that began in fiscal 2018 positioned supplying a diverse range of automotive aluminum parts and components and contributing to becoming a solutions provider for reducing the weight of automobiles as key measures. We are continuously working toward these goals on a Group-wide basis.

Casting and Forging Business Foil Business Compresso wheel Aluminum and copper turbocharger compressors foil for lithium-ion battery positive/nega-Foil for lithium-ion Hood tive electrodes batteries Flat Rolled Products Business Doors, hoods, roofs, and other exterior parts; heat Heat exchanger materials Heat exchanger Precision-machined Sub-frame **Components Business** components, such as sub-frames Bumpers, bus bars, other components Bumper

Extrusion Business

materials and structural