POLAR POWER INC.

INVESTOR PRESENTATION

NASDAQ: POLA

April 2025

Safe Harbor

The following discussion, in addition to the other information contained in this presentation, should be considered carefully in evaluating our prospects. This presentation (including without limitation the following factors that may affect operating results) contains forward-looking statements regarding us and our business, financial condition, results of operations and prospects. Words such as "expects," "anticipates," "intends," "plans," "believes," "seeks," "estimates" and similar expressions or variations of such words are intended to identify forward-looking statements, but are not the exclusive means of identifying forward-looking statements in this presentation. Additionally, statements concerning future matters such as revenue projections, projected profitability, growth strategies, and other statements regarding matters that are not historical are forward-looking statements.

Forward-looking statements in this presentation reflect the good faith judgment of our management and the statements are based on facts and factors as we currently know them. Forward-looking statements are subject to risks and uncertainties and actual results and outcomes may differ materially from the results and outcomes discussed in the forward-looking statements. Factors that could cause or contribute to such differences in results and outcomes include, but are not limited to, those discussed in this presentation, and other risks, including, but not limited to, those described in the Company's Annual Report on Form 10-K, Quarterly Reports on Form 10-Q and other filings and submissions with the SEC. Readers are urged not to place undue reliance on these forward-looking statements which speak only as of the date of this presentation. We undertake no obligation to revise or update any forward-looking statements in order to reflect any event or circumstance that may arise after the date of this presentation.

This presentation shall not constitute an offer to sell or the solicitation of an offer to sell or the solicitation of an offer to buy any securities of the Company nor shall there be any sale of securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction.

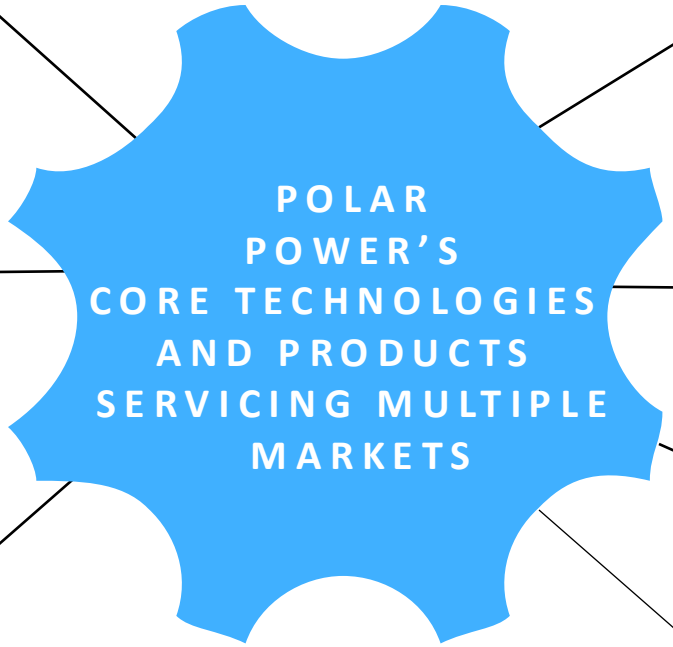
This presentation contains market data and industry statistics and forecasts that are based on independent industry publications and other publicly-available information. Although we believe these sources are reliable, we do not guarantee the accuracy or completeness of this information and we have not independently verified this information. Although we are not aware of any misstatements regarding the market and industry data presented in this presentation, these estimates involve risks and uncertainties and are subject to change based on various factors, including those discussed in the section entitled “Risk Factors” and under similar headings in the other documents that are incorporated herein by reference. Accordingly, investors should not place undue reliance on this information.

Company Overview

Since 1979 Polar Power continues to deliver technology that changes the production, storage, consumption, and environmental impact of power generation.

- Starting with an evaluation of the customer's application needs, our **"clean sheet of paper approach**" results in the unique and highly efficient design, manufacture, and integration of power/energy storage/cooling solutions.
- Polar's vertically integrated capabilities from engineering through production uniquely enables us to develop new components and software that utilize all available cutting-edge technologies, including fuel, solar, energy storage and conversion, and heat transfer technologies optimized into a single solution.
- Our engineered solutions provide a **significantly lower total cost of ownership with higher performance than our customers could achieve on their own and enable them to focus on their business and not on power management.**

Diversified Markets and Customer Base-One Platform Numerous Applications



Telecom

Backup + Prime Power
Each Tier 1 account can provide over $20M in annual revenues for Polar alone.

Military

APU + PPU Energy storage, Series Hybrid Electric Drives for Specialty Vehicles and Robots.** Contracts range $100K-to $1M, we manage 2 to 4 contracts/year.

Automotive

Mobile Electric Car Charging and Stationary Charging with Propane and Natural Gas. Range extenders for specialty vehicles. Strong prospects for future growth.

Industrial

UPS + Prime Power, Data Centers Battery Systems, Cogeneration (CHP) Series Hybrid Electric Drives for Robots and Specialty Vehicles.

Marine and RV

Prime Power for Off Dock / Dry Camping Series Hybrid Electric Drives for Yachts
Targeting $15M/year in sales with strong profit margins. Our past sales have fluctuated form $100k to $2M per year.

Nano/Microgrid/Solar

Prime Power, Bad grid, CHP Our largest market opportunity, sales currently immaterial; Launching a product for the mass market with field trails beginning this year in Africa and Asia.

Oil Field and Mining

Communications, UPS + Prime Power, Remote work camps

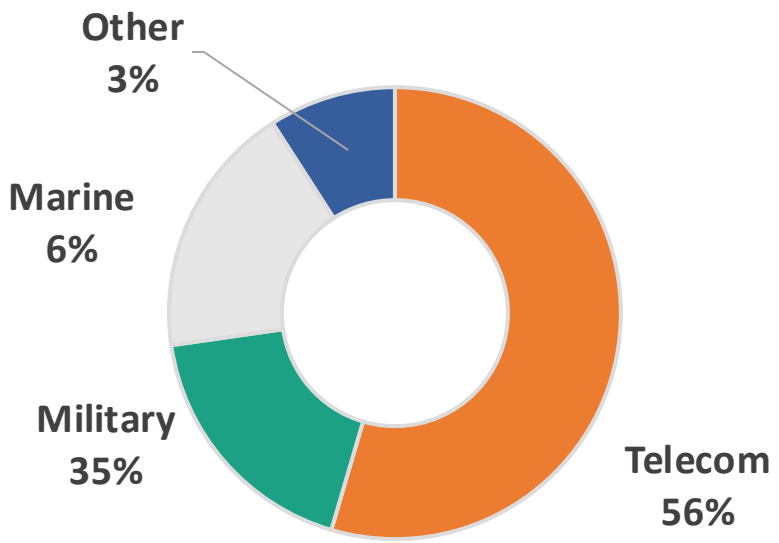
** UPS – Uninterruptible Power Supply **APU – Auxiliary Power Unit and PPU – Prime Power Unit*

Markets We Serve

POLAR POWER INC.

TELECOM	MILITARY	OTHERS
at&t	ST Electronics	FIAT CHRYSLER
verizon	OSHKOSH	Schneider Electric
vodacom	LOCKHEED MARTIN	BOSCH
Telstra	BOEING	
airtel	HDT GLOBAL	mazda
MOTOROLA	GENERAL DYNAMICS	alpha
T-Mobile	Raytheon	Ford
BeMobile.		
Our Telekom		
vodafone		

Backlog 12.31.2024



Year 2024

US	87%
International	13%

Key Differentiators and Customer Value Proposition

ALL Polar Power Technology Platforms feature:

- High fuel efficiency
- Low acoustic noise
- Very compact and light weight
- Generator controls have built-in battery charging algorithms
- Remote monitoring and control
- Ultra-reliability operating in extreme temperatures and weather conditions

Why DC generator and not AC? Because solar PV, batteries, fuel cells, and most electronics are all DC devices and our DC generators do not suffer the power conversion losses converting from AC to DC.

Telecom focus is on reducing CAPEX and OPEX:

- Cost Savings in deployment is estimated in the $10s of millions per year for Tier-1 telcos
  - ✓ Eliminates need to purchase natural gas booster compressors (cost $18k to $22k)
  - ✓ Eliminates need to rent large cranes to place generators on the roofs of high-rise buildings ($60k - $100k)
  - ✓ Lower permitting and real estate costs (smaller equipment footprint)
  - ✓ Improved fuel economy means greater reserve time on site
- Prime power sites can see a 40% to 70% decrease in fuel costs

Military focus is on the following:

- Our products:
  - ✓ Reliability, durability and lower maintenance
  - ✓ Significant reductions in space and weight
  - ✓ Custom packaging available as a service
  - ✓ Low RF / EMI emissions, invisible to detection.
- We offer an Ideal platform for automated systems, robotics, drones, communications

Income Statement

(In thousands, except per share data)	Full Year Ended Dec. 31,	
	2024	2023
Net Sales	$13,970	$15,293
Cost of Sales (includes inventory write-downs of $900 and $450, respectively)	12,656	14,598
Gross Profit	1,314	695
Total Operating Expenses	5,689	6,685
Loss from Operations	(4,375	(5,990)
Total Other Income (expense)	(302)	(558)
Net Loss	(4,677	(6,548)
Net Loss per Share – Basic and Diluted	$(1.86)	$(3.45)

Quarterly Financial Update:

- **Revenue decreased 9% y-o-y.** We saw significant volatility in revenue primarily from our largest telecom customer.
- **Gross profit increased 89% y-o-y.** Q2 and Q3 had GMs of 39% and 29% respectively which highlights are ability to improve GMs.
- **Operating expenses remain in check** due to cost controls and other productivity optimization measures
- **Net loss improved by 29% y-o-y.** Significant volatility in revenue resulted in net loss for the year. Yet, we had profitable quarters in Q2 and Q3 of 2024.

Investment Highlights

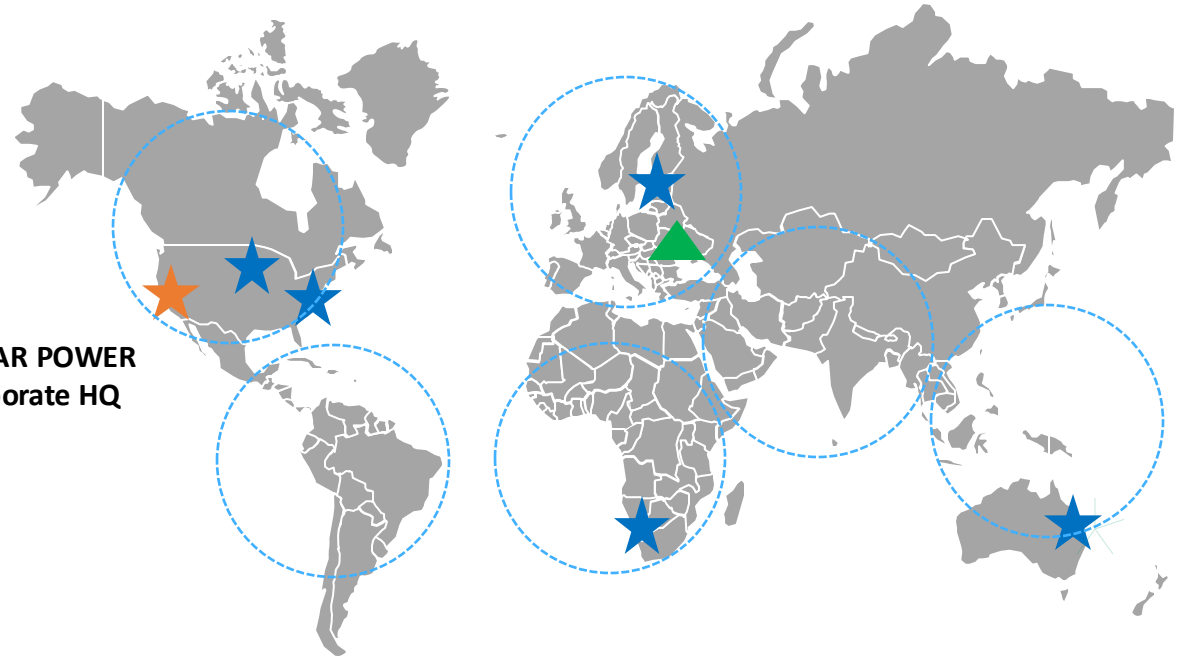
Technology Leader	First-mover advantage in emerging 50 kW DC clean fuel prime power systems into nano grid, telecom, EV charging
Large, growing markets	Backup generator power alone represents $650 Million/year opportunity
Valuation at 12/31/2024	Enterprise Value of Approximately $14 Million
Hidden Assets	• $3 million-$5 million Market Value of (fully depreciated) equipment and machinery • $15.8 million in inventory • $18 million in NOL's
Targets	2-3 Year Sales Target of $50 million Gross Margin Target is 40%

Key Financial Information:

Stock Symbol	NASDAQ: POLA
Stock Price (as of 4/1/2025)	$2.44
Shares Outstanding (as of 4/1/2025)	2,511,532
Market Capitalization (4/1/2025)	$6.2M
Total Liquidity Cash and Available Credit (12/31/2024)	$1.1 M
Debt – Line of Credit (12/31/2024)	$4.8 M
Enterprise Value (12/31/2024)	$14.1 M
Options (12/31/2024)	140,000
Insider Ownership %	32%

Vertical Integration and Global Presence

- 70,000 square feet of vertically integrated manufacturing facility, Gardena, CA, with additional 20,000 sq ft warehousing facility:
  - Current configuration has capacity to support $50 million-plus in total annual revenues
  - $4.5 million in advanced fabrication equipment, automatic welders, test and inspection equipment
- Direct sales force in four continents
- Rapid prototype, engineering and R&D facilities collocated with manufacturing to build custom products
- Trained and qualified third-party service centers to enhance customer experiences
- Key vendors / partners – Toyota, Bosch, Yanmar and others



POLAR POWER	LOCATION
HEADQUARTERS ★	Gardena, CA, USA
SUPPORT CENTER ▲	Bucharest, Romania, Gardena, Johannesburg SA
SALES OFFICES ★	5 Sales Offices – 2 U.S.; Australia; Poland; S. Africa
AUTHORIZED SERVICE FACILITY	15 Third Party Service Centers with over 50 locations

Telecom Generator Market

- U.S has total of 424,960 telecom towers out of 6.9 million sites worldwide, approx. 5.4% (not including the controls, energy storage, maintenance dollar opportunities).
- Globally the backup market is now addressing increasing energy demand, more frequent and longer power outages. Generators need to be more efficient, lower emissions, and longer runtime with lower maintenance.
- In the U.S. 37% of the telecom generator market is less than 25 kw., while 23% is of generators operate between 25 kw – 50 kw
- As the telecom market has changed, Polar product range is continuously expanded to meet market demands. Polar market share is estimated to be 12% in U.S. mainly targeting the less than 27 kW backup market.
- 5G growth expected to increase backup generator replacement market to higher power generators

Reference: https://www.gminsights.com/industry-analysis/telecom-generator-market

Polar rooftop installation

Natural Gas/LPG Hybrid Power - Telecom

- USA and other countries are making broadband services available in rural areas, and Polar's Hybrid power systems lowers the sites operational costs.
- Worldwide telecommunications consumes diesel fuel in tens of billions of liters of every year. Creating significant amounts of pollution.
- Telecom and broadband services currently consumes 4% of the worlds energy and this is expected to grow to 20% with 5G, AI, and Data services.
- LPG with or without solar can annually save individual telecom companies tens of millions of dollars in energy costs annually.
- LPG and NG are considered as transition fuels that could eventually lead to rLPG, rDME, and ammonia fuels that are renewable. Our Toyota engines should have no issues operating on these newer environmentally friendly fuels.

*According to articles posted,

EV 27 kW Mobile Car Charger

Two Chrysler / Fiat electric vehicles being charged at the same time during road testing

- Polar has sold Mobile EV Chargers to Chrysler/Fiat, Ford, Bosh, Volkswagen and Mazda.
- Polar projects the need for Mobile chargers for “AAA” type road service is 1 to 2 years into the future. Its faster and lower cost to charge the EV in the field than to transport the EV to the nearest charger via flatbed truck.
- Stationary rapid chargers for home / office vehicle charging fueled by natural gas will overcome buyers' resistance to purchasing EV and help launch micro-cogeneration in the USA.

Solar Hybrid Power Systems-The Future of Nano / Micro Grids / Distributed Power generation

Polar's proposed hybrid energy systems for residential and commercial applications combines DC generation with energy from the electric utility (if available), natural gas / LPG company, and solar PV to provide a lower total energy cost than most electric utilities. A side benefit is a significant reduction of green house gases and pollution.

Three demand drivers that are here to stay:

- ✓ **EVs:** as EVs continue to proliferate, most homes will not be able to charge EVs at their convenience due to limited electric service from the grid. Also due to limited utility service to the home/office fast EV charging in not possible. **An LPG or natural gas DC generator provides fast charging**
- ✓ **Climate change:** As the climate gets warmer the need for air-conditioning, increases the demand on the electric utility grid.
- ✓ **Failing electric utility** due to increased load demand and an aging infrastructure these problems of utility blackouts, brownouts and peak power charges and increasing.

The solution for a failing grid is distributed power using these small micro power systems creating low-cost sustainable power.

Innovating Power Generation- A Better Technology Platform

- The Toyota series of prime power engines in combination with Polar's alternators provides the performance necessary to make nano grids practical using LPG and natural gas as a fuel.
- Diesel is not practical for nano grids, CHP, or micro-cogeneration as diesel has become too expensive and there are increasing concerns over pollution.
- Backup generators are not engineered for prime power. 30 kW and smaller backup LPG generators are typically replaced at 3,000 to 4,000 hours of run time. Their low fuel efficiency also renders them not cost effective.
- The Polar / Toyota prime power generator (model 1KS-CHP) has the oil changed at 4,500 hours. Fuel efficiency is high.

- Most applications for power generation will require an engine and alternator. Increasing the efficiency of the both the engine and alternator (generator) is required to compete with a diesel generator.
- A diesel engine has a higher compression ratio than spark plug ignition engine, and this gives the diesel engine higher fuel efficiencies. The popular "lawn and garden" engines, used by most backup generator companies, have lower compression to reduce engines' production cost, size, and weight.
- To compensate the fuel efficiency difference between the 2 technologies (compression ignition/ diesel and spark ignition / LPG) Polar took the following steps:
  - ✓ Build with Toyota 1KS engines which have a higher compression ratio compared to most LPG engines, approximately 12:1 verses the lower 9:1 found in competitors' products.
  - ✓ Redesign: the coolant pump, fans, and SLI alternator were removed from the engine reducing the parasitic losses in the engine and improving fuel efficiency; coolant pump and fans are electrically driven at optimum speeds improving reliability and efficiency.
  - ✓ Utilize permanent magnet alternators optimized for production of DC current as opposed to AC. This increased efficiency in generating electricity and reduces fuel consumption.
  - ✓ Optimizations to the overall application to further reduce fuel consumption. For example, being able to charge batteries directly from the DC generator as opposed to using battery chargers with AC generators reduces fuel consumption and system cost.
- In a generator application the Toyota 1KS engine has a serviceable life span of 60,000 to 90,000 hours compared to a Diesel engine with life span of 12,000 to 30,000 hours.
- **The overall result is lower maintenance, higher reliability, and lower fuel costs than a diesel fuel AC generator.**

Growth Strategy - Diversification

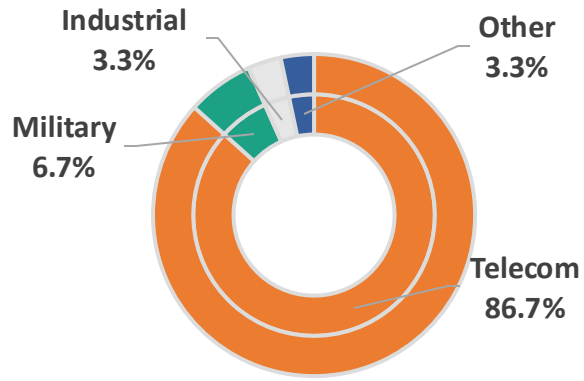
Domestic Strategic Overview

- Further develop the Tier 2 / 3 wireless phone companies, there are more that 200 companies in the USA mostly serving the last mile.
- Expand field services and commissioning
- Expand marketing / sales efforts on our 27 KW product line to Tier-1 wireless – 50% higher ASP than our existing DC power systems (offers 40% lower fuel consumption and lower emissions than competition)
- Expand LPG / Solar Hybrid product line for off-grid and UPS applications
- Market low emission Natural gas and LPG EV chargers

International Strategic Overview

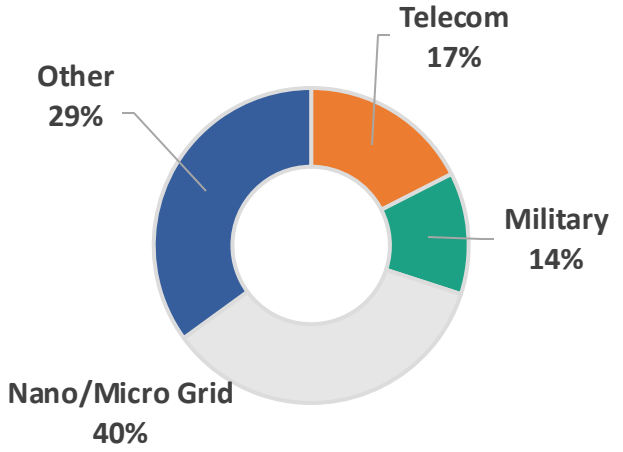
- Expand LPG / Solar Hybrid product line for off-grid and UPS applications
- Promote low emission natural gas and LPG product line Globally, targeting bad grid in urban markets
- Partner with LPG Producers and distributors to market and promote lower cost fuel alternatives to diesel
- Target OPEX models jointly with LPG distribution companies
- Provide lease of equipment so telecoms can operate on a OPEX model

2023 Sales



We seek to DIVERSIFY our sector exposure over time, with Telecom market representing 15% to 20% of our overall sales, military at 10% to 15% Nano/Micro Grid 35% to 45% and the balance EV charging, Marine/RV, Industrial.

Long-Term Objectives



Key Management

ARTHUR D. SAMS

CEO and President

- Since 1979, President, Chief Executive Officer and Chairman.
- 45 years experience in engineering, machinery, sales, marketing, project manager & CTO and President roles, consulting to the U.S. Department of Defense and U.S. Department of Energy, and numerous Fortune 500 companies

LUIS ZAVALA

CFO

- Chief Financial Officer of Polar Power, since 2016
- 2009 – 2016 - Vice President of Finance – Polar Power
- 2006 – 2009 - President of Sky Limited Enterprises (General Contractor)
- 2001 – 2006 - Director of Finance for Legacy Long Distance International
- 30+ years experience in managing accounting and finance departments

Investor & Media Inquiries
Email: ir@polarpowerinc.com
Website: ir.polarpower.com

NASDAQ: POLA

Company Website:
www.polarpower.com


MARKETS

Company History

1979

Polar Power is launched with the introduction of solar powered vaccine refrigerators for cold chain in rural areas

1980

Contracts for power systems – US Navy, US Army, Hughes, Martin Marietta, NASA, Aramco

1990

Introduced DC generators and hybrid solar systems for telecom and off grid markets. ATT, Bell Groups, APS

2010

Received production contracts from top 3 tier-1 telecom companies

Produced mobile EV chargers for Ford, Chrysler/Fiat, Mazda, Volkswagen, Bosch

2016

IPO

Expanded global sales infrastructure

Grew sales to $24 million

2023

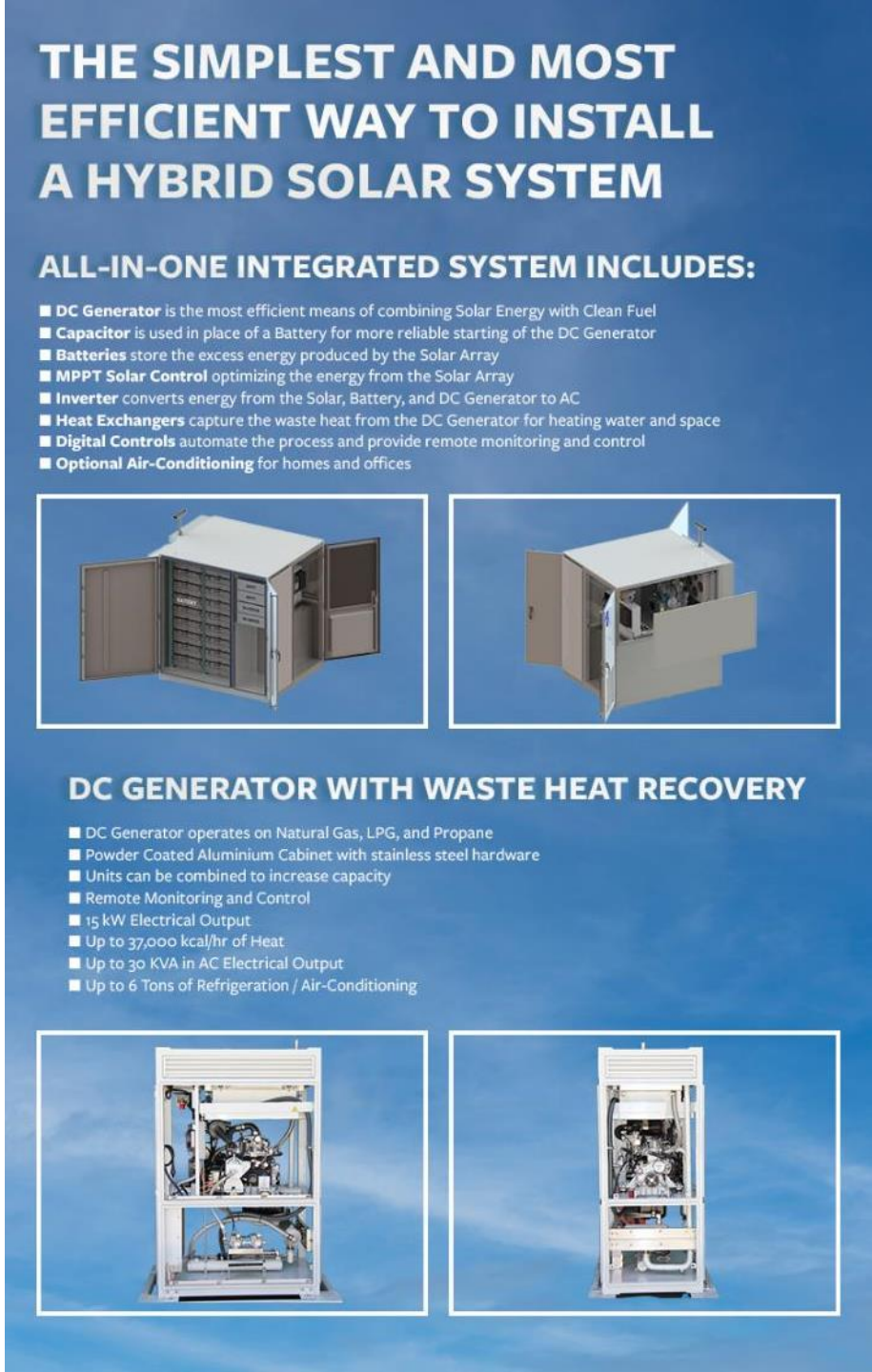
Introduced Toyota line of Propane / NG Prime Power and 27KW DC generators for 5G market

Solar Hybrid Power System

- **Most homes will not be able to fast charge EVs due to limited electric service**; **an LPG or natural gas DC generator provides fast charging** and if the engine's waste heat utilized, this system can offer a lower carbon footprint than most electric utilities.
- **As the climate gets warmer the need for air-conditioning increases the demand on the electric utility grid**. Japan faced a utility problem due to a rapid rise in air-conditioning demand**, to solve for this problem, engine driven heat pumps were developed to use Japan's NG grid.** Other Pacific Nations pursued same solutions using LPG.
- **In the early 1990's Polar engineered and manufactured power systems for Arizona Public Service (APS) to provided electric service to off grid homes and farms**. These small self-contained shelters were dropped off at the site and then connected to the properties power panel. Today we see a more efficient and expanded version that is applicable to on-grid, off-grid, and bad-grid locations. A great opportunity for homes in the USA that are still using fuel oil for heating.
- **Polar's proposed system allows the home or office to draw its energy needs from the electric utility, gas company, and solar**. It solves the issues of fast charging an electric vehicle at home, utility blackouts, peak power charges.
- **Applications making the use of solar, LPG or NG, and the engine's waste heat will typically have both a lower carbon footprint and a lower energy cost than most electric utilities.**
- **Many utilities continue to burn diesel, fuel oil, and coal to produce the electricity they sell.** There are also energy losses in the power lines that add to the fuel consumption.

Solar Hybrid Applications

- **There are many applications that run the AC generator 24 hours a day without using solar this presents a huge consumption of diesel**. And other applications the AC generator is run for a limited time each day powering the load while charging a battery, eventually shutting down and allowing the battery to power the load. When the battery charge is low the cycle repeats. First example consumes large volumes of diesel fuel, and second example will lower the fuel consumption.
- **The lowest CAPEX and OPEX costs, most reliable operation, and environmentally friendly technology is combining solar with LPG.**
- **Its not a cost-effective solution for most applications to use 100% solar (PV). 100% solar typically requires the solar array to double in size and the battery bank to triple in size** to manage those periods of low sunlight. To reduce the battery requirement and land space for the solar, a DC generator is included. **The fuel used for the generator is typically lower in cost over increasing the battery size.**
- **The solar hybrid sites are typically designed for 80% to 90% solar energy with fuel providing 20% to 10%** of the site's energy requirements. With lower fuel consumption, LPG presents a significant advantage over diesel.
- **Prewired / prepackaged equipment reduces installation costs and improves serviceably.** Its too costly to send engineers in the field to supervise the wiring of solar hybrid systems.



Specialty Hybrid Vehicles

Installed on this vehicle is the Polar 8340P-40415 generator with output power of 20 kW at 320 VDC nominal. Crew have the option of operating all electric in stealth mode then switching over to the Polar DC generator for long range cruising.

In this application Polar Power Inc. is supplying DC generators to Raytheon for its Hy-DRA vehicle.

This Kalmar hybrid tow tractor incorporates a Polar Power 26 kW DC generator. Hybrid tow tractors can cost less to manufacture than conventional technology.

Marine Hybrid Electric

Saving energy while making recreation safer and more pleasurable

- Series hybrid electric propulsion
- Powering air-conditioning, communications, water-makers, autopilots and other electrical appliances

Oshkosh Firefighting Vehicle

A Polar DC 5.5 kW DC auxiliary power unit (APU) provides military grade DC power to operate communications, air-conditioning, a backup means to start the vehicle engine and other equipment.

APU's are extensively used in all types of military vehicles

Military

HDT's Hunter 6 X 6 Wheeled Offload Logistics Follower (WOLF)

Seen here is a rugged 6×6 load-carrier (Mule) for dismounted infantry. Closely matching the mobility of infantry, the Hunter WOLF can traverse narrow trails, steep slopes, and dense jungles. Using only internal fuel, the vehicle has a 100 km (60 mile) range and 72-hour endurance. The vehicle's JP-8 / electric hybrid powertrain provides both a "silent drive" and "silent watch" capability. Included in this robot is a Polar 20 kW DC generator.

In the near future we can expect to see hundreds of thousands of robotic drones, mules, and vessels operating on land sea, and air.

Mobile Solar Hybrid SUSS Trailer

Small Unit Sustainment System, or SUSS, provides temporary power for shelters, communications, oil and mining work camps, and military expeditions.

Enables emergency service teams and first responders to quickly set up a command center or emergency shelter in time-critical situations.

This SUSS is powered by Polar 10kW diesel generator with solar array assembled and presented to the military by HDT Global.

Currently under US Army field trails in Hawaii. For more info see: https://www.army.mil/article/179906 .

Comparison	Diesel	LPG
ENVIRONMENTAL	• Rapidly changing emission standards reduce engine availability to OEM's and increases engine cost • Strict emission controls is increasing Diesel engine complexity thereby reducing reliability and making maintenance more difficult • Diesel is carcinogenic and causes respiratory issues	✓ Environmentally Clean Fuel, rarely effected by change in environmental regulations ✓ Clean exhaust ideal for use near population centers ✓ LPG has 14% to 18% less carbon emissions
STORAGE, SHELF LIFE TRANSPORTATON	• Diesel fuel has limited storage life and sometimes requires additives. Transportation of Diesel to the site exposes the fuel to water contamination which can damage the engine • Diesel engines require clean and moisture free fuel to operate reliably	✓ LPG has virtually unlimited shelf life which leads to greater engine reliability ✓ During emergencies LPG may be more Obtainable ✓ Using Vapor feed contaminants remain in the tank
ENGINE NOISE	• Due to compression ignition, Diesel engines produce much higher noise (knock) thereby requiring a noise attenuation system. Noise is a concern when systems are installed close to population centers or in the backyards	✓ Low operating noise of LPG engine allows for deployment of engines in close proximity to population centers and indoor facilities
FUEL THEFT	• Diesel theft is a key factor increasing operating costs by 10% to 25%. In addition, the practice of diluting diesel fuel as a means of pilferage leads to premature engine failure	✓ LPG is more difficult to steal; making it the ideal fuel for telecom applications
LIFE CYCLE COSTING	• Diesel engines are subject to damage (wet stacking) if run with light loads • Quality Diesel engines will have a service life of 14,000 to 30,000 hours	✓ The service life of a "quality" LPG engine is 60,000 to 90,000 hours ✓ Due to environmental benefits most nations provide subsidies to use of LPG thereby reducing operating costs

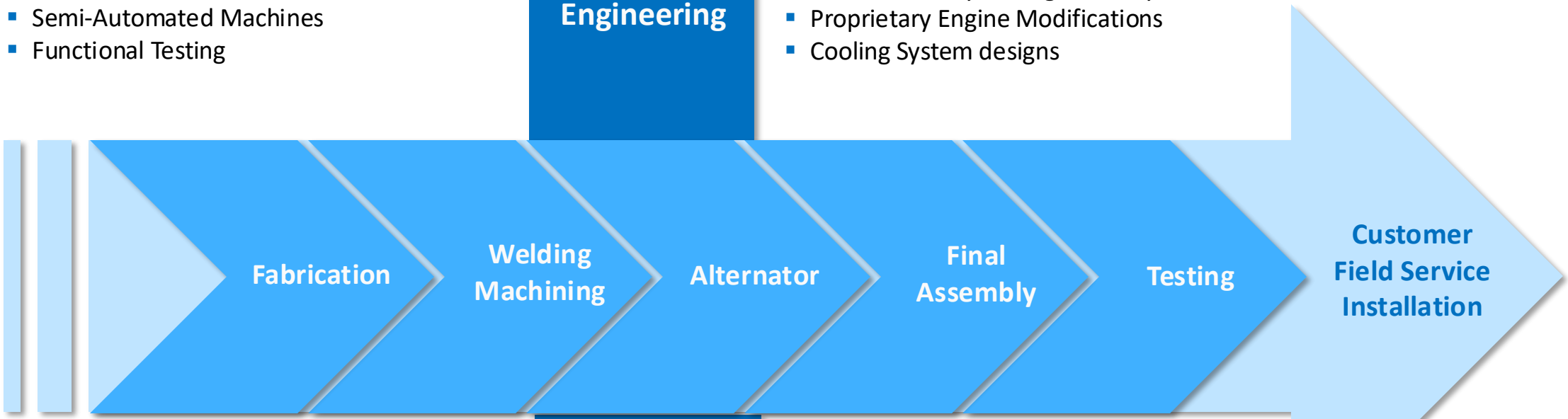
Polar expects its diesel DC Generators to continue to increase in sales. We also expect the LPG/NG models to increase in sales at a substantially faster pace.

Vertical Integration Provides Competitive Edge

Manufacturing
- Fabrication, machining, and Welding
- Motor Winding and Testing
- Electronics and Harness
- Semi-Automated Machines
- Functional Testing

R&D, Design Engineering

Design, R&D
- Proprietary Alternator Design
- Proprietary Control Systems
- Lithium Battery Management Sys
- Proprietary Engine Modifications
- Cooling System designs



Global Sourcing
- 55% Global Content
- Decades Supply Chain Experience
- 80% Purchase Direct OEM
- Qualified Supplier Base
- Dual Sourced - Critical Components

Marketing and Sales

Direct Sales, Service
- Direct Global Sales Force – Customer Focus
- Maximized training and Product Knowledge
- Early Market Knowledge

DC Power Market Trends

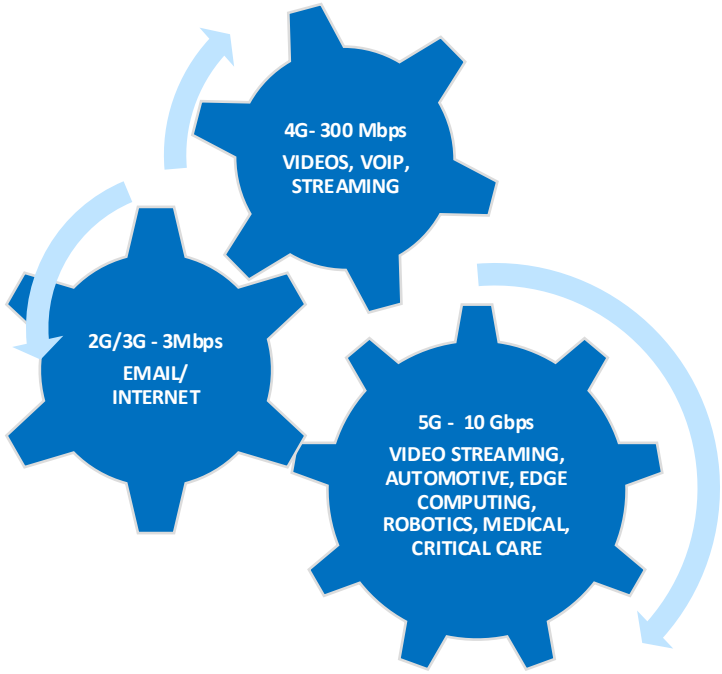
- Continued expansion of telecom infrastructure globally, especially in all rural areas, including the USA.
- As diesel fuel costs rise along with the theft of diesel the migration to LPG and natural gas fuels will increase. We can expect local governments make a push toward these clean fuels.
- In developing nations the governments are beginning to encourage a more decentralized power (nano / micro grid) and solar to compensate for failing grids.
- Aging grid infrastructure, increasing consumer power demand is driving many good grids to bad grids driving the need for backup and nano grid generation
- Military increased usage of drones, robotic mules, electronic warfare, automated systems, unmanned surveillance, hybrid specialty vehicles is driving the need for DC generators and energy storage.
- Increased use of solar power, energy storage, and DC generators in RV, marine and off grid housing.
- Being able to fast charge EVs using grid and natural gas could elevate range fear in purchasing an EV. Providing emergency roadside charging at a reasonable cost will also elevate range fear.

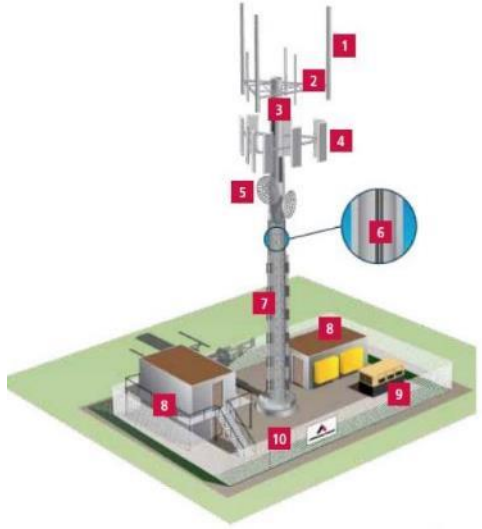
Natural Gas/LPG Hybrid Power

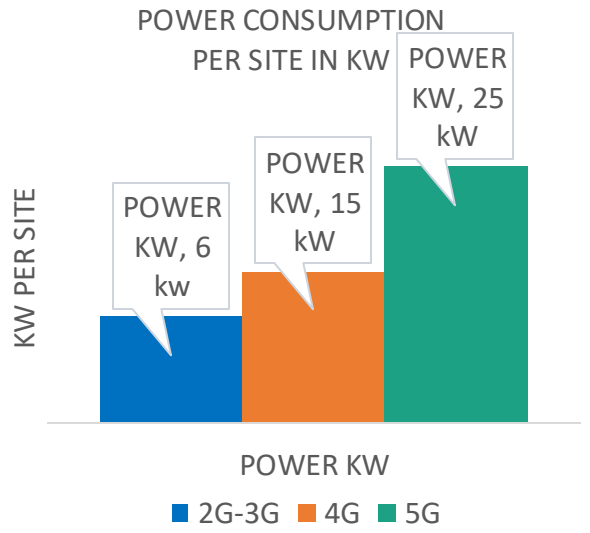
- Natural gas and LPG globally available in abundance and most regions lower cost than diesel
- Hybrid power combining dc generator, battery storage and solar power to provide 24/7 energy for remote locations
- Lowest emissions with 24/7 power solar power and combination of battery storage and LP/natural gas generator
- Remote EV charging faculties near major interstate highways, off-grid homes or peak shaving during EV charging
- Residential power for off-grid homes equipped with solar and energy storage. LPG/natural gas DC generator for peak shaving or backup power
- Remote bad grid or off-grid telecom towers prime power applications low emissions and low operating cost

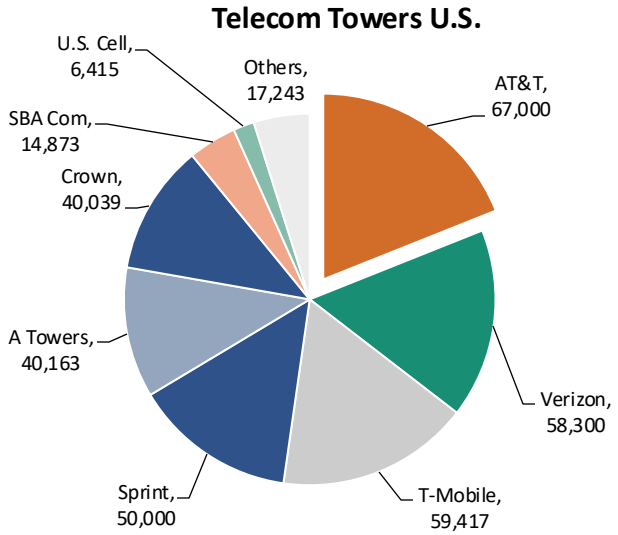
5G Market Outlook

- Higher power needs – 5G technology is 3 times more energy efficient, but transfers 16 times more data, thereby increasing power needs by 1.7 times
- High growth – 5G impacts cable tv and land line market adding the need for additional telecom towers worldwide and growing the demand for local data storage
- Critical use applications – deployment in automotive mobility self driving vehicles, critical patient care, robotics makes backup generators mandatory
- Always-on application – higher use time gives advantage for fuel efficient technologies like DC power systems (40% more efficient)
- Global impact – global growth in telecom towers will provide up to 25% growth rate in telecom infrastructure equipment demand
- 5G upgrades anticipated to increase fuel usage due to higher power requirements. Polar 27 KW product targets 5G facilities with fuel efficient product









Reference – Power Consumption of 5G base station
https://www.huawei.com/en/huaweitech/publication/89/5g-power-green-grid-slashes-costs-emissions-energy-use

Reference – Top U.S. Tower Companies
https://wirelessestimator.com/top-100-us-tower-companies-list/