

ADB Block Heater Technology Business Fair

BHT Investment Models, Environmental Social and Economic Benefits

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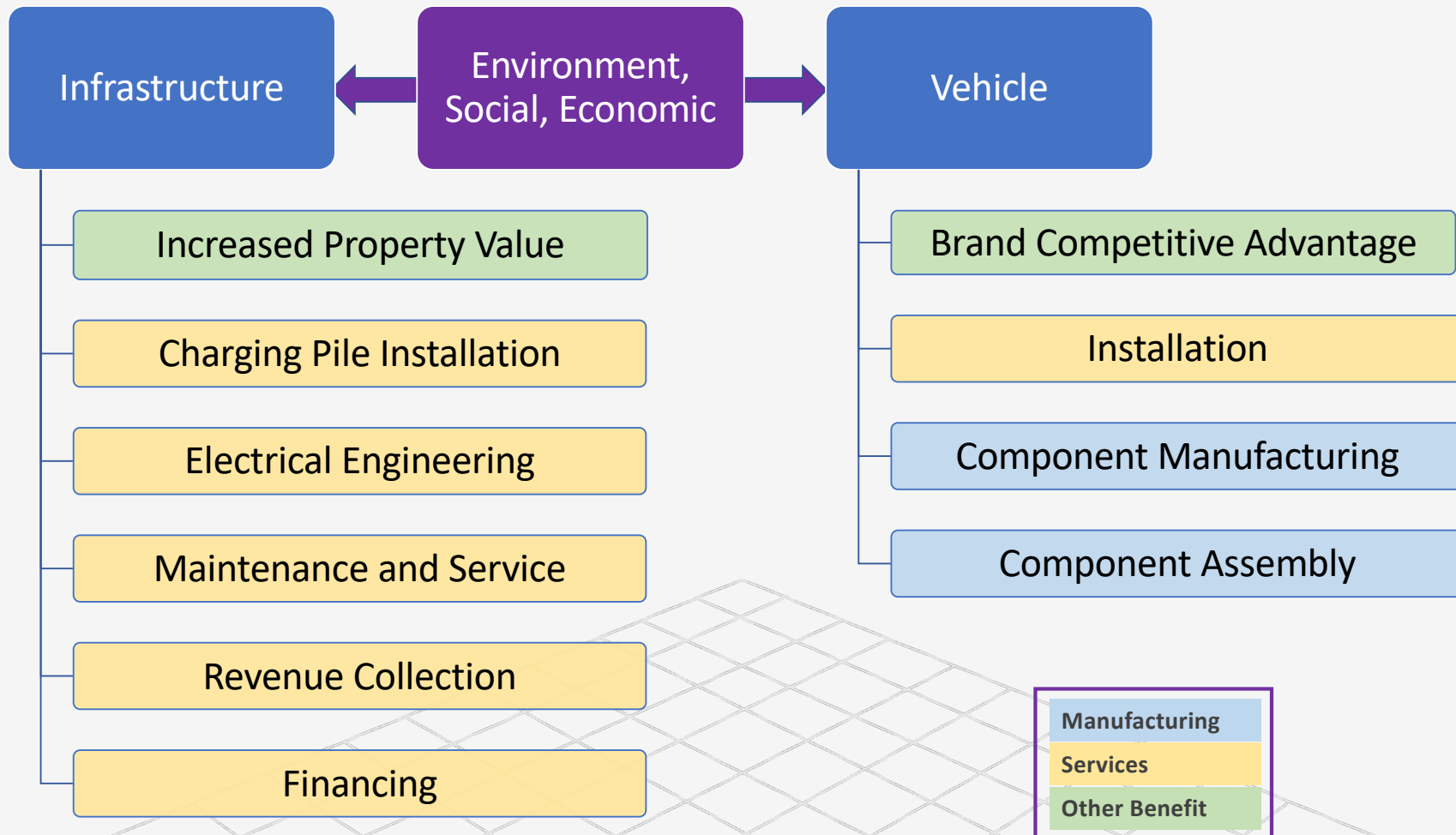
3 September 2020

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Business Opportunities for Block Heater Technology in Kazakhstan

- Auto mechanic
- Construction Companies
- Electrical Engineering
- Parking Lot Operators
- Electricity Company
- Smart City
- Financial Entities

Block Heater Business Opportunities



Build Own Operate Transfer Business Model for Charging Piles

Design Build Finance

- Suitable for smaller projects
 - Parking Lots
 - Apartment Buildings
 - Shopping Plazas

Build Own Transfer

- Design, Construction, Finance & Operation
- Suitable for New Construction
- Public Entity Assumes Project after Contract Ends

Build Own Operate Maintain

- Design, Construction, Finance, Operation and Maintenance
- Suitable for Large Institutional Entities
 - Railway, Bus, and Municipal Infrastructure

Public Private Partnerships

- Long Term Investment by Private Sector
 - Risk
 - Schedule and Delays
- Revenue Protection with Consumer Protection

Automobile Leasing and Financing, Component Manufacturing, Assembly and Services

Auto Leasing and Financing

- Finance ownership of block heater
- Value added service
- Competitive advantage to dealer
- Savings lower operating cost to owner

Component Manufacturing, Assembly and Services

- Electrical
- Metal
- Plastic
- Pre-Assembly
- Final Assembly
- Service and Maintenance

Replacement of Aging Infrastructure

- Electrical and Civil Engineering
- Construction
- Electric Cabinets
- Relay Switches
- Connection Plugs

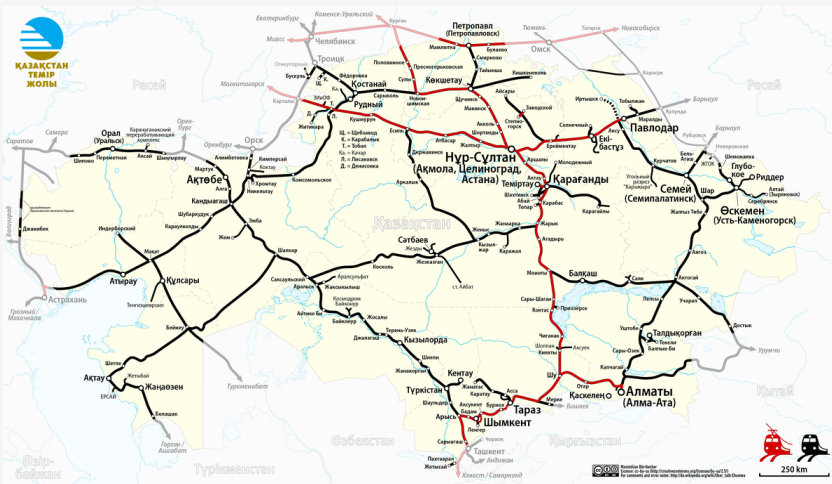


Block Heater Components for Heavy Duty Diesel/Locomotive Engines

Heavy Equipment Diesel Engine Block Heater

Locomotive Engine Block Heater

300 TE33A *Kasachstan Temir Scholy* Locomotives



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Interior Cabin Heater Fan

Control Circuit Board

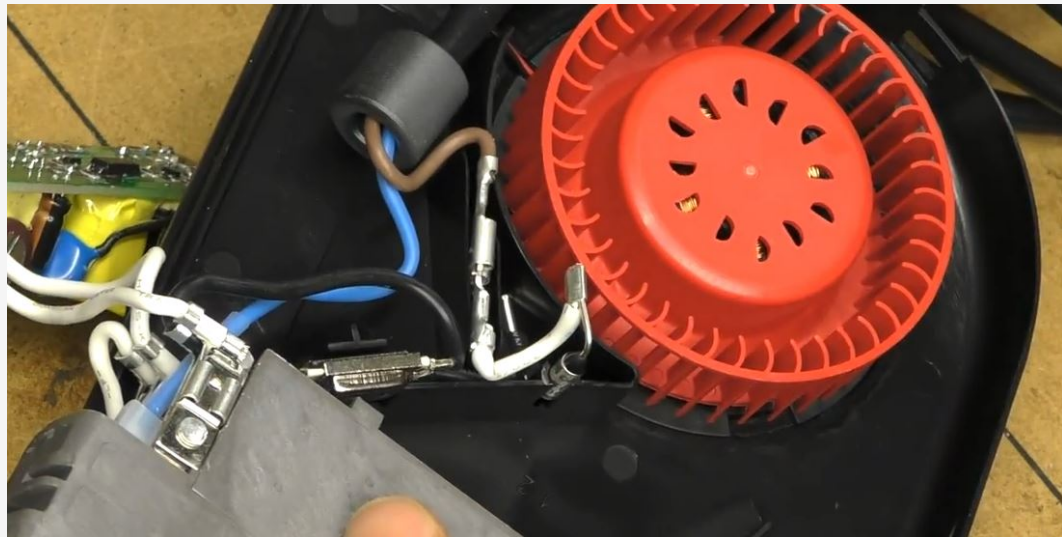
Pre-cut wires

Temperature Shutoff Switch

Small 12 volt Fan

Die cast metal

Plastic Injection Molding



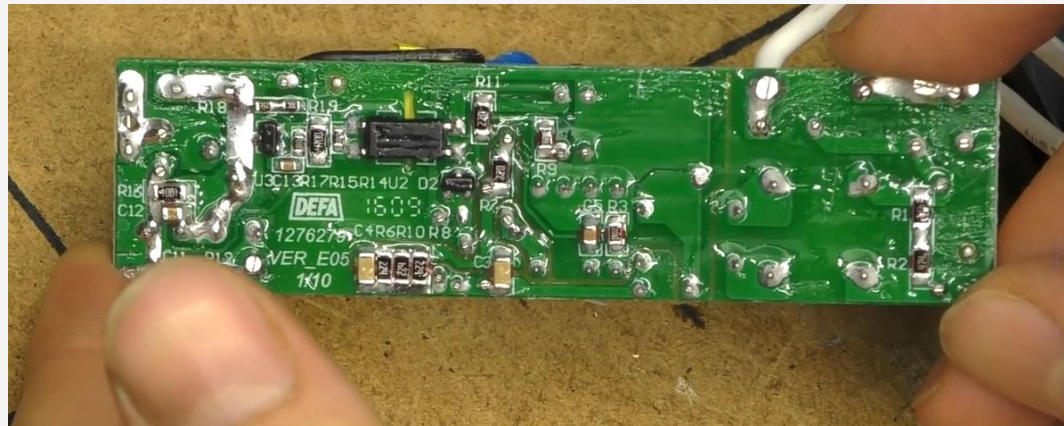
Circuit Boards and Internet of Things (IoT)

Mini-Circuit Boards

Bluetooth Components

Logic Circuits

Proximity Sensors



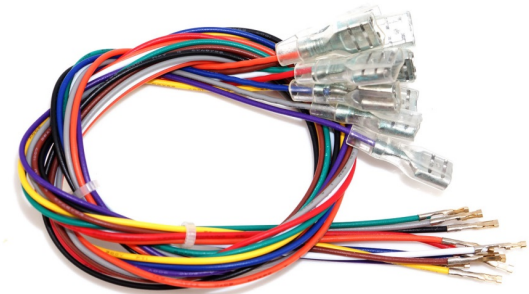
Wire Harness

Pre-cut wire with clips

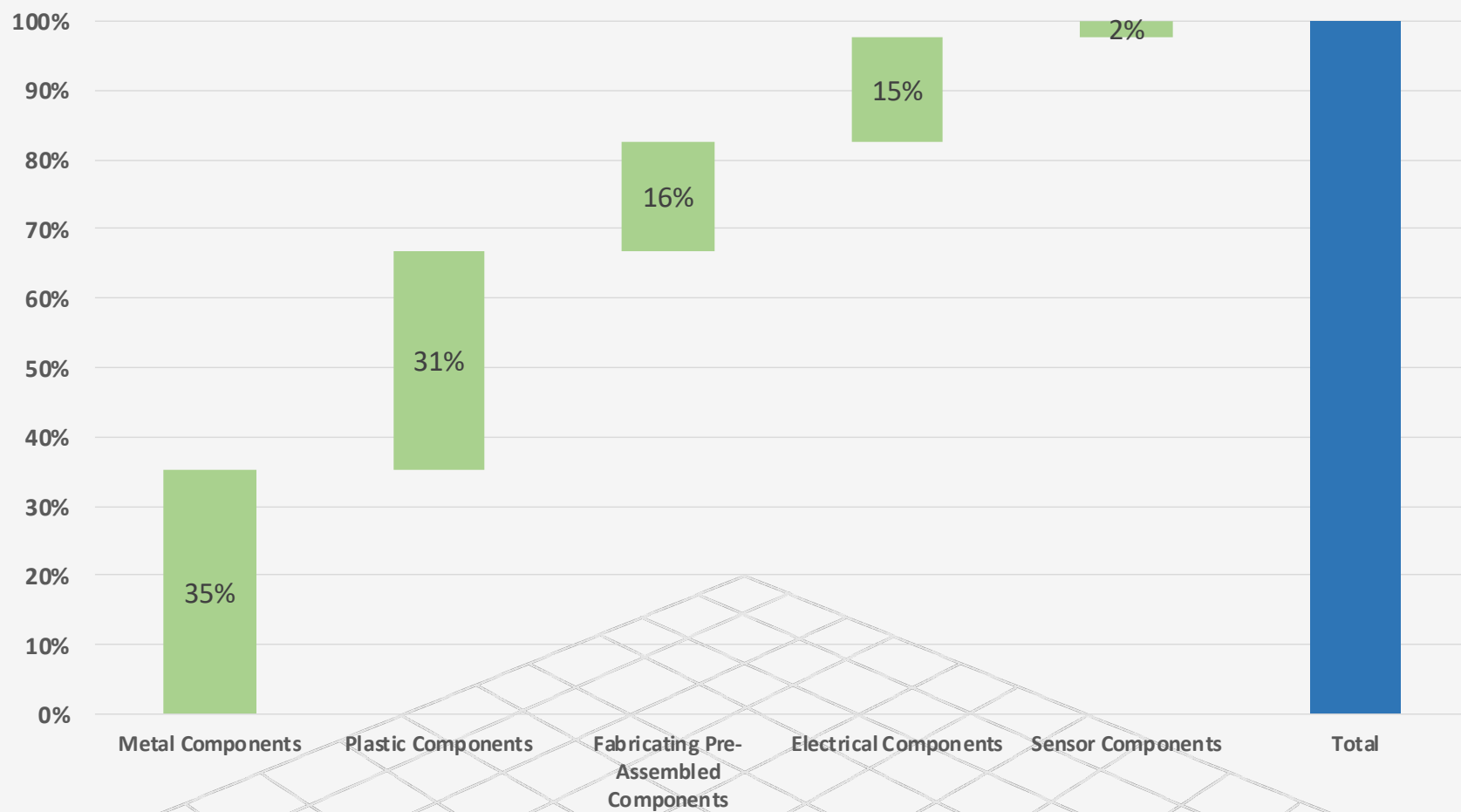
Mini-wire harnesses

Electromechanical Timer
Components

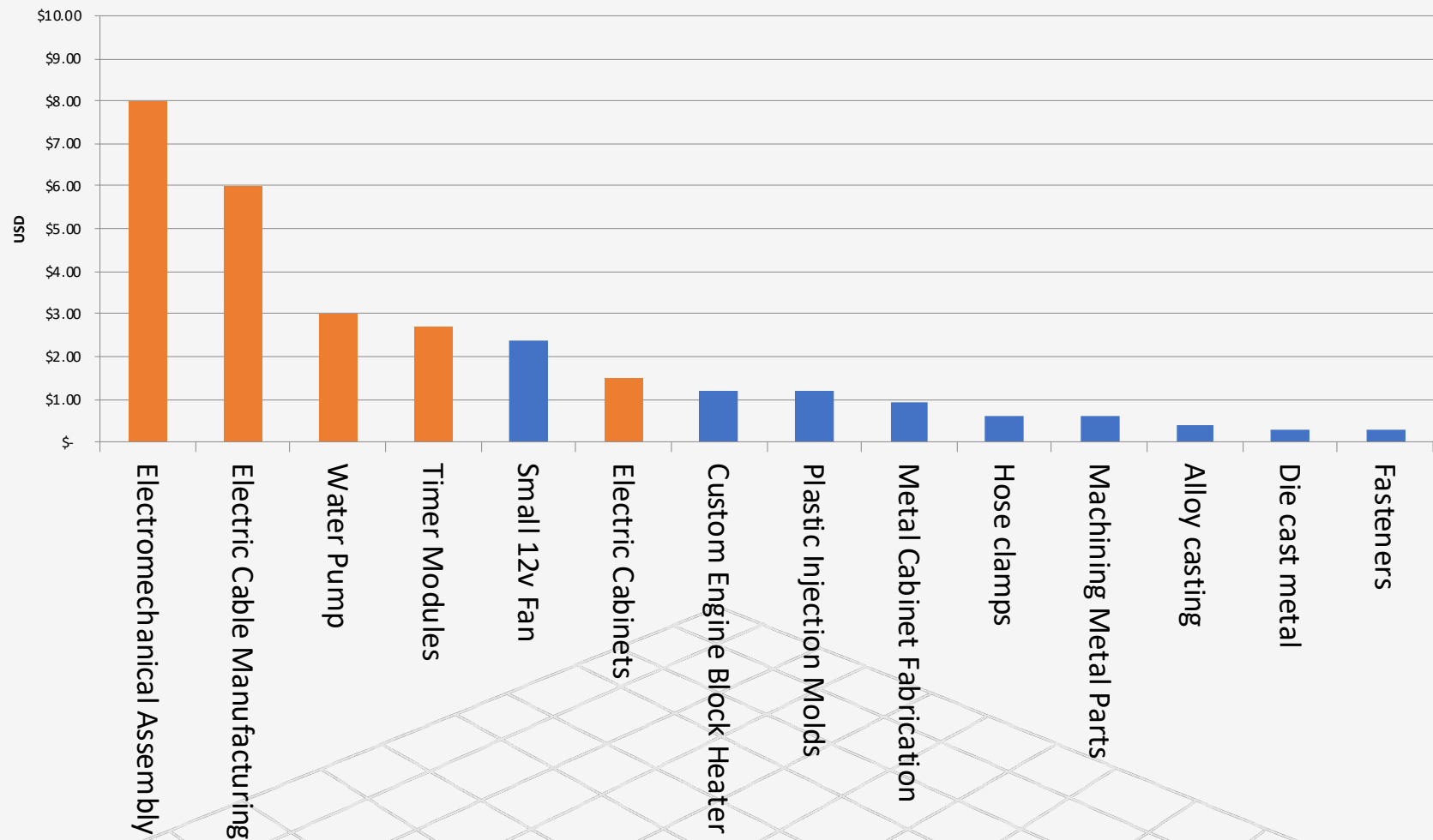
Electromechanical Assembly



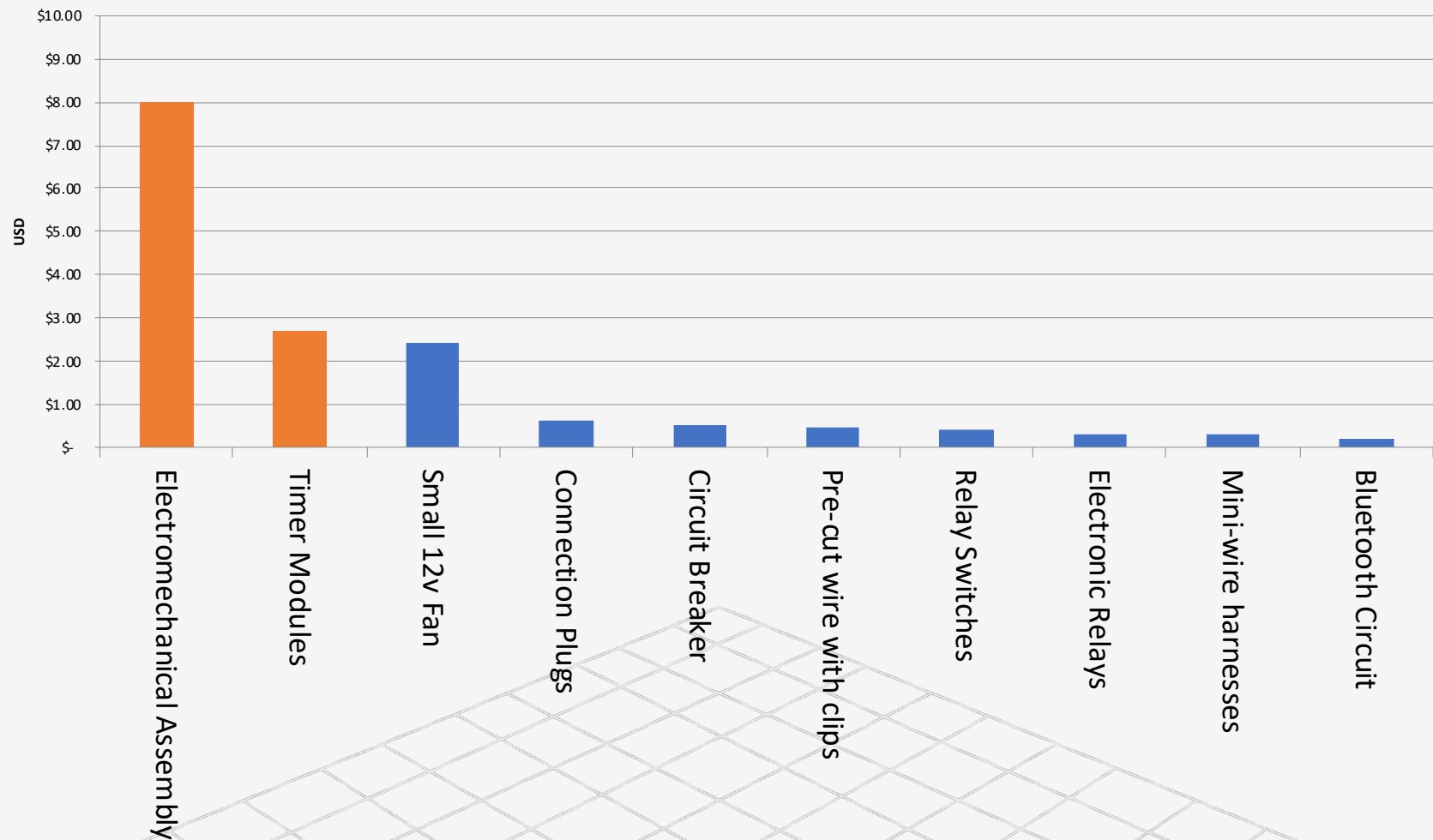
Assembly and Manufacturing for Kazakhstan by Component Category



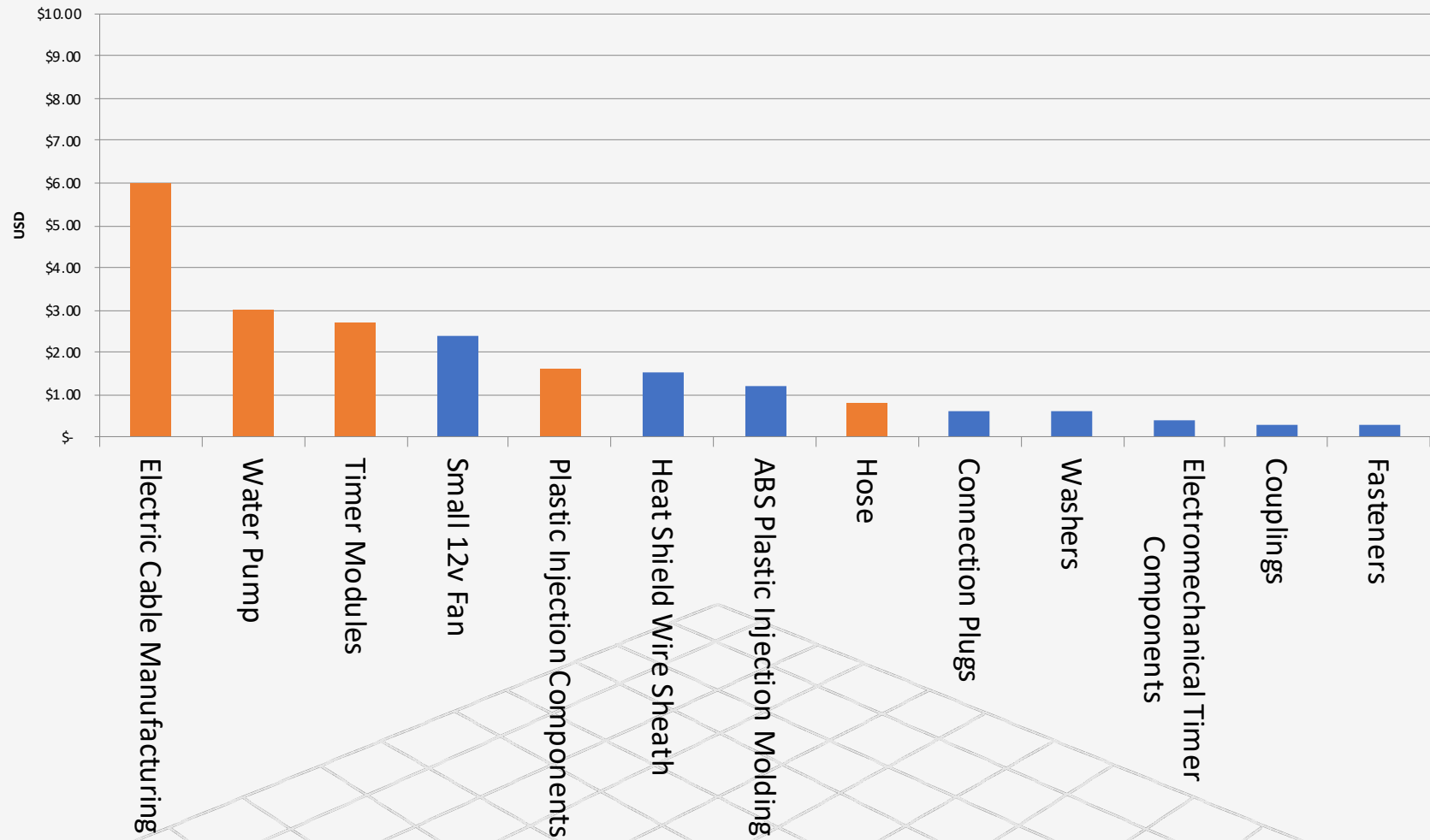
Pre-Assembly Labour and Value Added



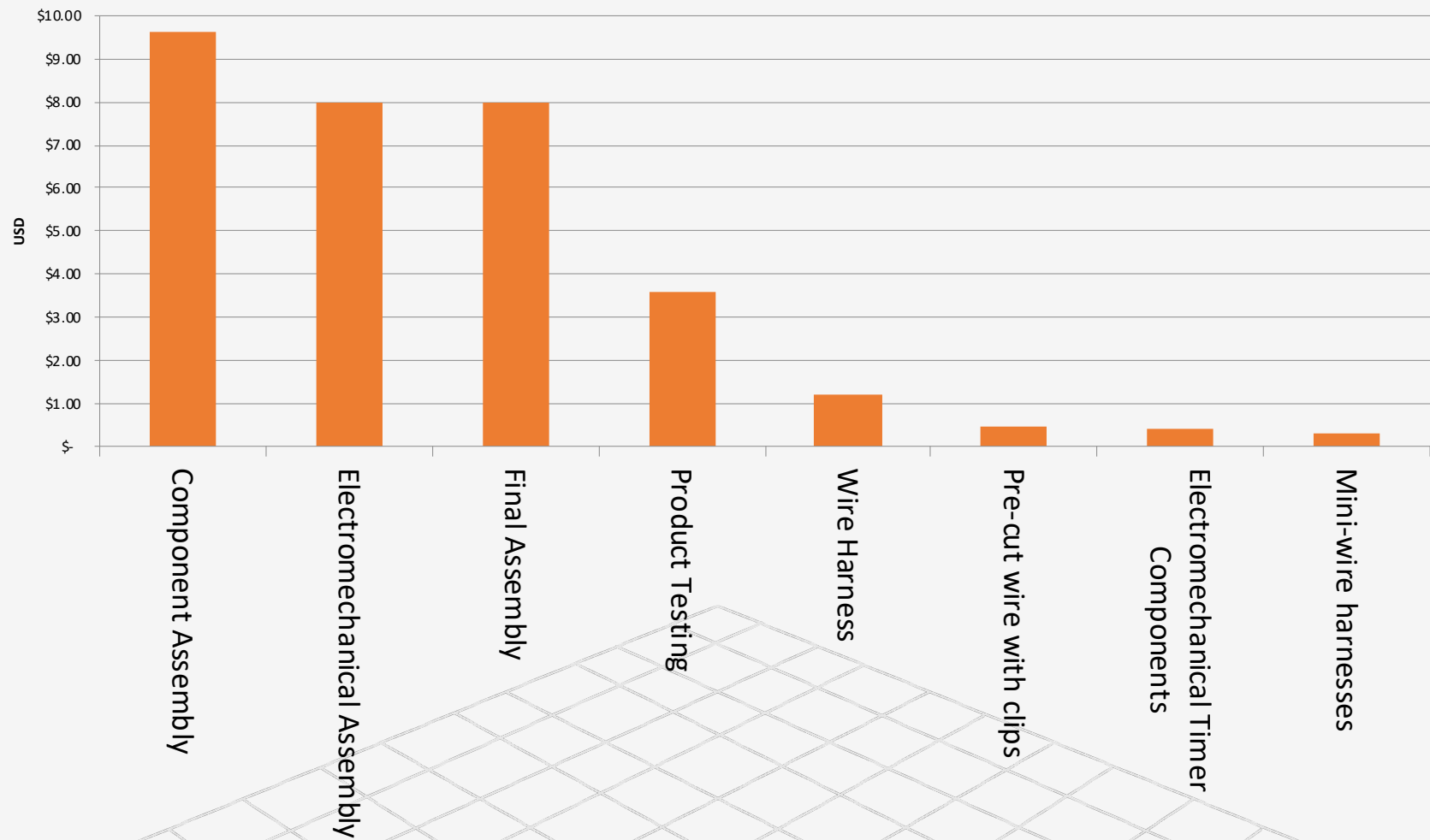
Manufacturing Electrical Components



Manufacturing Plastic Components



Final Assembly Labour and Value Added



Summary

- Private Public Partnerships for Infrastructure
- Component Fabrication and Assembly
- Ongoing Sales, Service and Maintenance
- Opportunity to Export to Neighbouring Countries – Russia, China, Mongolia