

Georgia Power





BLUE BIRD



Atlanta Gas Light



















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Completely Clean Energy

Ocells Georgia Solar Factories

Watch the Ocells video here: https://youtu.be/9pMETtn76w8?si=wcE83Lzhqh5HD_Cc

Dalton, Georgia Solar Module Factory 5.1 GW Annual Production, 2000 Jobs

Scott Moskowitz, Senior Director of Industry Affairs scott.moskowitz@qcells.com



Part of Korea's Hanwha Group, Qcells Is Is A Diversified Complete Energy Solutions Provider

New Cartersville Factory

- **\$2.5 Billion Dollar** Investment Largest in U.S. Solar History
- Vertically integrated facility fully functional by **Q4 2024**
- Total capacity will be 3.3 GW annual production
- Employment of ~2000 people, bringing total in GA to ~4000







Qcells Partnerships

Microsoft



 In an expanded strategic alliance, Qcells will supply Microsoft with 12 GW of solar modules and EPC services over an 8-year period.

Alton Steel



 Ocells announced a 6.5 MW solar project with Alton Steel. Two solar arrays will power 10% of Alton Steel's mill to reduce carbon emissions throughout the steelmaking process.

Thankyou! scott moskowitz@celle



Grant Suzuki, PhD Chief of Technology, Marine business unit Yamaha Motor Corporation USA

Yamaha Motor Corporation's Carbon footprint



Calculations are made using the Emission Intensity Database (ver. 3.2) in accordance with the Ministry of the Environment's "Basic Guidelines for Calculating Greenhouse Gas Emissions Through the Supply Chain (ver. 2.4)."

Environmental goals

- Achieving carbon neutrality brought forward to 2035 for Scope 1 and 2
- Achieving carbon neutrality by 2050 compared to 2019 for Scope 3



Scope 3. Target (All emissions including during product use and raw material procurement)



Carbon neutral strategy - Scope 3. Initiative policy

- In addition to existing engine technologies and electrical systems,
- Yamaha Motor Corporation is promoting multi-path development including new energy compatible technologies



Hydrogen development in YAMAHA

2003 FC06 Fuel cell (Methanol)



2006 FC-AQEL Fuel cell (Hydrogen)





Grant Suzuki, PhD Chief of Technology, Marine business unit Yamaha Motor Corporation USA

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Marine carbon neutral initiatives

Hydrogen - Internal Combustion Engine

- Applying conventional combustion engine technology
- Utilizing hydrogen technology cultivated through multi-business development
- **J**apan: Engine development × USA: Boat development
- Exhibited at the 2024 Miami International Boat Show





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Technology quest to maximize Total Return for Humankind



[Hydrogen technology] Humankind have just begun the journey to find out the plausible terminal value of TRH. Hydrogen could bring more TRH.

Bank leverage funds to maximize TRH Tech company leverage science to maximize TRH Yamaha is a primary source of technology.



Humankind need find the technology "X"

ü Conflict -> Agreement of interest

ü Non-zero sum TBL

ü Maximize TRH

Time factor is not depicted here. Society needs to be prepared. Technology Advocacy is imperative.



Environmental Protection Agency Funding Opportunities Region 4

BIL Clean School Bus Program

- **\$5 billion** to spur the transformation of the nation's fleet of school buses over a five-year period (2022 to 2026).
- The program is split into rebates and grants. As of June 2024, there have been two rounds of rebates and one round of grants. In total, \$2.7 billion has been awarded to fund approximately **8,500 school bus replacements** at over **1,200 schools** across the nation.
- <u>FY2022 CSB Rebates:</u> 72 school districts were selected for 616 diesel school buses to be replaced with new electric and propane buses. Approximately \$232 million was awarded to school districts in GA, KY, AL, FL, MS, SC, NC, and TN. Awards are still in progress.
- <u>FY2023 CSB Grants</u>: 34 school districts were selected to fund the replacement of 504 diesel school buses with new electric and propane. Approximately \$172 million will be awarded to school districts in GA, NC, MS, AL, TN, FL, and KY.
- <u>FY2023 CSB Rebates</u>: 56 school districts were tentatively selected to fund the replacement of 391 diesel school buses with new electric and propane. Approximately \$107 million will be awarded to school districts in AL, FL, GA, KY, MS, NC, SC, and TN.



IRA Clean Heavy Duty Vehicles Program - NOW OPEN!

- The CHDV program aims to invest \$1 Billion
- Eligible to Apply:
 - States (including U.S. territories)
 - Municipalities (including public school districts
 - Indian Tribes
 - Nonprofit school transportation associations

- Funding may be used to:
 - Replace non-zero emission Class 6 and 7 heavy-duty vehicles
 - Zero-emission vehicle refueling infrastructure
 - Workforce Development and Training
 - Project Implementation Costs

NOFO Closes Thursday, July 25, 2024, at 11:59 PM ET

2024 CHDV Grant Program Structure

School Bus Sub-Program

Level of Funding: 70% of total funds

Eligible Vehicles: Class 6/7 school buses

Minimum of 10 buses per application

Vocational Vehicles Sub-Program

Level of Funding: 30% of total funds

Eligible Vehicles: Non-school-bus Class 6/7 vehicles, including, but not limited to, delivery trucks, utility trucks, bucket trucks, other box trucks, refuse haulers/dump trucks, and Class 6/7 transit buses

Minimum of 3 vehicles per application

EPA anticipates awarding at least 15 grants from either sub-program to eligible applicants from Tribes and territories under a Tribal/territory set-aside. Territories and Tribal applicants are not subject to vehicle minimums.

Application packages must be submitted to EPA via Grants.gov no later than July 25th, 2024 at 11:59 p.m. ET. For more information, please visit <u>https://www.epa.gov/clean-heavy-duty-vehicles-program</u>.



DERA

- The Diesel Emissions Reduction Act (DERA) authorizes EPA to offer funding assistance for the replacement or retrofit of existing diesel engines, vehicles, and equipment
- <u>2024 Tribal and Territory DERA-</u> NOW OPEN! For federally recognized Tribal governments, Alaska Native Villages, or eligible US protectorates. No mandatory cost share.
- <u>2023-24 State DERA-</u> 30% of annual DERA budget to states and territories to establish diesel emissions reduction programs. Georgia has established a school bus replacement program. 2023 RFP closed in April 2024; 2024 date TBD.
- <u>2022-23 National DERA-</u> This application period has closed in December 2023. Tentative selections have been made and are in the process of approval for awarding.
- More rounds of funding anticipated in the future



 The STRIDE Collaborative (The Southeastern Team Reducing the Impacts of Diesel Emissions) is part of EPA's National Clean Diesel Campaign, a program combining regulatory measures with voluntary initiatives to reduce the pollution emitted from diesel engines across the country.



• STRIDECollaborative.org



Michael Clinton Clinton.John@epa.gov 



Clean Cities Georgia

Sumner Pomeroy, Program Manager

Who We Are

- Clean Cities and Communities is a U.S. Department of Energy (DOE) partnership to advance clean transportation nationwide.
- More than 75 DOE-designated Clean Cities and Communities coalitions work locally in urban, suburban, and rural communities to strengthen the nation's environment, energy security, and economic prosperity.



How We Can Help

Advance clean transportation adoption for all communities through:

- O Fleet conversions: match the right fuel for the right application
- O Grant partnership & management
- O Education and outreach





Clean Cities Georgia Members



⁴ View all members at <u>http://www.cleancitiesgeorgia.org/membership/current-members</u>

Funding & Incentives

- Charging and Fueling Infrastructure due August 28th \$500k-\$15M
 - Community Charging and Alternative Fueling Grants (Community Program)
 Charging and Alternative Fuel Corridor Grants (Corridor Program)
- DOE Vehicle Technology Office FOA released annually for new & emerging transportation technologies
- Lo or No Emission Grant vehicle replacement, released annually in Spring
- Alternative Fuel Excise Tax Credit a tax credit in the amount of \$0.50 per gallon is available for alternative fuels

Project Examples

- DERA eTRU: electrified 100 eTRUs and saved 50,049 gal of diesel
- Southeast Alternative Deployment Fuel Partnership 150 CNG and EVs
- Clean Cities Energy and Environmental Justice Initiative (CCEEJI) creating clean transportation plans for 3 communities
- Southeast Clean Cities Network Expansion expanding capacity for partnerships and fleet assistance in the Southeast
Access Tools and Resources

Alternative Fuels Data Center: afdc.energy.gov

 Station Locator
 Vehicle Cost Calculator

- I aws and Incentives
- FuelEconomy.gov
 - Data and calculators to help drivers improve fuel economy
 - o Gas mileage tips.
- Clean Cities and Communities: cleancities.energy.gov
 History and current activities, including coalition
 - search
 - Open funding opportunities.







Stakeholder Meeting October 1st, 2024 Georgia Tech's Academy of Medicine

National Drive Electric Week September 28th - October 6th Event details coming soon





Thank you!

Sumner Pomeroy, Program Manager sumner@cleancitiesgeorgia.org

For more information visit: www.cleancitiesgeorgia.org www.driveelectricgeorgia.org



Michael Clinton

Hydrogen Video

Hydrogen Engines | Cummins Inc.

Southeast Hydrogen Energy Alliance



SHEA Evolution

2006: The SC Hydrogen and Fuel Cell Alliance and The Fuel Cell Collaborative were formed.

2020: Hydrogen interest from the rest of the region results in a rebrand to Southeast Hydrogen Energy Alliance.

2024: SHEA's vision and purpose expands through re-launch.

2016: The two organizations merged to become the South Carolina Hydrogen and Fuel Cell Alliance. 2023: SHEA and Kimbro partner to elevate and promote the hydrogen economy and education in the Southeast.



SHEA's Pursuits



Drive Innovation & Collaboration

Focus Areas:

- Connect members to opportunities by providing key connections and resources
- Create an environment conducive to startups of mature and nascent technologies
- Maximize hydrogen innovation through local, state, and federal investment dollars
- Highlight hydrogen businesses/ uses in a focused campaign for other businesses to join the region
- Make collaboration the way of business, not the exception, resulting in expansive commerce
- Creating an organization that is a tool for companies rather than an obligation to join

Increase Education & Awareness

Focus Areas:

- Provide credible, trustworthy and transparent education on the hydrogen industry
- Train workforces of all sizes and backgrounds
- Partner with academia at each level of the education spectrum to create curriculum and opportunities to grow Hydrogen Education
- Create partnerships with national labs
- Develop recognizable branding and marketing efforts
- Host, contribute, and attend educational webinars
- Launch educational and promotional campaigns to target specific areas and raise awareness

Enable Change & Adoption

Focus Areas:

- Partner with local and state governments to mobilize opportunities
- Establish connections with the Federal government where appropriate, including linkage to incentives and permitting opportunities
- Streamline hydrogen agenda across all 10 states and local municipalities
- Engagement directly with staff & membership
- Foster coordination across each state's key organizations, such as the Clean City Coalitions and the State Energy Offices
- Inform and uplift the Southeast communities about their key role in hydrogen development





SHEA's Geographical Footprint

Governing Board

Dr. Scott McWhorter, Chairman President/CEO Joule Consulting

John Ledbetter, Treasurer President/Owner Summit Worx, LLC

Sarah Adair, Director Managing Director, Public Policy Duke Energy

Don Daniels, Director

Chief Strategy Officer Mitsubishi Power Geovanni Castano Cerpa, Director Energy Technology Advisor Dominion Energy

Dr. Neda Askari Tari, Director

Power Systems Development Account Manager Siemens Energy

Dr. James Fenton, Director

Director of FSEC Energy Research Center University of Central Florida

Priya Swamy Vice President Sustainable Energy & Environment Allegheny Science & Technology

William Kimbro, Director

President / Owner Kimbro Companies

Michael Walton, Director Managing Partner

Inanaging Partner Energy Transition Finance, LLC

Dr. Theodore Motyka, Director

Senior Consultant CC Energy Consulting, LLC

Chad Martin, Director

Vice President of Strategy Kimbro Companies

Dr. Kevin Huang, Director

Professor University of South Carolina

Dr. Mark Johnson, Director

Thomas F. Hash Endowed Chair for Sustainable Development, Director of Center for Advanced Manufacturing Clemson University

Southeast Hydrogen Energy Alliance

Find out more: www.seh2.energy learnmore@seh2.energy



Regional Transportation Electrification Plan

Clean Energy Roadshow

Daniel Studdard, AICP Planning Administrator July 11, 2024





The Atlanta Regional Commission is the federally required Metropolitan Planning Organization (MPO) for a 20-county region which is currently home to about 6.1 million people. This is expected to grow to 7.9 million by 2050.





Project Purpose

Establish a Regional EV Ecosystem

Lead the southeast in the electrification of our transportation sector by creating a robust and widespread regional EV ecosystem. Our approach will accelerate the equitable adoption of EVs and inform regional EV infrastructure investments to guide the region and meet the needs of the future.



Current State of EVs in Georgia and the ARC region

- EV Market Share in Georgia mirrors U.S. trends
- 84% of registered EVs in Georgia are in the ARC region. Internal forecast results should align closely with statewide projections.
- As of September 2023, there were 60,000 EVs registered in the ARC region.
- 2023 Metro Atlanta Speaks Survey: Nearly 1 in 3 respondents plan to buy an EV in the next 5 years.

Georgia EV Sales and Market Share of Sales





Major Takeaways from Needs Assessment

- Light duty EV sales are promising around the region, and the state.
 - Among southeastern states, Georgia and the Atlanta region are leading the way.
- EV adoption is already off to a great start in the region, but a gap remains between early adopters and the rest.
- Planning for uncertainty is essential.
 - Four adoption scenarios help convey a range of future forecasts and rates of anticipated growth.
- A large gap exists between existing EV charger inventory and forecasted future growth.
 - Careful planning is needed to ensure charger installations support forecasted growth.
- Most existing EV chargers are located north of I-20.
 - Future opportunities in siting EV charging can improve equitable outcomes.
 - Without an equity focus for EV charging investments, the market will follow early adopters and long trips.



ONEGICAL

The Basics of ARC's CFI Project

Funding

• \$6.1 million federal funding

REGION

- To be leveraged with funds from one or more private sector partners
- Concept
 - 75 to 100 new Level 2 charging stations, each with four charging ports
 - Goal to make this free to use by consumer
 - Regional coverage, with priority given to disadvantaged communities when determining locations
 - Located where people go on a regular basis, such as grocery stores, pharmacies, movie theaters, and other retail / entertainment destinations
 - Specific destinations will be determined in consultation with the selected private sector partner(s) and via a community engagement process (TBD)

Map of existing charging locations in Metro Atlanta







Thank You

Daniel Studdard, AICP

Planning Administrator

ONE **Great**region

dstuddard@atlantaregional.org







National Electric Vehicle Infrastructure Formula Program (NEVI)

> Beatrice Shakal Policy Planning Coordinator



Customer Driven Deployment: EV Trip TypesIripDescription

Federal Typical Eligibility for charger New EV type Program



Federal Standards and Requirements



Minimum of four DCFC high-powered (150 kW) chargers at each site



80% max federal funds 20% min match





A Every 50 miles along Alt. Fuel Corridors; ≤ 1 mile from corridor



Quarterly and annual reporting



American with Disabilities Act (ADA) compliance



Justice40 compliance (40% of benefits to Disadvantaged Communities)



Collaboration with agency partners and stakeholders

GDOT's NEVI Vision

GDOT will invest to catalyze further investment in EV charging stations across the state where utilization is anticipated but the private sector

may not otherwise be economically motivated to install and operate EV charging stations



Compliance with federal requirements: Sites will be developed in accordance with federal rules and requirements and result in 100% of Georgia's Interstates and AFCs being fully built out to NEVI Formula program standards.



Customer-driven deployment: Convenient and sufficient charging investment where EV drivers prefer to charge, regardless of whether private sector investment can fully fund.



Economic development:

Sites should be placed so that they optimize the economic development opportunity from electric vehicles.



Private sector ownership and operation (including non-profits): Sites will be delivered and operated by non-state entities.



Sustainability and reliability of operations: Sites will be developed to ensure that charging achieves high operational performance.

https://www.dot.ga.gov/NEVI

Alternative Fuel Corridors (AFC)

Georgia's current EV AFCs

- 12 corridors
- 1,556 miles
- 2 additional corridors added since NEVI – US 82 and US 441 – which added 27% to total mileage, mainly in rural areas

The NEVI Plan identified ~30 gaps that are required to be addressed to build out the AFCs



NEVI Round 1 Developers and Locations

P.I. No.	GA NEVI Location	Developers / Project Site Number
0019828	Tifton	EnviroSpark Networks, Inc. / Project Site No. 2 (Waffle House)
0019829	Fort Valley	Francis Energy Charging, LLC / Project Site No. 1 (Wendy's)
0019830	Dublin	Silver Comet Energy, Inc. / Project Site No. 1 (RaceTrac Gas Station)
0019831	Metter	EnviroSpark Networks, Inc. / Project Site No. 3 (Shell Super Stop Gas Station)
0019832	Brunswick	Love's Travel Stops & Country Stores, Inc. / Project Site No. 1 (Love's Travel Stop)



ENVIRG) SPARK

NEVI Round 2 Locations				
Site	AFC	GA NEVI Location		
1	US-82	Dougherty & Worth		
2	US-441	Clarke		
3	US-27	Decatur		
4	US-76	Union & Towns		
5	US-27	Early		
6	I-20	Carroll		
7	I-75	Bartow & Gordon		
8	US-23	Rabun		
9	I-185	Chattahoochee		
10	US-23	Habersham		
11	I-75	Whitfield		
12	US-76	Gilmer		
13	I-16	Bryan & Bulloch		
14	I-20	Greene		
15	I-575	Cherokee & Pickens		
16	US-27	Walker		
17	US-27	Carroll		
18	I-85	Franklin & Hart		
19	US-27	Stewart		
20	I-16	Bibb & Twiggs		
21	I-20	Morgan		
22	US-441	Baldwin & Wilkinson		
23	I-85	Coweta		
24	US-82	Atkinson		
25	US-27	Floyd		
26	I-16	Chatham		
27	I-20	McDuffie & Warren		
28	I-95	Liberty & McIntosh		
29	US-82	Ware		
30	I-85	Troup		
31	I-85	Troup		
32	I-185	Troup		
33	I-985	Hall		

Georgia NEVI Mapping Tool

https://experience.arcgis.com/experience/66cfcd6b6581452b807637f52c690d51



Next Steps

Key upcoming procurement dates for the Project include:

ΑCTIVITY	DATE	TIME
Issue RFP	7/1/2024	-
Deadline for Proposers to submit Authorized Proposer Representative Form (if submitting Questions or attending a virtual, one-on-one meeting)	7/29/2024	-
(OPTIONAL) Deadline for Proposers to submit Questions regarding RFP	7/29/2024	2 p.m.
(OPTIONAL) Deadline for Proposers to request a virtual, one-on-one meeting	8/16/2024	2 p.m.
(OPTIONAL) Deadline for Proposer virtual, one-on-one meeting agenda submissions	8/21/2024	2 p.m.
(OPTIONAL) Virtual, one-on-one meetings with Proposers regarding RFP	8/26/2024 - 8/30/24	9 a.m 5 p.m.
Final deadline for Proposers to submit Authorized Proposer Representative Form	9/27/2024	2 p.m.
Proposal Due Date/Time	9/30/2024	11 a.m.
Anticipated public comment period under Rule 672-1704(3)(g)	12/2/2024 - 1/1/2025	N/A
Anticipated selection of apparent Best Value Proposer for each Georgia NEVI Location	2/20/2025	N/A
Anticipated deadline for execution of each Project Agreement and related documents by each Developer and Georgia DOT (Effective Date)	6/23/2025	N/A

This above list is not exhaustive. Interested parties are required to review and comply with all deadlines specified in Section 2.2 (Procurement Schedule) of the RFP. All dates set forth above and, in the RFP, are subject to change in Georgia DOT's sole discretion.

- THANK-You!



https://www.dot.ga.gov/NEVI

Electric Transportation Workforce Development

TIT



Epicenter of Automotive & Battery Supply Chain



Source: Georgia Power Community & Economic Development & Georgia Department of Economic Development

EV Infrastructure & Innovations



#2

State in the Southeast For EV Registrations



#8

State in Nation for EV Charging Outlets



100K

Electric Vehicles In Georgia



Top 10

State for Higher Education R&D STEM Expenditures





Electric Vehicle Announcements Since 2018



\$27.9B Capital Investment Created



Source: Georgia Power Community & Economic Development 2024


HYUNDAI MOTOR GROUP Jobs: 8,100 CapEx: \$5.54B	EIVIAN Jobs: 7,500 CapEx: \$5B	Jobs: 3,500 CapEx: \$4.5B	SK innovation Jobs: 2,600 CapEx: \$2.6B
HYLINDAI MOBIS			
JODS. 1,500 Capex. \$92000 DaeChang Seat Co., LTD.		SECO ECOPLASTIC	PHC PHA Body System:
Jobs: 500 CapEx: \$317M	Jobs: 500 CapEx: \$75.9M	Jobs: 456 CapEx: \$205M	Jobs: 402 CapEx: \$67M

EV Occupations with Current & Future Locations



Occupation	2024 Jobs	2029 Jobs	2024 - 2029 % Change
Industrial Production Managers	5,227	5,844	12%
Software Developers	54,905	64,319	17%
Software Quality Assurance Analysts and Testers	6,386	7,347	15%
Chemical Engineers	299	362	21%
Electrical Engineers	4,277	4,784	12%
Electronics Engineers, Except Computer	3,550	3,907	10%
Industrial Engineers	7,877	9,151	16%
Materials Engineers	730	802	10%
Mechanical Engineers	6,049	6,963	15%
Mechanical Drafters	849	918	8%
Mechanical Engineering Technologists and Technicians	875	960	10%
Chemists	1,322	1,493	13%
Materials Scientists	168	192	14%
Urban and Regional Planners	1,141	1,207	6%
Commercial and Industrial Designers	711	763	7%
Electricians	21,289	22,713	7%
Electrical Power-Line Installers and Repairers	3,789	3,970	5%
Electrical, Electronic, and Electromechanical Assemblers	7,749	9,050	17%
Engine and Other Machine Assemblers	1,171	1,205	3%
Miscellaneous Assemblers and Fabricators	50,383	52,532	4%
Machinists	6,592	7,325	11%
Computer Numerically Controlled Tool Operators	2,204	2,500	13%
TOTAL	187,543	208,307	11%

Sources: Bureau of Labor Statistics; Lightcast 2024.2Q; Georgia Power Community & Economic Development 2024

University Research & Engagement

- University of Georgia
 - § \$1 million in seed funding over the next five years to initiate new projects, including the development of educational programs such as the E-Mobility Certificate and research activities in battery re-use and recycling.
- Georgia Institute of Technology
 - Strategic Energy Institute
 - S Developing the technologies that are enabling more equitable, lower cost, and cleaner generation, storage, distribution, and utilization of energy
 - Manufacturing Institute
 - S Researchers from Georgia Tech are partnering with GE and Ford Motor Co. to study ways to add greater efficiencies to electric driving and charging performance
- Augusta Technical College
 - Offers a Hybrid/Electric Vehicle Repair Technician Certificate
 - In November 2022, the Knox Foundation announced a donation of \$1 million for the development of the college's new automotive service training center.







EV and Other Clean Energy Related Programs

Presenter: Dr. Beth Jones TCSG Manager of Strategic Planning July 9 and 10, 2024

EV Automotive Related Programs

HVR1 – Hybrid/Electric Vehicle Repair Technician

Program is currently approved for 7 colleges (Albany Technical College, Augusta Technical College, Chattahoochee Technical College, Savannah Technical College, Wiregrass Technical College).

HSV1 – Hybrid/Electric Vehicle Service Technician

Program is currently approved for one college, Gwinnett Technical College.

EVC1 – Electric Vehicle Charging Station Technician Program developed by and approved for Gwinnett Technical College.



EV Manufacturing Related Programs

EVP1 – Electric Vehicle Professional

Program is available with Savannah, Coastal Pines, Ogeechee, Southeastern, Albany Tech and Oconee Fall Lines Technical Colleges.

EM81 – Electrical Maintenance Technician (Automation and Robotics Technology I) Program is on the HOPE Career Grant list. Program is currently approved for 9 colleges.

RT41 – Robotic Technician

The program is on the HOPE Career Grant list. Program is currently approved for 6 colleges.

AU31 – Automation and Robotics Technology II

A new program developed by Lanier Technical College and is the second of two TCC programs for one of their manufacturer's requested training pathway.



Apprenticeship Opportunities



Technical College System of Georgia's 22 technical colleges, serve as the state's largest network for registered apprenticeship sponsors.

22 Participating Colleges (as Apprenticeship Sponsors)

288

Total Employer Partners

Registered Apprenticeships for Clean Energy: EV Manufacturing Electrician Line Maintenance EV Technician

584 Active Apprentices

For add'l information: Adam Hawk, Asst. Director Apprenticeships; ahawk@tcsg.edu







Georgia Power Electric Transportation

Georgia EV Market Share (Jan-Dec 2023)

2020

- Georgia new vehicle market share: 1.25%

2021

- Nationwide avg. new EV market share: 4.3% - Georgia state avg. new EV market share: 2.9%

2022

- Nationwide avg. new EV market share: 7.3% - Georgia state avg. new EV market share: 5.4%

2023

Nationwide avg. new EV market share: 9.2%
 Georgia state avg. new EV market share: 7.4%





1 County 4%+

16 Counties 4%+



26 Counties 4%+

Where to Start

Engage your Utility	 Capacity, System Upgrades, Supply Chain, Transformer Location Rates & Resiliency: Fueling Strategies, Back-up Generation, Battery Storage Funding Programs: Make Ready, Rebates 	
Charging Master Plan	 Residents, Employees, Visitors, Fleets Sustainability Plans Wants vs. Needs 	
Know your Community	 Municipalities Ordinances, permitting, etc. Private Companies 	
Chargers Types & Capabilities	 Research: Capabilities, Uptimes, Warranties, Costs, Data Analytics Maintenance Planning Level 2 & DCFC 	
Funding Opportunities	 Federal, State & Local Utilities Access to a Professional Grant Writer 	

Save with the Right Rate Option

Overnight AdvantageImage: Super stateImage: Super stateI

Residential

Overnight Advantage allows customers to save on their energy usage by allowing them to take advantage of off-peak and super off-peak pricing.

Business

Charge-It Rate Rider



Charge-It offers customers a billing demand discount for four years or until a customer's average load factor reaches 15%.

The chargers must be separately metered and be a Power & Light rate.

Business

Time of Use – EV Charging

\$148	Basic Service Charge	
20.7695¢	On-peak kWh Energy Charge	
5.1924¢	Off-peak kWh Energy Charge	
\$4.46	\$4.46 Demand Charge per kW	

TOU – EVC allows customers to take advantage of off-peak pricing. This is a good option for fleets that primarily charge overnight.

Charging stations must be separately metered.

Programs for Business Customers

Make Ready Infrastructure Program



Georgia Power will install and maintain electrical infrastructure behind your meter up to your chargers.

- Must be a public-facing installation (accessible or serving the public)
- Must install 6 or more Level 2 chargers or at least 1 DCFC

EV Charger Plus Rebate Program



Georgia Power offers rebates to business customers installing EV chargers and associated infrastructure.

- Rebate amounts vary based on the type, kW output, and number of chargers installed.
- Receive up to \$20,000 per project. Pre-approval may be required.

Make Ready Successes

Convenience Stores







Government Buildings



Police/Solar Charger







Transit Buses

georgiapower.com/et







ENVIRØSPARK



EnviroSpark Energy Solutions

EV Charging Experts



ABOUT US

Founded in 2014, EnviroSpark is an industry leader in the design, installation, and operation of EV charging solutions.

The company was founded with two missions:

- to raise awareness of the benefits of electric vehicles and
- to increase the availability of EV charging infrastructure.

As an EVITP approved contractor responsible for 8,800+ charging ports nationwide, we're ready to put our expertise to work for you.





WHY CHOOSE US?

- Flexible and customized EV charging solutions to meet your goals
- Our EnviroSpark network provides a turn-key solution at no cost to you
- White-label and or construction/installation services available
- In-house maintenance and 24/7 customer support for your EV drivers
- Industry-wide relationships enable us to provide you with the best solution for your EV charging roll-out
- EVITP Approved



PARTNER HIGHLIGHTS



NETWORK PLANNING

Our team of experts will work with you to create a short and long term deployment plan to add EV charging to your locations based on subsidy programs, location interest & availability, and preference.

DEAL TERMS & DESIGN

We will work with your team to determine the business terms, charger locations, hardware selection, current/future electrical capacity, and branding – all at no cost to you.

PROJECT TIMELINE

INFRASTRUCTURE DESIGN

Once terms are agreed, our team will get started on initial design sets for your approval.



CONSTRUCTION & COMMISSION

Once designs are approved, we will engage with the local permitting and utility offices in preparation for construction and commissioning. You'll be updated every step of the way.

ENVIR®

STATION MANAGEMENT & CUSTOMER SERVICE

We work 24/7 to make sure the chargers maintain a minimum of 98% up time and all driver issues are handled by our customer care team.

Thank you and please see below for my contact information & our website!

Kevin Loftus kevin.loftus@envirosparkenergy.com

000



visit our website



Welcome!



GO-STATION[®]

DELIVERING AN UNSURPASSED ELECTRIC VEHICLE (EV) CHARGING EXPERIENCE



Meet Go-Station

Owned & Operated EV Charging

Go-Station was founded in 2017 and has been growing ever since. In addition to our network of more than 46K chargers, we own and operate STATE-OF-THE-ART commercial fast charging solutions with site partners across the US and soonto-be Canada.

Turnkey Partner

For clients who want to invest in THEIR OWN EV CHARGING INFRASTRUCTURE, Go-Station offers full service, no hassle project management.

A Software Company

We've built the best-in-class USER EXPERIENCE via our GO-

STATION MOBILE APP. Our Members have access to both Go-

Station and more than 46K third-party public charging units across the US and soon-to-be Canada.

Tailor-made for high-traffic retail shopping centers, mixed-use, or major interstate/highway locations, our company installs, owns, and operates DC Fast Charging (Level 3) solutions at site partner locations.

Level 2 or higher solutions that are ideal for tenants and guests who want to charge where they live (multi-family) and work. We become your advisor, handling equipment selection, installation, management, and maintenance of your equipment.

Ideal for locations close to retail and high-density traffic areas, our mobile app is designed to push EV charging customers into local merchants during the charging process via targeted advertising and purchase incentives.







EV Charging Equipment Overview



Level 1



- Charger plugs into a standard 120 VAC wall outlet
- Included with most EVs purchased; non-networked
- Very slow power output only 1.4 kW. One hour of charge time provides ~3 – 5 miles of driving distance

Level 2

- Charger plugs into a 240 VAC wall outlet (e.g. dryer) for home use, or 208 VAC for commercial locations
- Available as wall mount or pedestal (pictured) and networked or non-networked; most common public charging option
- Still slow power output up to 6.6 kW 11.5 kW. One hour of charge time provides ~15 – 30 miles of driving distance

DC Fast Charger

- Power output from 50kW 350+ kW
- Networked for usage monitoring, payment services and energy reporting
- ~30 min. of charge time @ 50 kW provides ~50 miles of driving range
- ~20 min. of charge time @ 350 kW provides ~150 180 miles of driving range





Go-Station & Port Fueling Center





Go-Station & Port Fueling Center



Electric Drayage Truck Charging

Go-Station partnered with Port Fuel Center, Port City Logistics, and Current Trucking to make the first allelectric drayage run in and out of the Port of Savannah on May 9, 2024. Over one month in operation so far.



Electric Passenger Vehicles

- Four (4) DC Fast Chargers near the store
 - ∞ Two (2) 50 kW
 - ∞ Two (2) 160 kW

Electric Trucks

Three (3) DC Fast Chargers @ 160 kW each behind the store in the truck parking and fueling area



Go-Station & City Of Port Wentworth







Sports and Entertainment Complex

- ∞ 150-acre park
- Soccer and baseball fields
- Mockey arena (Savannah Ghost Pirates Training Arena)
- 👓 Gym
- Amphitheater
- 💀 Restaurant
- Park and Ride
- w Walking and running paths
- Due to open in 2025 with L2 and Fast Charging Capabilities

Future Projects

(Georgia, US, and Canada)



Passenger Vehicles

- Retail centers
- Multi-family
- Fueling centers
- Office buildings
- Gyms
- Hotels
- Entertainment and sports complexes
- Medical centers

Electric Trucks

- Ports
- Fuel centers
- Fleet operators



GO-STATION[®]

MIKE ANDERSON

MIKE@GO-STATION.COM 404.536.3035 WWW.GO-STATION.COM



The Good "IF" with CNG

Driving Natural Gas Vehicle (NGV) Adoption with Infrastructure and Funding Support

Georgia Clean Energy Roadshow 2024 Shaun Rosemond



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AGL in the CNG Value Chain

Delivery

Local Distribution Company, Owner and Operator of the Infrastructure

CNG Fueling Station & Maintenance

"One Stop Shop" for CNG Station Needs

Transportation Sector

Great opportunities for heavy-duty/long-haul trucking fleets

Benefits

Scope 1 emissions reductions – especially with RNG fuel









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AGL CNG Overview



30+ years of CNG station construction, repair and maintenance experience

99% uptime for stations we do manage

On-call 24-hour emergency response

Of the 49 stations in GA, AGL owns and maintains 20 and maintains an additional 15 customer-owned stations

Key Customers



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Industry Partners

TRANSP

CNG Station Options

Fast-Fill CNG Station



Station Location

- Offsite: use existing public access station if available and of sufficient capacity.
- Onsite: private access only
- Onsite: with public access "outside the fence"





Station Size and Design Considerations

- What's needed? Time-Fill or Fast-Fill
- Number of vehicles per day, fueling patterns, max daily flow, max hourly flow
- Available back-up fueling or redundancy?
- Dispensing/Metering/Data/Payment needs?
- Modular approach adds capacity for growth

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AGL V-52: A "One Stop Shop" for CNG Stations

AGL installs, owns	Public access
and maintains the	recommended but not
CNG equipment	required
Customer provides	Same delivery charges
land, does any site	as regular commercial
development	(G-11) rate
Facilities charge = 1.5%	Typically \$1.00+/GGE
per month (over 10	more favorable than
years)	diesel



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Federal Funding Options



CFI

- \$2.5 Billion over 4 years to support Charging and Alternative Fueling Infrastructure
- Up to 80% funding supports community projects and FHWA alternative fuel corridors
- \$1.3 billion (Round 2) funding announced May 31, applications due August 28

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DERA

- EPA-administered program designed to support replacement of diesel engines to reduce emissions
- Public-private partnerships encouraged
- School buses, transit buses, Class
 5-8 highway vehicles, nonroad
 vehicles eligible



AFTC

 \$0.50/gallon credit available for alternative fuels – applicable against excise taxes

30C Credit

- Designated to grow alternative fuels charging/fueling in unserved/underserved areas
- 30% of cost of charging/refueling assets, up to \$100,000

For More Information

Shaun Rosemond

Manager, Natural Gas Vehicles Southern Company Gas <u>msrosemon@southernco.com</u> 404.561.1012

atlantagaslight.com/business/natural-gas-vehicles



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RNG Overview

Earnell Kelly Manager, Renewable Gas Business Development



The Role of Renewable Gas

Natural gas infrastructure is foundational to realizing a cleaner energy future

What is Renewable Natural Gas (RNG)?

- RNG is a sustainable and alternative fuel produced from naturally occurring waste methane that is captured primarily from landfill, agricultural, wastewater plants, and food waste sites.
- Capturing this biogas at the source before it's emitted into the atmosphere helps to reduce the amount of greenhouse gas emissions that contribute to the warming of our planet.

The future of our infrastructure

- Leverage existing infrastructure for new, lower carbon sources of gas (RNG, hydrogen, power to gas).
- Promote economy-wide emission reductions, such as in the transportation and electric industries.
- Support efficient use of energy for our customers' sustainability goals.



Renewable natural gas turns the problem of waste into renewable energy







Wastewater Treatment Plants

Municiple Solid Waste

Wood and Agricultural Resi dues





Dairies



Landfills

How RNG Works



Unbundled Product sold in

compliance OR voluntary markets for Scope 1 Emissions reduction

RNG + CNG – A Winning Combination



RNG-fueled trucks and buses have access to an established public fueling infrastructure and a mature network of servicers and suppliers. RNG trucks are affordable and scalable, meeting range and operations requirements for any commercial medium- and heavy-duty application. Also, RNG fueled trucks and buses do not rely on components sourced and controlled overseas^[2].

Did you know?

RNG reduces 660 million gallons of diesel consumed by heavy duty vehicles. By filling approximately 3 million semi-trucks or 7.3 million transit buses, 14,792 million pounds of CO² emissions can be reduced by converting existing waste streams into a valuable fuel source[1].

In 2023, 79 percent of all natural gas used in transportation in the U.S. was RNG. The industry aspires to reach 80 percent by 2030 and virtually 100 percent by 2050[2].

[1] Economic Analysis of the US Renewable Natural Gas Industry. The Coalition for Renewable Natural Gas. 2021.



Benefits of RNG Project Development



Infrastructure. By integrating RNG, customers can reduce their emissions without upgrading equipment or infrastructure, assuming additional maintenance or disrupting existing operations.



Job creation. RNG projects create high-paying, clean-energy jobs, from plant managers and technicians to biologists and more.



Environment. Integrating RNG facilities beneficially uses waste methane and can improve local air quality. The Environmental Attributes generated can be used toward a customer's Scope 1 emissions reduction for direct thermal and transportation use.



Local Supply. RNG projects create locally sourced natural gas and less dependence on interstate pipelines.



Thank you



RNG: The Clean Energy Fuel

An overview of RNG production and its available credits to the transportation sector.

Justin Stankiewicz General Manager Chesapeake Utilities Corporation & Marlin Gas Services

Chesapeake Utilities Corporation Overview

Our Businesses & Service Areas







About Marlin Gas Services

Marlin Gas Services is one of the country's leading providers of virtual pipeline solutions for gas utilities, pipeline companies, industrial facilities, RNG facilities and other key markets across the eastern United States.

- Established in 1996
 - More than 5 billion cubic feet of CNG and RNG transported to date.
- Wholly-owned subsidiary of Chesapeake Utilities Corporation since 2018
- Headquartered in Spring Hill, FL
 - Deployment facilities in
 - Spring Hill, FL
 - Pensacola, FL
 - Savannah, GA
 - Dover, DE





Renewable Natural Gas (RNG)

RNG is an ultra-clean and ultra-low carbon gas alternative, that is fully interchangeable with traditional natural gas.

As organic matter decomposes, it creates biogas, a methane-rich gas that can be cleaned and purified to create biomethane, known more commonly as RNG.



Feedstock Source

RNG is derived from the decomposition of organic waste from sources such as landfills, wastewater treatment plants, livestock farms, food production facilities and organic waste management operations.

Bacteria naturally break down organic waste and produce raw methane, carbon dioxide (CO2) and other gases.

Digestate

The material that is left after anaerobic digestion happens is called "digestate." Digestate is a wet mixture that is rich in nutrients and can be used as fertilizer for crops.



Anaerobic Digestion

To mitigate these gases from being released into the atmosphere and to produce RNG, waste is loaded into an anaerobic digester. Inside the digester, the waste undergoes a gradual fermentation process resulting in biogas being captured.

> Alternatively, landfills capture biogas from on-site collection systems.



3

Gas Upgrading System

Biogas, primarily composed of methane and CO2. is processed through a gas upgrading system where it is cleaned and purified into pipeline-quality RNG.





RNG

As a carbon-negative source, RNG is compatible with conventional natural gas and can be injected into the existing pipeline infrastructure to be used for transportation fuel, electricity and heat generation and more.



Renewable Natural Gas (RNG)

Biogas Availability Across the Southeast



- Ranks **19**th out of 50 for biogas production potential
- Estimated Annual Production: 26 billion cubic feet

North Carolina

- Ranks 3rd out of 50 for biogas production potential
- Estimated Annual Production: 62 billion cubic feet

South Carolina

- Ranks 28th out of 50 for biogas production potential
- Estimated Annual Production: 14.27 billion cubic feet
- Ranks 4th out of 50 for biogas production potential
- Estimated Annual Production: 57.44 billion cubic feet
- Ranks **13**th out of 50 for biogas production potential
- Estimated Annual Production: 33.3 billion cubic feet



Created by Congress to reduce greenhouse emissions and expand the nation's renewable fuels sector, while reducing reliance on imported oil.

- Administered by the U.S. Environmental Protection Agency (EPA).
- First authorized under the Energy Policy Act of 2005 (RFS1)
 - Only included small targets of blending ethanol in gasoline
 - Only two compliance categories (D1 and D2).
- Program expanded in 2007 (effective in 2010) to include:
 - Increased mandated volumes and extended timeframe
 - Four separate, nested compliance categories (D3-D7)
 - Minimum lifecycle greenhouse gas emission reductions
 - Feedstock specificity and land use restrictions

The RFS program is a national policy that requires a certain volume of renewable fuel to replace or reduce the quantity of petroleum-based transportation fuel, heating oil or jet fuel.

Under the RFS:

- Refiners or importers of gasoline or diesel fuel are obligated parties
- Renewable volume obligations (RVOs) are established annually by the EPA
- Each obligated party's individual RVO is their total gasoline and diesel sales multiplied by the EPA annual renewable fuel percentage standards

The EPA regulates RFS compliance through Renewable Identification Numbers (RINs), which serve as a tradable credit system.

- To generate a RIN, the EPA certifies that RNG was produced, injected into the pipeline and used solely for transportation fuel.
- 1 Dekatherm of RNG = 11.727 RINS
- RINS have an expiration date (2 years max), but only 20% of an obligated party's RVO may be met with RINS generated in prior year.





California's Low Carbon Fuel Standard (LCFS)

Created by California's Air Resource Board (CARB) in 2009, and implemented in 2011, to reduce the state's greenhouse gas emissions and other toxic, smogproducing pollutants.

- Amendments aimed at strengthening carbon intensity benchmarks and supporting California's 2030 greenhouse gas emission reduction targets include:
 - Adding new credit opportunities for zero-emission vehicle adoption
 - Supporting alternative jet fuel sources
 - Supporting new carbon capture and sequestration strategies
 - Advancing technologies for deeper decarbonization of the transportation sector.

The transportation sector is the largest contributor to California's greenhouse gas emissions, accounting for more than one-half of total emissions.

• This is a key contributor to the establishment of California' LCFS.

As a State Program, CARB regulates LCFS which requires refineries and fuel suppliers in California to reduce the carbon intensity (CI) of its transportation fuels.

- Transportation fuels must meet an annual CI target that decreases each year.
 - Refineries and fuel suppliers can meet these targets by mixing in fuels with lower CI into the overall supply or by purchasing credits.
- Fuels with CI below the target level (based on a lifecycle analysis) are able to generate credits.
 - These credits have no expiration date.
 - Under the rule, RNG is considered a low-carbon fuel and can generate credits.

To generate LCFS credit, CARB must certify that RNG was produced and injected into the pipeline and was used solely for transportation fuel in <u>California</u>.







Corporate Headquarters 15032 Hudson Avenue Spring Hill, FL 34610

§ 904-451-8025

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Municipal Gas Authority of Georgia

2024 Clean Energy Road Show

Gas Authority Update

Chris Coan Director, Economic Development July 2024



Municipal Gas Authority of Georgia

Substance Largest non-profit, joint-action natural gas agency in the nation

Sestablished in 1987 by Georgia law

Primary purpose is to provide adequate, dependable and economical supplies of natural gas to municipal distribution systems

Our Mission:

To provide municipalities a reliable, economical supply of natural gas and to assist them in developing and growing their gas systems to optimize the benefits of public ownership.



Municipal Gas Authority of Georgia

Currently Serving 83 Diverse Members68 in GA, 11 in AL, 3 in FL, 1 in TN, 1 in PA

▼ Smallest Member - Andersonville

- § 62 retail customers
- § 1,726 Mcf per year
- § Load factor 7.5%

- ✓ Largest Member Lawrenceville / Warner Robins
 - **§** 51,488 / 8,966 retail meters
 - § 4.4 / 3.2 Bcf per year
 - Load factor 31% 56%



Gas Authority Supporting the EV Market

• EV Projects in Municipal Systems:

- Ø Hyundai Meta Plant City of Claxton
 - ▼ EV Manufacturing / EV Battery Production (LG)
 - ▼ Hyundai Hydrogen Project City of Claxton
 - ▼ Supplier Installations in City of Statesboro
- SK Battery Plant City of Commerce
- **SK Battery Plant City of Cartersville**
- Rivian EV Plant City of Social Circle, Madison, and Covington

The Gas Authority plays a key role in Economic Development in GA

Update on The Dairy Farm in Eatonton, GA



Natural Gas Compression



Injection Site in Dublin, GA



Output of process

Current Fuel Source and expected Output:

- ø 2500 milk cows
- **250** Dekatherms per day output
- Transport trailer holds 450 Dekatherms
- **Ø** Digester has a capacity of 500 Dekatherms per day
- Compressor and Injection site have a 2500 Dekatherm per day capacity
- Today:
 - System is producing 60 70 percent of rated 250/day Capacity
 - **ø** Full load expected by November 2024
- Future Goals:
 - Ø Optimize current production
 - Prove concept and look for additional farm sites for future Digestors

A great success story....

• The Farmers:

Improved waste management and new revenue stream

The City Gas systems:

- Increased revenue selling gas to the Developer
- Ø Decreased cost for "Brown" renewable gas

The Developer

Ø Value of the "Green" credits for diesel replacement in California plus federal RIN credits

Westrock Paper

Ø Additional volumes of gas produced are first through the Meter

The Gas Authority

Connecting the dots for its members and increasing the natural gas volumes in rural Georgia

The Gas Authority

Any Questions?*

NATURAL GAS ASSOCIATION OF GEORGIA

The State Trade Association of Georgia

- <u>Mission</u>: To promote, and advocate for, the safe direct use of natural gas.
- <u>Priorities</u>:
 - Educate Georgia consumers on the efficiency and environmental benefits of natural gas.
 - Position natural gas as a primary, foundational fuel for future economic growth in Georgia.
 - Impact energy policies affecting Georgia consumers and the direct use of natural gas.



2021 HB 150 – All Fuels or Fuel Choice

Protects consumer energy choice

2023 HB 374 – All Fuels 2.0

Prohibits restrictions on appliances
Strengthening the Voice of NGA

- Growing Membership & Association Participation
- Vendor Member Growth and Opportunities
- NGA Committees:
 - Advocacy & Government Relations
 - Marketing & Communications
 - Renewable Natural Gas
 - Membership
 - Events & Sponsorship
- NGA Member Retreat: Nov. 18-20 at Callaway Gardens

Contact Information

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The answer is Propane Autogas

It's Better...

For the Community For the Environment For the Taxpayer

Mark Dention – Alliance Autogas Propane Education and Research Council





What Makes an Alternative Energy Adoption Successful?



- Reduced emissions without increasing cost or losing efficiency.
- TCO reduction or ROI realized before the end of the lifecycle.
- Similar (or better) performance than the original fuel without compromising range.
- High-volume supply of energy domestically sourced.

What is Propane?

- Affordable, Clean, American-Made Fuel
 - C3H8
 - Byproduct of natural gas processing
 - 100% Domestic

Using Propane

- Residential and Commercial Heating
- Agriculture Applications
- Industrial Applications

Production (2023)

- US produces more propane than any country in the world
- 26 billion gallons/year production
- 20 billion gallons/year consumption (500 million gallons Autogas)
- 26 billion exported/year

- Transportation
- Recreational Users

Path to Zero

- Particulate Matter
 - Virtually zero
- NOX
 - 96% reduction from best-in-class diesel
 - Certifying to .02, operating at 0.01, full duty cycle
- GHG
 - New technologies 25% reduction from next best technology





Autogas- Simple Dispensing













Autogas Fueling Infrastructure

- Propane Autogas fueling equipment can be installed for a fraction of the cost of a gasoline or diesel installation
- Propane Autogas fueling equipment fuels at the same speed as gasoline and dieselapprox. 8-12 gallons per minute
- Propane Autogas skids are scalable so you can add tanks as you add vehicles
- Shared fueling sites allow 24/7 fueling in many locations
- Propane Autogas skids are "pulsar ready" to connect to most existing fuel management systems

Smaller Installations





- Autogas customers can start with smaller (single 1000 gallon)
 Autogas fueling infrastructure and add tanks as their fleet grows.
- Most Autogas dispensing equipment is skid-mounted, making it portable and scalable.

Larger Installations

Autogas Fueling Infrastructure can grow as you grow!

Starting with a single 1000 gallon skidmounted fueling system and expanding to a 30,000 gallon tank system with little costs to the fleet owner.

Most propane suppliers will provide the fueling system at little to no cost with a fuel agreement in place.





Off the Grid Stand-Alone Station





Propane meets energy needs amid electric vehicle transition





The Answer is Propane - Autogas

- It's Better...
 - For the community Reliable Flexible
- Protects our most citizens
- For the Environment
- Lower Greenhouse Gas Emissions
 Reduced Carbon Footprint
- Sustainable Energy Path to Zero
- For the Bottom Line/Taxpayer
 Cost Savings
 Lower Maintenance Cost
 Economic Efficiency

Q&A



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Club Car Overview





OUR MISSION

DRIVE EXCEPTIONAL VEHICLE EXPERIENCES-

> one job, one round, and one ride at a time.

CubCar

OUR VISION

Moving the world to a more sustainable future by building the best low speed vehicles.

ClubCar

About Club Car

CLUB CARS ARE BUILT DIFFERENTLY





ASSEMBLED BY U.S. WORKERS IN AUGUSTA, GA



About Club Car

A leading global manufacturer of golf, consumer, and utility low-speed vehicles and aftermarket parts and services

- ~1,700 employees worldwide
- ~1,300 employees in Georgia

Company segments:

- New Vehicles
 - **Golf**: Fleet golf carts for private, daily fee and municipal golf courses worldwide
 - **Consumer**: Personal transportation vehicles (PTVs) and low-speed vehicles (LSVs) used in neighborhoods
 - **Commercial**: work utility and multi-passenger transport vehicles used across many markets (e.g., colleges, hotels & resorts, industrial)

• Aftermarket:

- Parts and Accessories: Used in vehicle upfit and repair
- Used: Carts re-marketed following lease expiration
- Connectivity: GPS SaaS to improve user experience



GARIA





About Club Car

- 400,000 sq-ft. production facility
 - Four mixed model Value Streams: Golf, Consumer, Utility, and All-Wheel Drive (AWD) with unique Custom Solutions capability
 - Leading edge engineering technology and manufacturing processes
 - Over two million vehicles produced
 - Lithium packs built in Tucker, GA
- 500,000 + square foot distribution center, Appling, GA
 - Supporting production and global aftermarket
- Strongest distribution network in the industry
 - 500+ distributor locations worldwide
 - Located in 80+ countries
 - Local service & support
 - 5,000 customers across six continents











04/18/24 Ceremonial Ribbon Cutting





Industry Overview

Significant Georgia Impact

- Approximately 85% of golf cars are made in Georgia
- "The Big Three" Club Car, Textron, Yamaha are Georgia based
- ~4k Georgia resident employees
- Adjacent industries affected
 - § Manufacturer/Suppliers
 - **§** Shipping/Transportation
 - Savannah ports/shipping/exports

Industry

- OPEI Outdoor Power Equipment Industry
- Establish industry safety standards and guidelines
- Participate to support public safety and public education about products
- Low Speed Vehicles are Regulated by NHTSA (FMVSS500)



Club Car Urban at University of Georgia



Club Car Street Legal Vehicles (LSVs)









Club Car Street Legal Vehicles (LSVs)

- Easy to maneuver around campuses, city streets and parks
- Plugs in to a standard 120V outlet no special chargers
- Payload and passenger seating similar to automotive at lower cost
- All electric with lithium solutions providing enough range for work during the day
- Better total cost of ownership versus gasoline powered pickups on campuses





Movement that inspires



Award Winning EV9 2024 "North American Utility Vehicle of the Year" "World Car of the Year"



"Car and Driver: Best Electric Mid-Size SUV" "Car and driver: Editor's Choice award"

"Red Dot: "Best of the Best" Product Design







All-New 2024 Kia EV9

<u>About</u>

- Combines the best SUV elements of the award-winning Telluride with the best electric vehicle elements of the EV6.
- EV9 is the first three row EV for Kia
- Combines capability with technology and refined elegance
- First EV in the Large SUV category



GT-Line Capabilities

- 7.8 inches of ground clearance with 5,000 lbs. towing capacity
- 379 horsepower
- 516 ft/lbs of torque
- Can go 0-60 mph in 4.5 seconds
- EPA rated 300-mile range for 2WD and 270-mile range for AWD
- Equipped with more than 20 collision avoidance technologies
- DC fast charge adds 100 miles of range in 13 minutes
 - EPA estimates MPGe rating of 80



EV9 at a Glance





<u>Battery</u>

- Fourth generation battery technology that supports high-speed DC charging.
- Can charge from 10 percent to 80 percent in less than 25 minutes.

<u>Interior</u>

- High-Tech cockpit allows for over-the-air software upgrades and a fully digital instrument panel to give an evolving ownership experience.
- 20 cubic feet of cargo space and up to 82 cubic feet when the rear seats are folded down.





Plan S Strategy

Concept

- "S" means 'preemptive shift' from being a traditional automotive OEM, into one focused on clean energy and new mobility solutions
- Increased Focus and investment on Environmental Protection and Preservation including "Carbon Neutrality" and RE100 membership.
- EVs built on the electric-Global Modular Platform (e-GMP) will aim to set new benchmarks for driving performance, interior space and tech application
- Five to Six new EVs to be available in US dealerships by 2026 with new EV launching each year for Kia in the US through





Urban Air Mobility



Next Generation FCEV





Ultra-fast DC fast charge (120-mi. in 10-min.)



EV platform : e-GMP



20% of Kia sales as EV



Movement that inspires

Georgia Clean Energy Roadshow



Riverside EpiCenter



July 10 – Cartersville, GA

Savoy Automotive Museum

July 11– Alpharetta, GA

Gwinnett Technical College







Omar B. Sandlin II **Director of ECV**



We are *Electric Commercial Vehicles*, the EV Dealer of Choice offering multiple brands of zero noise, zero tailpipe emission work units in a single location, Milledgeville, Georgia.

We help you understand the facts regarding Electric Work Trucks and how they are as versatile as gas or diesel and reduce your total cost of annual ownership and advance a fast ROI.

We provide you consulting in EV funding, grants, incentives and tax credits making your business decision to transition to Electric Vehicles easy and hassle free.






TeeMak

(OFF-ROAD)All-electric, purpose-built as off-road utility task vehicle (UTV) or sideby-side vehicle



EXPLORE P7 VEHICLES







Proxima Powered by REE

Battle Motors 2024 Range of Applications



REFUSE- SIDE LOADER



SWEEPER



ROLL OFF



DRY FREIGHT



REFUELER



BEVERAGE DELIVERY





WATER TRUCK

BUCKET

REFUSE

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STAKE & FLATBED



DIGGER DERRICK



ZERO EMISSIONS

Tractor









BOLLINGER MOTORS



















Questions?







Sam Ham Director Alternative Power

Alternative Power For our Georgia School Districts



Alternative Power: Propane Autogas Electric

All-in-One Program



Your All-in-One Partner

EPA Funding Opportunities:ü Grant Writing and Submission

Infrastructure:
ii EV Charging Stations
ii Utility Companies
ii Propane Providers
ii Propane Fueling Station(s)

 Arrange for Bus Scrappage per Approved EPA Guidelines (EPA Rebates and Grants) https://youtu.be/kvKNce_Gv18

Class 3-7 Autogas offerings









People Movers

People Movers

- Transit/Para-Transit
- Non-Emergency Medical Transportation
- Airport Transportation
- Hotel Shuttles/Resorts/Tours
- Taxi/Limo





• EMERGING MARKETS

Paratransit

• 51,000 paratransit vehicles nationwide.

PARATRAN

1-800-65 www.DartF

S VEHICLE S

- 600 gallons per month average fuel consumption.
- ADA requires every county in the U.S. to provide service.



Same Equipped 14 Passenger Shuttle Bus

- Gasoline, 7.3L Engine
- Propane 7.3L Engine (300 mi)
- Electric 88kWh Battery (100 mi)

\$71,569.00 \$86,784.00 \$233,603.00 • EMERGING MARKETS

Food/Beverage

- Major companies have already validated propane autogas in this market.
 - ReadyRefresh by Nestlé
 Waters.
 - Schwan's Home Delivery.



• EMERGING MARKETS

Parcel/Package

- USPS has 92,000 routes for moving mail.
 - Over 70,000 routes are performed by independent contractors.
- There are approximately 10,000 class 6-7 straight box trucks operated by USPS contractors.
- Contractors bidding on USPS routes score higher with alternative fuel vehicles.
- 1,000 gallons/month average fuel consumption.



• EMERGING MARKETS Towing/Road Rangers

ENERGY FOR EVERYONE

propane



Q&A



Mark Denton

- VP of Business Development
- Blossman Gas, Inc.
- mldenton@blossmangas.com
- Cell: (251) 610-2307



USING NATURAL GAS TO REACH DESTINATION ZERO





THE CUMMINS X15N — **A NATURAL GAS ENGINE THAT** BRINGS **IT ALL** TOGETHER





- **q** Industry-first & market-defining *Big Bore Natural Gas* Powertrain
- **q** Capable to *meet stringent CARB24/27 and future EPA* NOx regulations
- **q** Compact 15 Liter Targeting fit in ISX12N & 13L chassis installations, 500 lbs lighter than current 15L diesels
- **q** Up to a **10% Fuel Economy/GHG improvement** over ISX12N
- **q** 12L-15L Diesel matching ratings *up to 500hp & 1850lb-ft* of torque
- **q** Compact *passive TWC aftertreatment* system
- **q** Integrated with Industry HD transmissions Endurant and Allison
- **q** Incorporates Cummins *Powertrain Features & Strategies*
- **q** Potential for *Carbon Negative Solution with RNG*

Product details are preliminary and may be subject to change at any time without notice.

XISN Reliability & Durability

6 Years of research and development
40,000 Hours of in-house and overload testing
6,000,000 Miles of global pre-production on-road testing
36,000+ Production engines operating globally
2 Billion+ Miles logged by production engines globally

XISN North American Field Test

Field Test Units have accumulated 800K miles & growing as more units deliver







- 25 Field Test units 24 in service, more coming
 - Regional Haul, Line Haul, Vocational, Refuse
 - US and Canada
 - Walmart, Werner, Knight-Swift, Goupe Robert, Food Express, Ozinga
 - Endurant HD-N and Allison 4K



X15N Field Test – Feedback

"Very viable option."

"It shifts better and better each time it gets driven."

"I love this truck."

"The drivers love the truck. The engine has a nice pull, very quiet, plenty of torque." "Pulling power like diesel, quietness, and short refueling times."

"They love the torque of the engine noticeably different compared to the ISX12N"

"Pulled 55 (mph) up Donner Pass fully loaded." (7,056 ft elevation)

"Really good on the highway."

> "The more they drive it, the better it is getting all the way around."

"It feels and drives like a diesel which is a good thing.

"The truck responded well and handled the load similarly to the X15s he has driven. All while being noticeably quieter."

X15 V 500 hp / 1850 lb-ft vs. X15 Diesel 500 hp / 1850 lb-ft







Cobb County Fleet Management Overview

- Appx. 2,700 Vehicles
- Over10 Million Miles Traveled
- 5 Diverse Fueling Options
- 10% Alt-Fueled Vehicles
- 65 EV's 50 Charging Stations
- Two Solar Array's
- Over a Decade of Sustainability Projects





Electrification Movement

Cobb County's Vision of Electrification came to light nearly a decade ago. "16 Electric Nissan Leaf's"



Cobb County Sheriff Department deployed the first Electric Prisoner Transport Van in the Country 2023 and added 4 Mustang Mach-e to their fleet.





Cobb continued moving forward in 2024 with the first drive-by-wire class 4 Demo Electric Truck the REE P7-C



Electrification Movement

The Cobb County Police Department (Georgia) officially took possession in 2015 of two zero-emission electric motorcycles and two more in 2018 for high-visibility on trails and high-profile events .






oinubybu

Ask the EV Expert

Employee No Charge to Charge

- Charging station maintenance training/support
- Quarterly video segment on EV's





(System Size 36.6kW) (Energy Capacity 78 kWh) (Power Rating: 30kW)



Current & Future Fleet Innovative Technology



Keep Cobb Beautiful Solar Charging 10.6 kW-DC Photovoltaic Solar Array

Absorbed Natural Gas Renewable Energy

- RNG is a carbon-neutral fuel that can help fight climate change
- A reduction of 20% in GHGs using NGVs compared to gasoline, and more than 100% when using renewable natural gas.
- ANG technology operates at 900 psi, even lower pressures than compressed natural gas
- Bi-fuel ANG trucks can serve 100% of the average daily usage miles on natural gas alone.





What is renewable natural gas?

ingevity

Renewable natural gas (RNG) refers to biogas that results from decomposing waste of operations such as agricultural and landfill sites and wastewater treatment facilities. It is comprised primarily of methane and carbon dioxide (CO₂) that's upgraded for use in place of fossil natural gas. After biogas is purified to remove contaminants like CO₂, RNG contains over 90% methane and can be used in any natural gas-fueld engine, including as part of Ingevity's adsorbed natural gas (ANG) vehicle technology. RNG "greens" the natural gas grid, enables continued natural gas uptake in transportation, and furthers environmental initiatives and mandates.

Benefits of RNG

Using RNG to fuel an ANG-powered truck



Sustainability In Our Operations



Biobased Certified Fleet Professionals

• Fleet Director, Shop Supervisor and Service Writer. This training and certification is gear to replacing harmful chemicals with plant base and bio-degradable products and supplies that are sustainable and environmentally friendly.

Sustainability in action "were the rubber hits the road"

- New Goodyear Eagle Enforcer Tires
- New technology, sustainable and carbon neutral
- Made with Soy Oil instead of Petroleum Oil
- Original tire on 2020+ Tahoe \$285/each. These tires are \$190/each.
- Last longer and better traction









Cobb County...Expect the Best!

Al Curtis Cobb County Fleet Management Director 1940 County Services Parkway Marietta, GA 30008 Office: 770-528-1114 Mobile 404-664-5149 al.curtis@cobbcounty.org



City of Brookhaven





Terrance Wilson

DEKALB COUNTY FLEET MAINTENANCE

TERRANCE WILSON (FLEET MAINTENANCE SUPERINTENDENT)

ALTERNATIVE FUEL ENERGY

- Purchased Electric Units
- Charging Locations
- Purchased Alternative Fuel Units

ELECTRIC VEHICLES PURCHASED

• Added (20) 2023 Ford F-150 LITHINGS

Estimated Range 220 miles on a full charge depending on the usage

• Added (28) 2023 Ford EV Ford Transit Vans

Estimated Range 160 miles on a full charge depending on the usage

CHARGING LOCATIONS

- (Make Ready Program) by Georgia Power assisted with the installation and materials for both charging locations
- Sam Street Decatur Location (in-service)
 - 36 Double Head Charges (72) vehicles
- Road haven Road Location (under construction now)
 - 40 Double Head Charges (80) vehicles

ALTERNATIVE FUEL FLEET UNITS

• FLEET PURCHASED 2023 - 2024 (CNG)

Peterbilt & Kenworth (Sanitation Department)

• 17 Rear loaders in-serviced service this year ordered in 2023

• 12 Rear loaders & 18 front loaders ordered this year for 2025

DEKALB COUNTY FLEET MAINTENANCE

- Terrance Wilson (Fleet Maintenance Superintendent) Car & Truck
- <u>TDWILSON@DEKALBCOUNTYGA.GOV</u>
- 404-867-9269



Southern Company System ZEV Transition Strategy - Focus Areas

