Ministry of Investments,
Industry and Trade of the Republic
of Uzbekistan

Investment proposal:
Secondary aluminum recycling project

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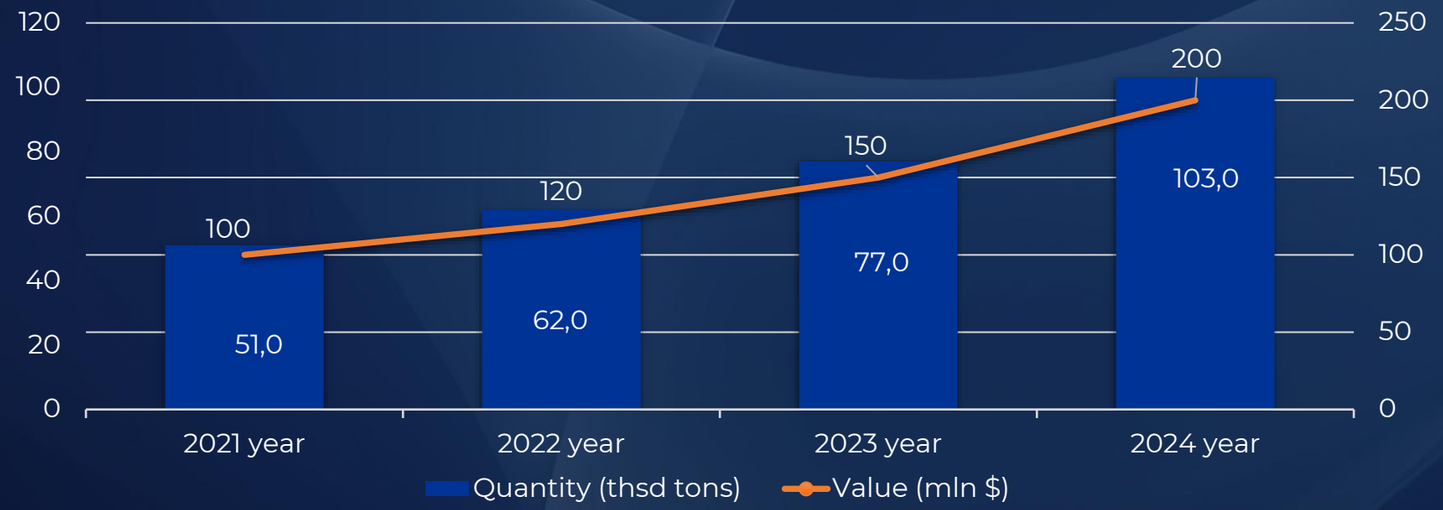
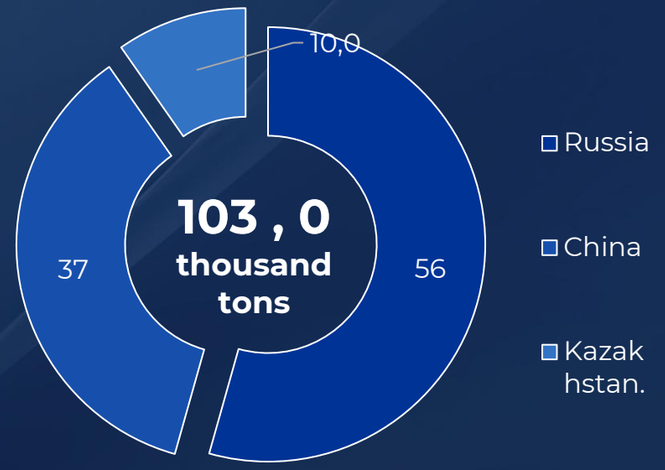
Export and import analysis

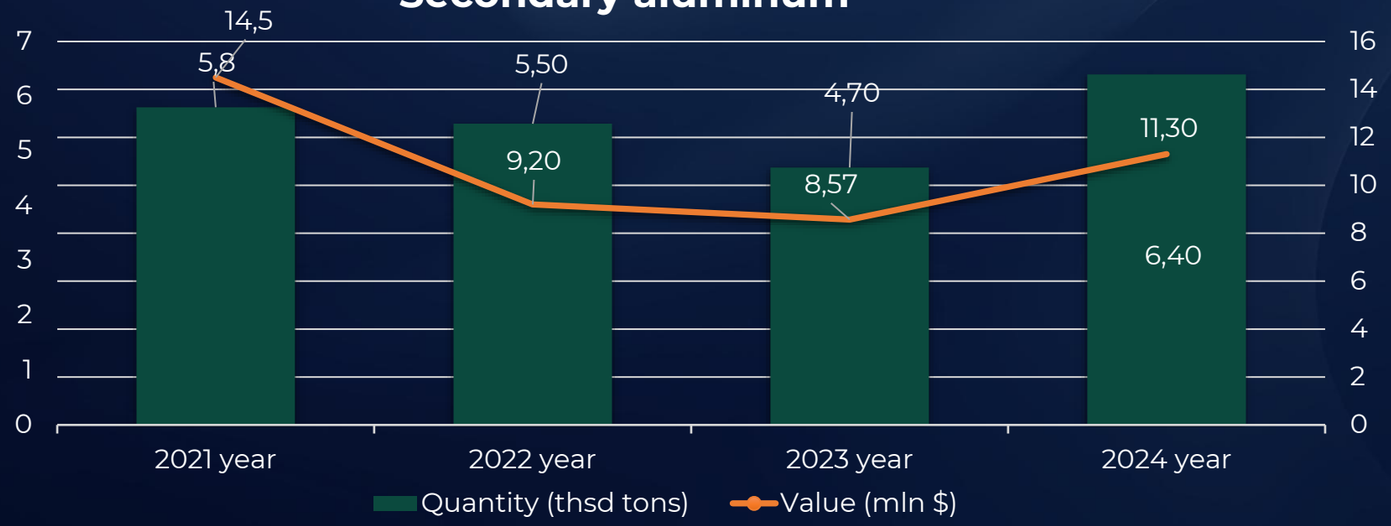
Secondary aluminum



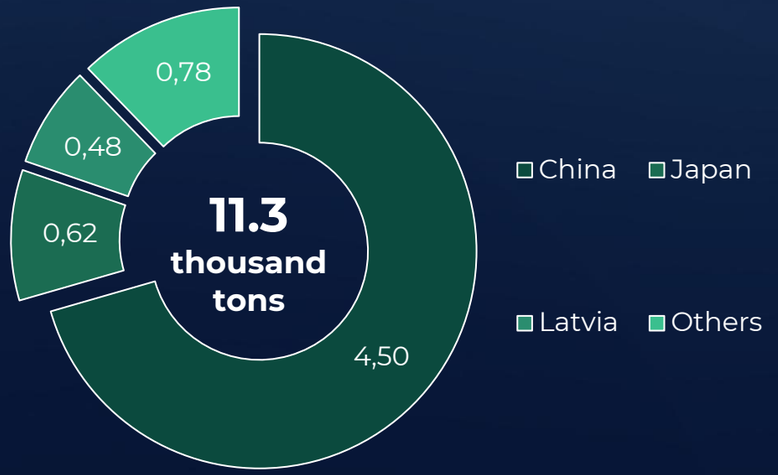
Imports by country



Secondary aluminum



Exports by country



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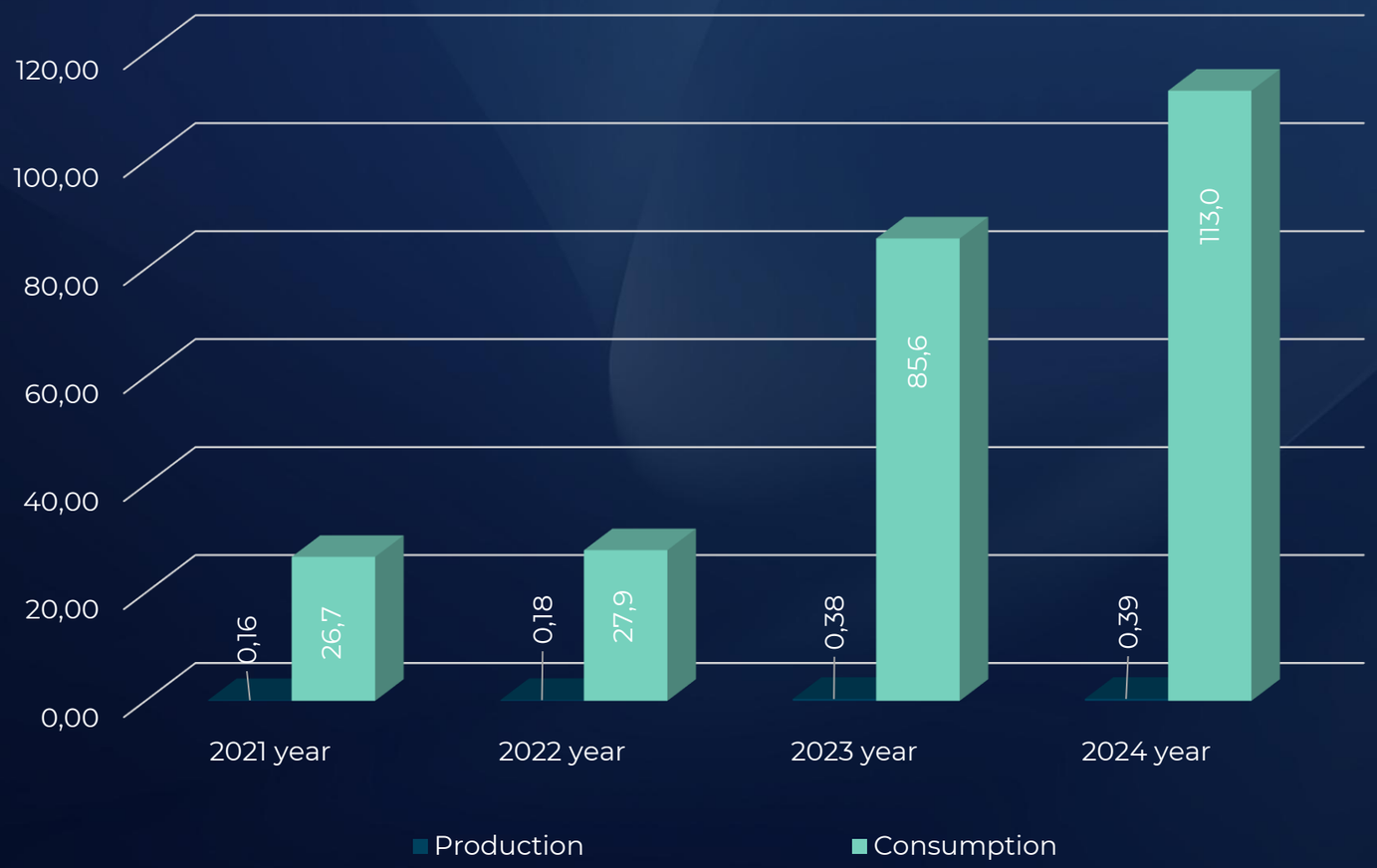
Secondary Aluminum Market Analysis

Aluminum consumption

(thousand units)



Import trends

aluminum imports over the past four years . The volume is expected to reach approximately 51,000 tons in 2021. increased from 103,000 tons to 103,000 tons in 2024.

Value Increase: The financial value of these imported products has increased dramatically, from $100 million in 2021 to $200 million in 2024, indicating either a higher volume of premium units or price inflation.

Main suppliers: Russia is the leading supplier, accounting for 56,000 tons of the total volume, followed by China with 37,000 tons.

Export trends

Low volume: Compared to imports, the volume of exports is very low. The highest volume was recorded in 2024 (6.40 thousand tons).

Value anomaly: Despite the low volume, export value increased sharply in 2021 to $14.5 million, a significant increase from previous years when the value was close to zero. This indicates that very high-value, industrial-grade equipment was exported in 2021.

Destinations: Exports are focused on Asian and European countries, with the market relatively evenly divided between China (4.5 thousand tons), Japan (0.62 thousand tons) and Latvia (0.48 thousand tons) and other countries (0.78 thousand tons).

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Secondary aluminum recycling

Economic and social impact:

- **Import substitution** If the product is import-substituting in the domestic market: **Import substitution potential (gross):** 80,000 × 2,400 = **192 million $/year .** However, part of the scrap may be imported. **40% of the scrap is imported** , the remaining 60% is domestic collection. Import scrap value: 80,000 × 40% × 1,950 ≈ **$62.4 million/year** 👉 **Net foreign exchange savings (estimate):** 192 – 62.4 = **~129.6 million $/year**

- Export potential: domestic demand 50,000 tons/year, export 30,000 tons/year. Export revenue: 30,000 × 2,400 = **$72 million/year** If 40% of the scrap exported is imported, net revenue will decrease accordingly.

- Contribution to GDP: **Direct contribution to GDP** : in terms of gross value added (GVA), conservative: range of **~$15–25 million/year** .
- **Supply chain development:**
  1. Scrap collection network : accepted points , sorting , pressing
  2. Logistics : rail / road , container flow
  3. Consumption materials : flux , degasser , refractory , filter
  4. Machine-service : furnace , crane , mold , laboratory
  5. Down flow : billet → **profile factories** , cable , sheet , casting details

Project description:

The project aims to create a modern industrial plant , a complex for sorting/cleaning aluminum waste (scrap) → smelting → refining → ingot/billet production .

Objectives: **Reduce import** dependency (ingots/billets) Raw material supply to the extrusion/profile industry Reducing CO_2 and energy consumption (green industry) Production of export-oriented alloys (6063/6061 and Al-Si series)

Economic indicators:

Funding: 40 million $

Area: 15 hectares

Revenue: - $ 192.2 million /year

On investments return on investment (ROI): 295 %

NPV: ~ $ 8.6 million (5 years)

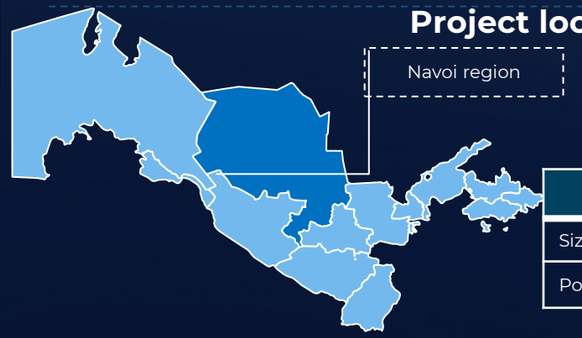
IRR: ~ 17.7 %

Production indicators: 80,000 tons

Billet: 60% (for extrusion) 48 thousand ton

Ingot: 40% (cast, for processors) 32 thousand ton
4000 pieces

Project location



Navoi region	
Size	111.1 thousand km²
Population	1.1 million

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Recycling chain and product profitability

Main production stages

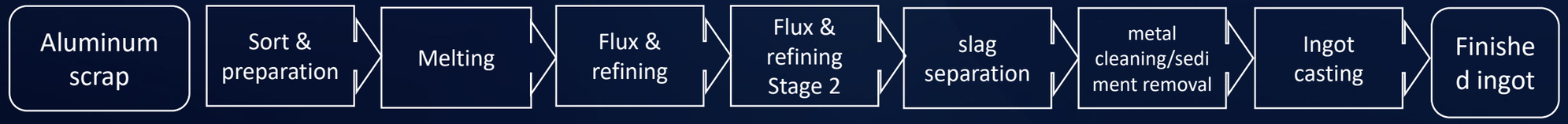
- **Aluminum scrap**
  → **Sorting & preparation**
  → **Melting**
  → **Degassing & Refining** →
  Alloying **(** 6063/6061 etc.)
  → **Filtration**
  → **Filtration** (additional/second stage)
  → **Billet casting** (DC casting)
  → **Homogenization**
  → **Ready billet**

Technology and features

	Technology	Features
1	**Multi-alloy control (6063/6061/AlSi)**	spectral analysis
2	**Degassing (rotor) and ceramic filter**	**reduces internal defects**
3	**Scrapni "charge mix" algorithm**	**sustainable chemistry**
4	**Energy-efficient oven**	**heat recovery (recuperation)**
5	**Ecology:**	**gas cleaning (bag filter), slag management**

Billet production sequence

Sequence of ingot production from secondary



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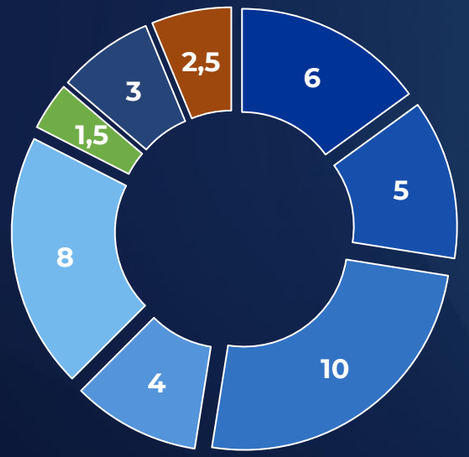
Project costs

Initial investment (CAPEX) *(million dollars)*

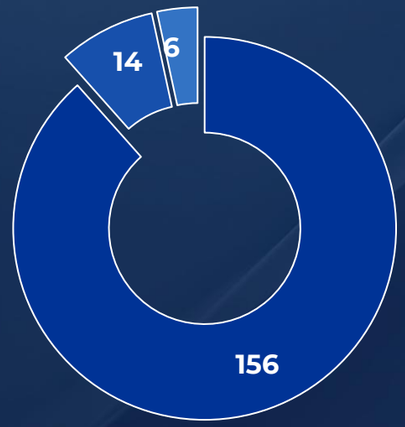
Total capital expenditure: 40 **million**



- Land preparation, building construction
- Scrap yard, cranes, logistics
- Smelting furnaces (2–3 units)
- Refining (degassing/flux/filter)
- Casting (billet+ingot line)

Operating expenses (OPEX) *(million dollars)*

Total OPEX: **$ 176.4 million**



- Scrap raw materials
- Energy+flux+consumption (variable)
- Salary, service, admin (constant)

This financial review outlines the comprehensive cost structure and high profitability of the proposed project. The breakdown includes initial capital investment (CAPEX) and annual operating expenses (OPEX), as well as projected revenue and profit projections.

Product	Capacity	Quantity (million US dollars)
Billet	48,000 tons	117.6
Ingot	32,000 tons	74.6
TOTAL		**192 .2**

Annual EBITDA:
= $ 192.2 million - $ 176.4 **million** = **$ 15.6 million**

The project's high profitability forecast is supported by efficient operations and high market demand, making it a very attractive investment.

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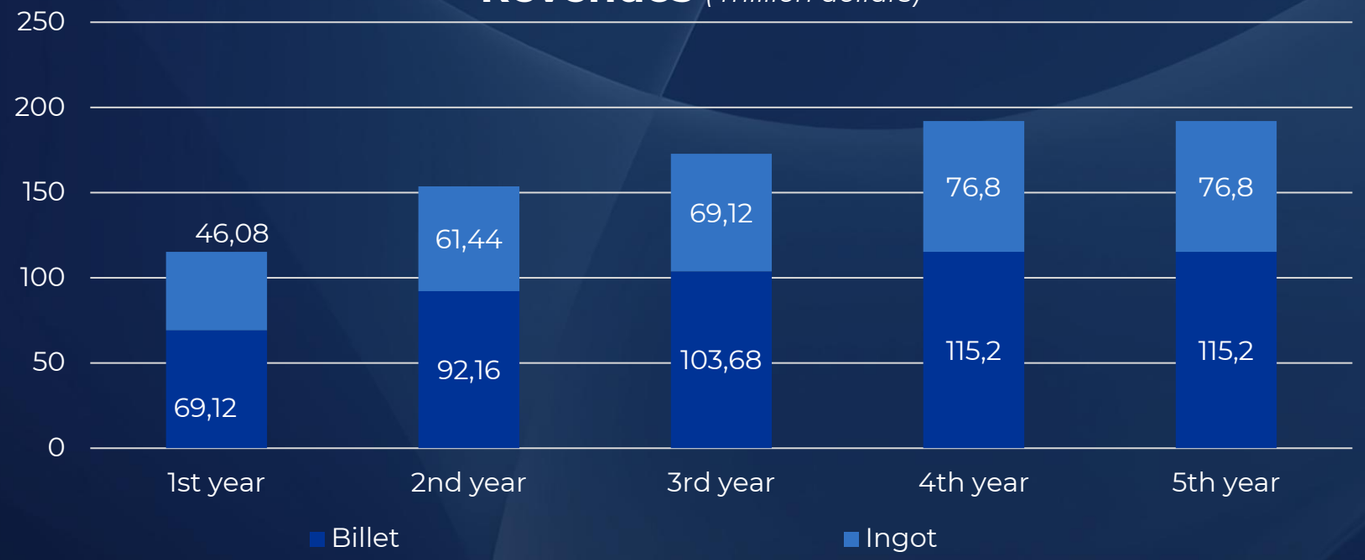
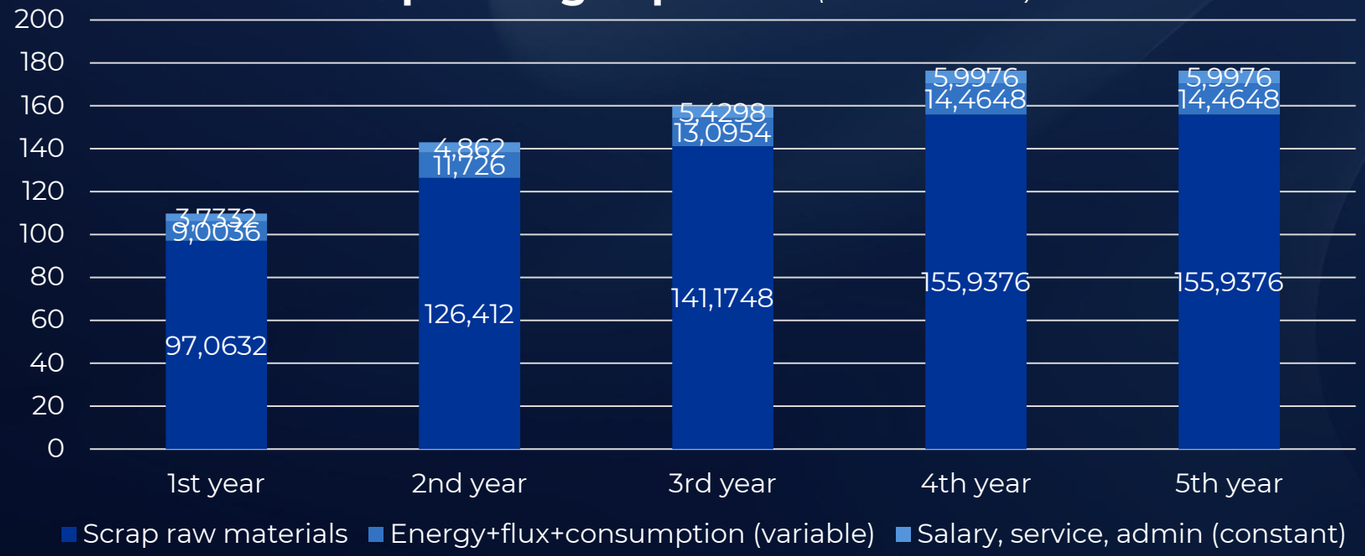
Financial indicators

(5-year forecast)

Revenues *(million dollars)*



Operating expenses *(million dollars)*



Total 5- year cash **flow :** $ 825.6 million

Total 5 years Cost: $ 765.3 million

NPV (12% discount rate):

NPV= **$ 8.6 million (Very favorable** *!)*

IRR (Internal Rate of Return): ≈ **17.7 %**

Payback period (PP):

= **4 years**

Profitability Index (PI):

PI = (NPV + CAPEX) / CAPEX = (8.6 + 40) / 40 ≈ 1.21

Return on Investment (ROI):

= **5- year net (not NPV) operating FCF – CAPEX: 76.4 – 40 = ~ $ 36.4**