



UNITED ARAB EMIRATES
MINISTRY OF INDUSTRY
& ADVANCED TECHNOLOGY

Industrial Investment Opportunities



Secondary Aluminum

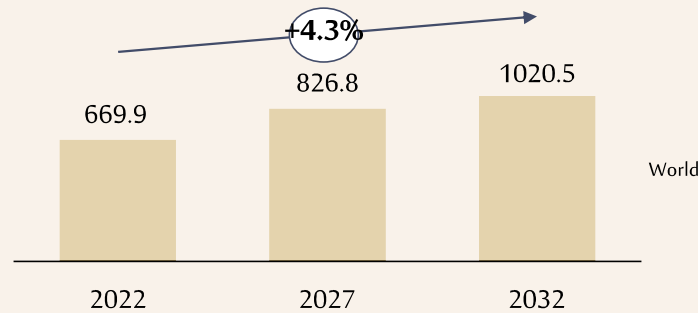
Secondary Aluminum

Secondary aluminum is produced in the form of green billets through the collection, sorting, melting, and casting of aluminum scrap

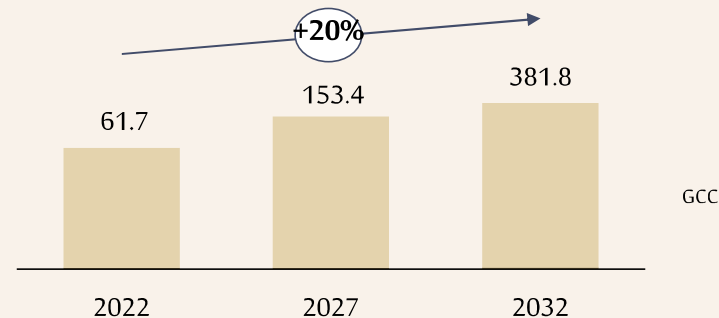
Investment case

- Setup a large-scale aluminum scrap recycling facility in the UAE
- Investment size = AED 431.2Mn
- Plant capacity = 140,000T per year
- Expected IRR = 21%
- Expected NPV = AED 326.15 Mn

Global Market Size 2022 – 2032 (Bn AED)



Regional Market Size 2022 – 2032 (Bn AED)



Global trends & demand drivers

- Globally, aluminum is one of the most profitable materials to recycle and has achieved higher recycling rates due to government's focus on energy savings and reducing wastage.
- Plans of imposing taxes on carbon emissions due to the impact of climate change led to increased demand for aluminum Scrap. Recycling scrap to produce aluminum is much less energy intensive (-95%).
- Global Supply chain disruptions have made access to Aluminum raw materials (Bauxite) difficult, inconsistent and costly. Aluminum producers look to reduce dependency on importing raw materials and instead tap into locally generated scrap as a source of feedstock.

Secondary Aluminum

Value Chain Analysis

Scrap Collection and Sorting


Melting


Casting

Green Aluminum Billets

- Metal scrap waste generated in UAE is estimated at 350 kilotons per year, of which 52% is exported.
- UAE currently exports most scrap feedstock due to lack of local market and processing abilities.
- The process involves simply remelting the right quality grade aluminum and then shaping them into billets.
- Available scrap generated in the UAE can be used as input. Initially, tap into 100kt of scrap and recycle at a 75% efficiency (global average).
- Recycling aluminum requires 95% less energy than production from ore.
- On average, recycling one ton of aluminum saves over 16 tons of greenhouse gas emissions.

 High localization in UAE

 Mid localization in UAE

 Limited localization in UAE

Value proposition

- UAE produces approximately 2.2 million metric tons of aluminium per year, amounting to almost 4% of global aluminium production
- UAE currently exports a minimum of 180kt/yr worth of aluminium scrap and waste. A source of feedstock that can be unlocked for local recycling plants
- **Phase 1:**
 - 100kt/yr of aluminium scrap capacity
 - Laws & regulations limiting exports and supporting local use of scrap
- **Phase 2: (After 5 years)**
 - Increase plant capacity to 140kt/yr

Enabling Entities

- **KIZAD:** Upstream and Downstream anchors are situated in KIZAD which creates a suitable ecosystem for an aluminum recycling facility
- **Khalifa Port:** Facilitates companies exporting revenue stream and helps position it as a regional and international player
- **EDB:** Competitive debt pricing will help lower WACC and in return improve Internal Rate of Return and pay back period
- **EGA:** Potential offtake by EGA
- **MolAT:** Stop the export of aluminum scrap and the leakage of aluminum waste outside the UAE