

SHTIGEN GROUP OF COMPANIES

Since 2011



Company Profile

2023

Management Team



" We save the resources of the planet, demonstrating exemplary business behavior, implementing programs stemming from corporate social responsibility, giving priority to education, and keeping the homeland in the spotlight. "



Hayk Shekyan
CEO & Founder



Gagik Gyulbudaghyan
Board member



Vakhtang Abrahamyan
Board member



Arshavir Mkrtchyan
*Head of Financial
Department*



Gagik Ayvazyan
*Head of Operations
Department*



Varsenik Shekyan
Head of retail sales



Samvel Voskanyan
*Head of Foreign Economic
Relations Department*



Gagik Babayan
*Head of Technical
Department*



Arpi Harutyunyan
Chief PR officer

What We Do

Provide affordable, high quality, and sustainable renewable energy.

Make environmentally friendly vehicles available in Armenia.

Invest in high flying startups and ventures with good potential.

Implement educational projects, provide trainings for people entering the renewable energy market.

Encourage healthy competition by providing consulting services for new companies entering the market.

Preserve a transparent and competitive electricity trade market.

Our Goal

Make the planet cleaner and greener using energy-efficient technologies.

Promote “green behavior” by implementing the UN Sustainable Development Goals.

Form an environmentally conscious society with a proper knowledge about renewable energy.

Provide a significant economic growth in Armenia by switching to renewable solar energy.

Broaden the scope of available renewable energy technologies.

Create effective partnerships with global companies in the renewable energy market.

SHTIGEN GROUP: ESTABLISHMENT

2009-2016

Market analysis & company establishment

First projects in residential & commercial sectors

Shtigen Energy Systems LLC was founded in **2011**, mainly providing services to residential and small commercial customers. Since **2016**, Shtigen Energy Systems started implementing major projects.

2016-2020

Market leader for the first utility-scale plants

As of 2019, Shtigen had completed about 6.6 MW utility-scale projects.

In 2017 Shtigen Energy Systems conducted the "Green Energy" project - the very first utility-scale PV connected to the grid project in the history of Armenia.

SHTIGEN GROUP: ESTABLISHMENT

**Venturing into the E-Mobility Sector:
Shtigen's Strategic Expansion**

2020

Shtigen achieved a significant milestone as the first official distributor of Neta e-cars.

**Electricity Trade Market &
multiple companies**

2021

Shtigen strategically entered the liberalized electricity market, actively shaping legislation.

**Establishment of Shtigen
Group**

2022

Official establishment of Shtigen Group, including: Shtigen Energy Systems, Andron, Enerex and Shtigen Ventures.

**Corporate Governance
System, Holistic New energy
ecosystem**

2023 ~

Cumulative 80 MW capacity in PV projects, progress in e-mobility and energy trade sectors.

SHTIGEN GROUP: KEY FIGURES



15

mIn \$ turnover
in 2023



80

MW cumulative
PV projects



367

Largest
taxpayer



200

Employees



25%

of PV market



80

MW PV in the
pipeline

partner for

70%

of liberalized
electricity market
players

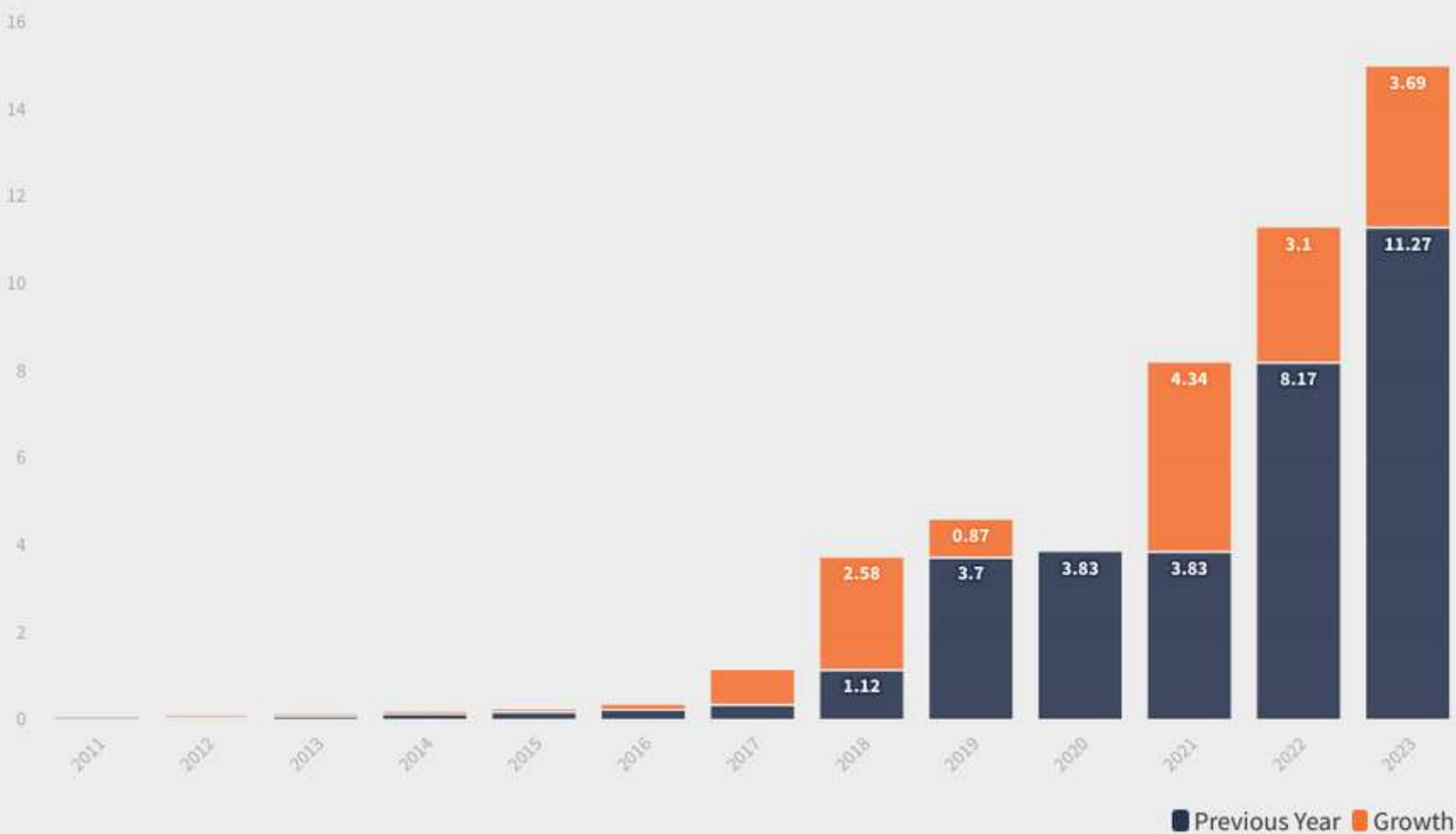


27

MW
cumulative
solar thermal

Business Growth

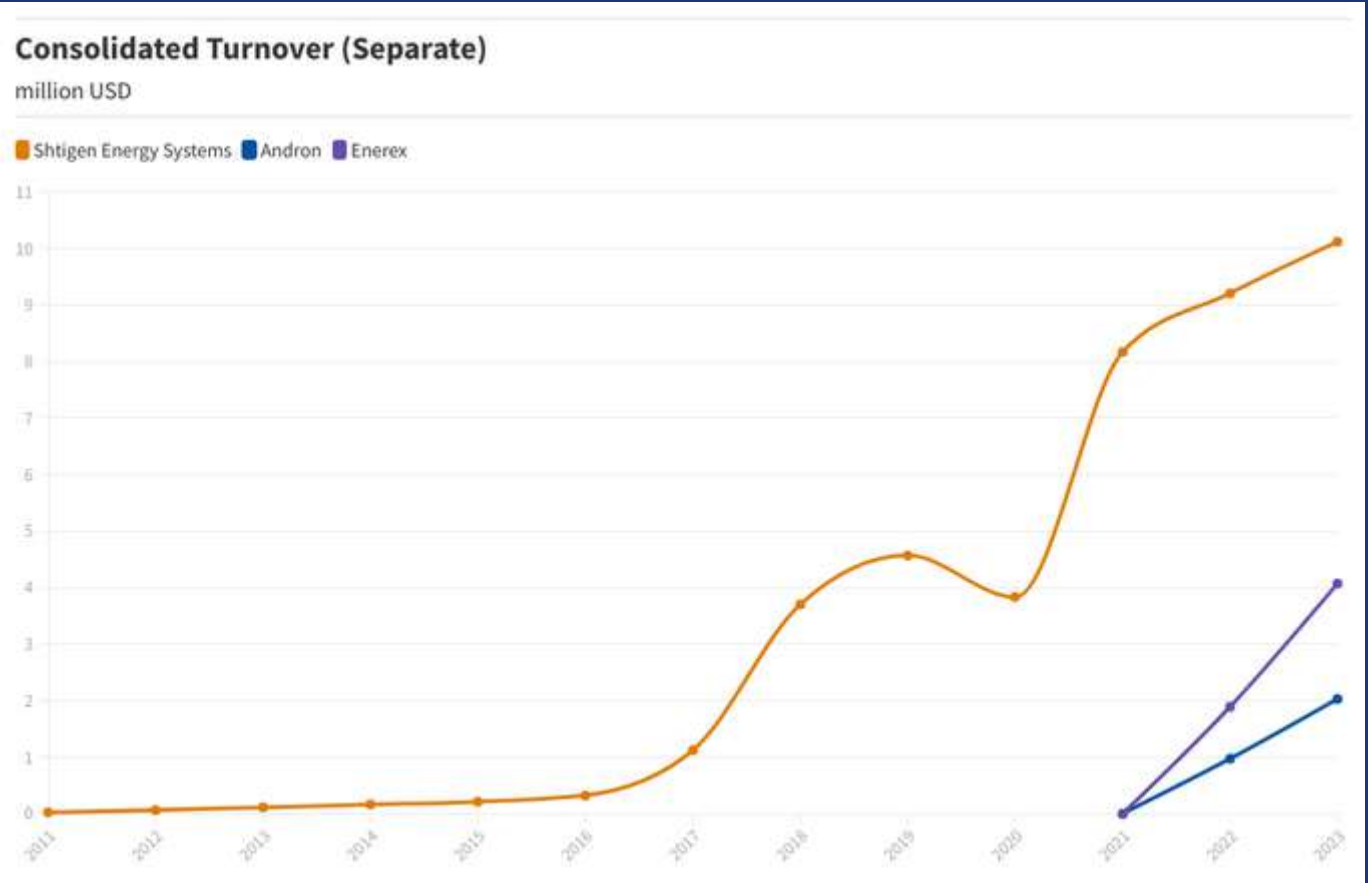
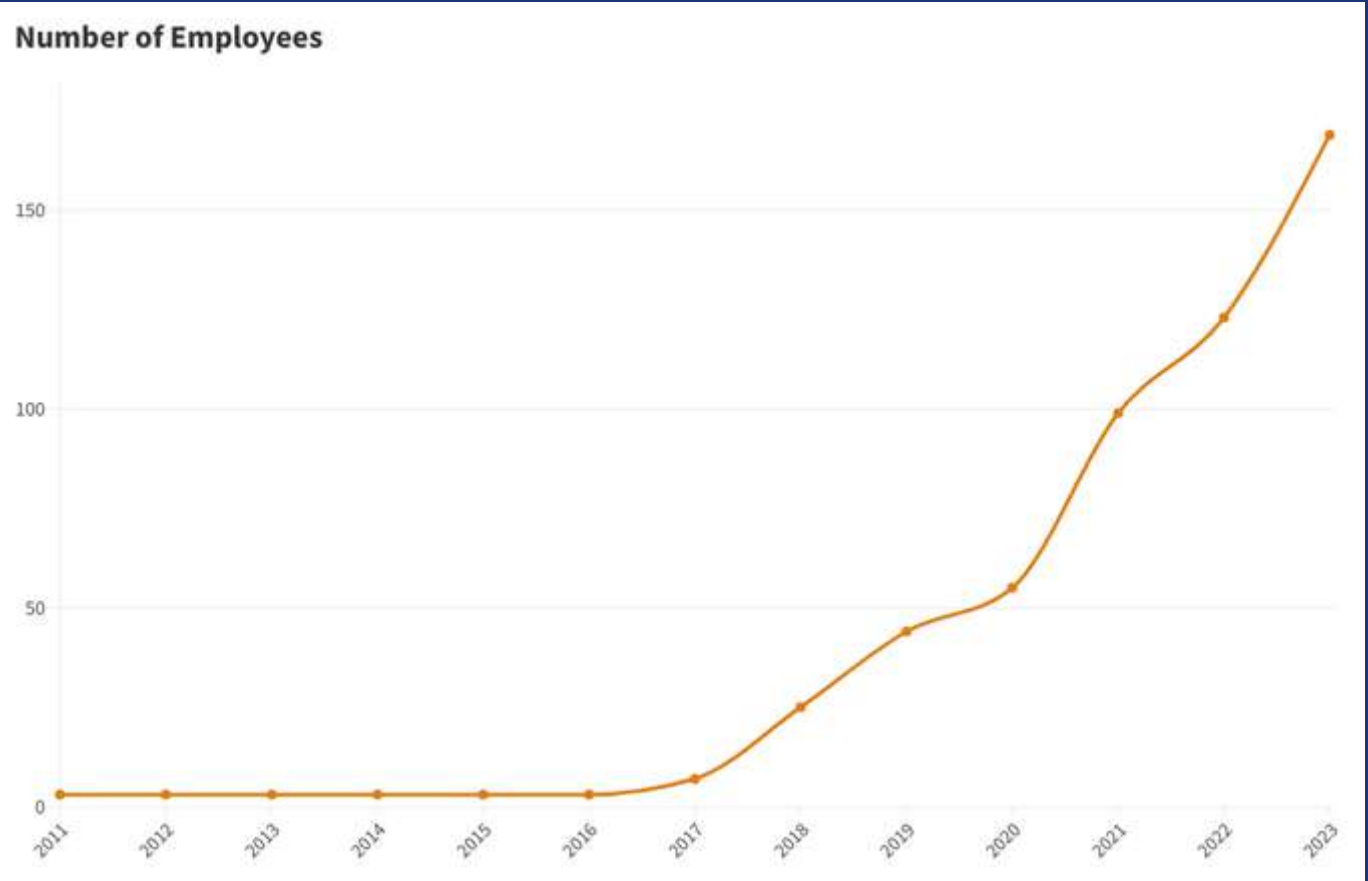
Consolidated Turnover
million USD



SHTIGEN GROUP: INTERNATIONAL AUDIT

BAKERTILLY AUDIT AND CONSULTING INTERNATIONAL INDEPENDENT COMPANY CONCLUSION

“In our opinion, the accompanying **consolidated** financial statements give a **true** and **fair** view of the **financial** position of the **Shtigen Group of Companies** as at 31 December, 2020, 2021, 2022, and of its financial **performance** and its **cash flows** for the year then ended, in accordance with International Financial Reporting System (IFRS).”



GLOBAL PARTNERS



















SHTIGEN GROUP ECOSYSTEM



SHTIGEN ENERGY SYSTEMS

SHTI GEN
ENERGY SYSTEMS

- Utility-scale projects
- EPC from A to Z
- Energy-saving - PV
- Energy-saving - solar water heaters
- Reliable and portable energy with batteries
- Energy-efficient heating & cooling

UTILITY-SCALE PROJECTS

OWNED BY SHTIGEN GROUP



Solar 5: an utility-scale project commissioned in October 2022.

(5MW DC and ~6.78MW AC power with a 35% overdrive)

- ***Despite the hilly landscape, construction took less than 4 months***

ArSun: an utility-scale project commissioned in November 2019

The first PV plant in Armenia with overdrive PV over inverter capacity with bifacial modules



UTILITY-SCALE PROJECTS

FIRST PROJECT CONNECTED TO THE GRID IN ARMENIA

Our first utility-scale project was commissioned in December, 2017, only 8 months after the initiation of the utility-scale PV licensing process in Armenia.

"Green Energy" was the first utility-scale PV power plant connected to the grid in the history of Armenia. The prime minister cut the red ribbon at the opening event.

“ As of October 2022, the total amount of utility-scale PV plants commissioned by Shtigen Group was 15.8 MW. ”



EPC from A to Z

FULL CIRCLE OF CONSTRUCTION

Solar 5 - Annually produces
12GWh of electricity



**~6.78MW
(5MW DC) AC
power**



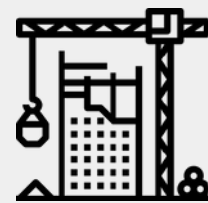
**ZGWh
electricity
generation**



**9.2 ha
mountainous
surface**



**0.8kV
output**



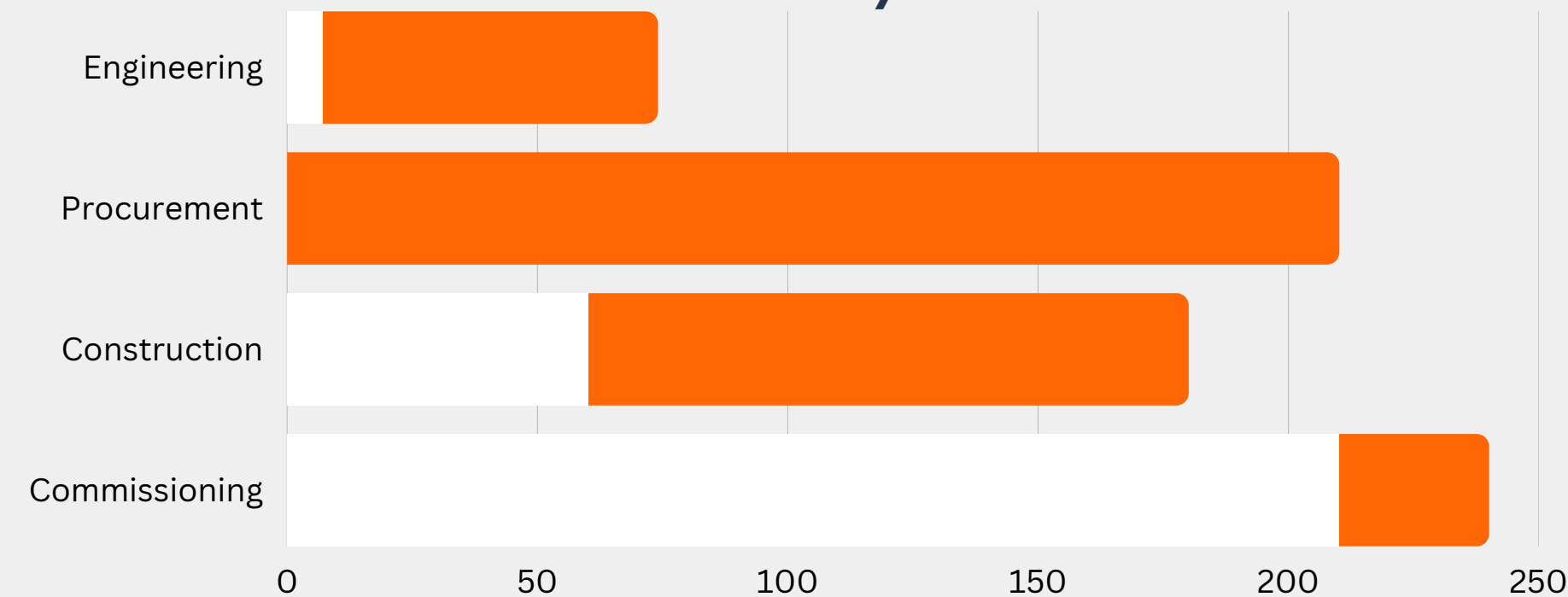
**Constructed
in 4 months**



**Legal and
operational
advisory**



**EPCC / Period of Implementation for "5 Solar" (5MWp)
in days**



SOLAR THERMAL

FOR RESIDENTIAL & COMMERCIAL USE

“ Today, thermosiphon solar water heaters are Shtigen's most demanded products with over **10.000** customers all over Armenia and Artsakh. ”



Grand Sport complex

This is the largest solar thermal station in the region, heating 2,200 tons of water daily for pools and shower facilities and serving up to 600-800 users.

Its peak power reaches over 1.5MW, annually saving up to \$73,000.



PHOTOVOLTAICS

FOR RESIDENTIAL & COMMERCIAL USE

PV industry emerged in 2016 by adopting the Net Metering law.

Today, more than **3000** residential and over **200** commercial clients use solar electricity totally free of charge.



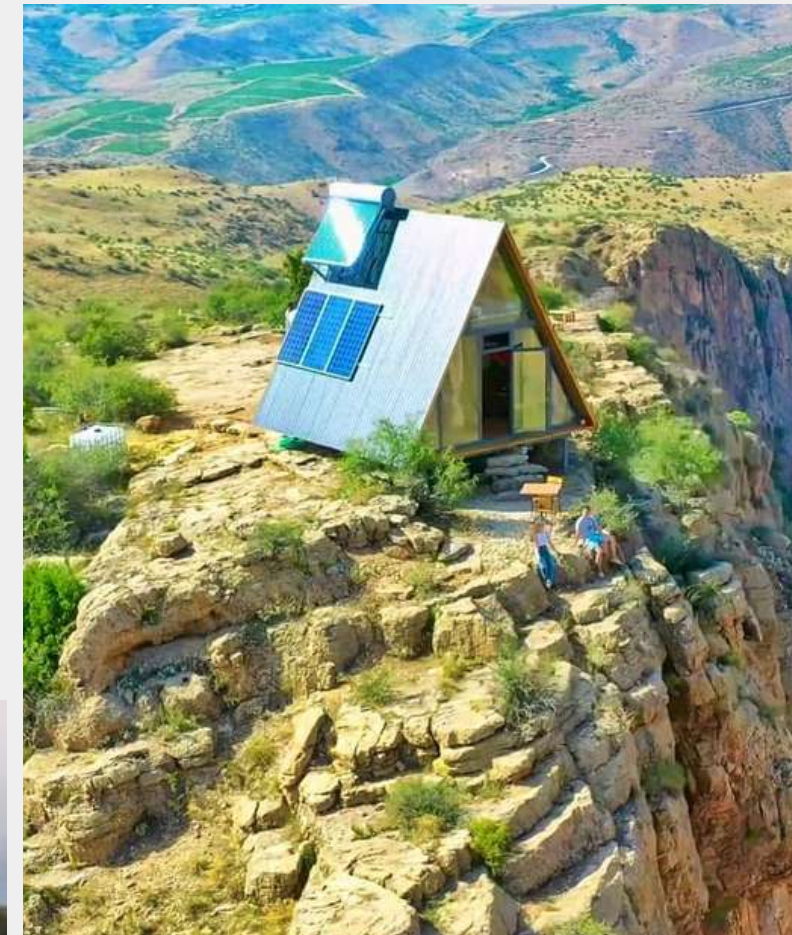
“ From 2017 until 2022, Shtigen was commissioned up to **50MW** PV stations, 35MW of which were stations with self-consumption purposes for the owners. ”



RELIABLE ENERGY & SAFETY

WITH BATTERIES

“ We have designed a portable PV-container with 32kWp to provide electricity anywhere and anytime.”



We carry a wide range of power banks and solar generators with different capacities. Portable devices like power banks, PV bags, and solar lights are tested for their durability and reliability.



PR, GR & ADVOCACY

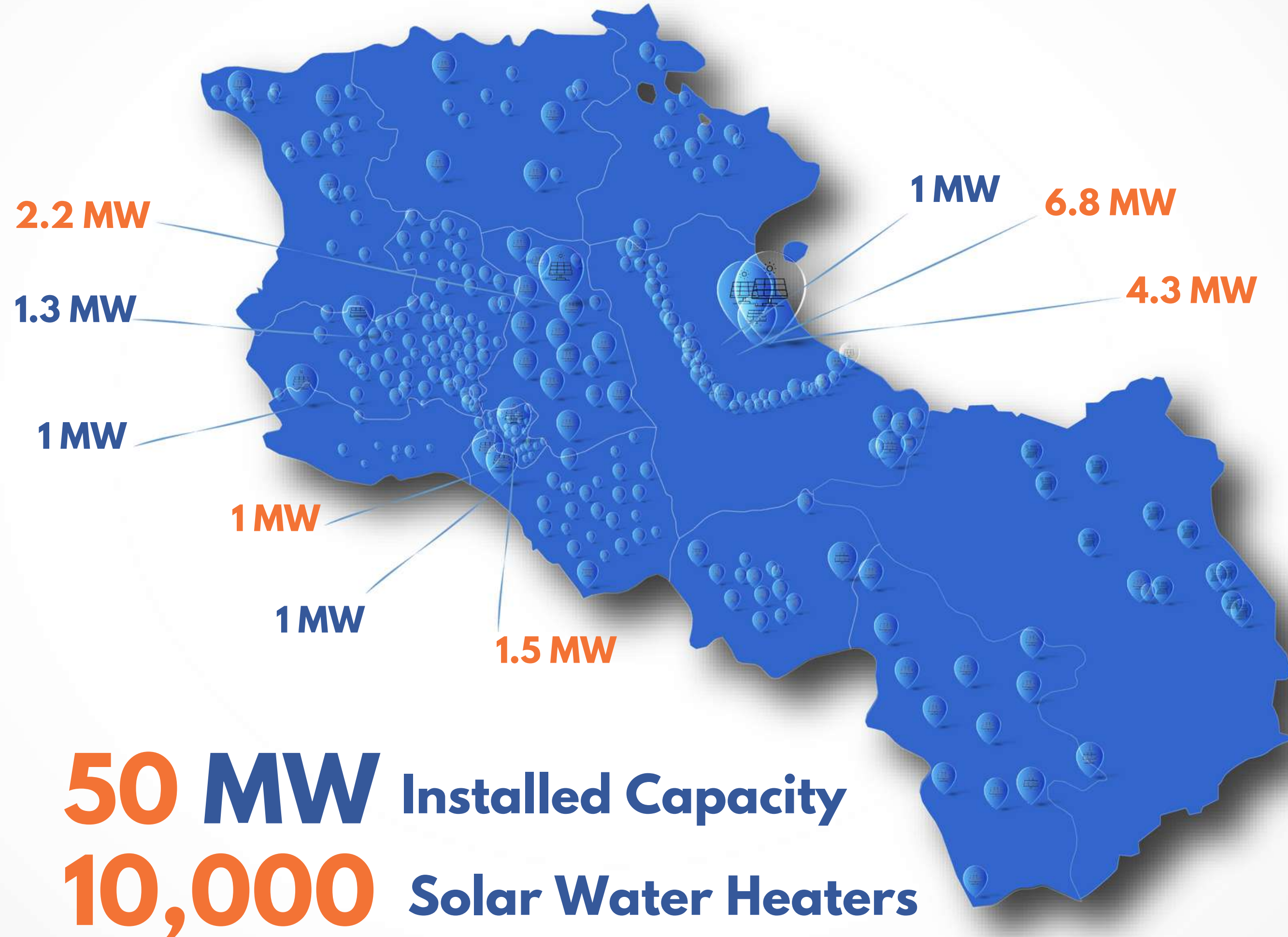
We are a proactive market player

Since 2011 we have been actively involved in the state policy formation regarding the solar energy development in Armenia.

Shtigen team members are regular attendees and guest speakers at global summits, forums, panel discussions, and public hearings organized by state agencies.



SHTIGEN'S SOLAR MAP





Gagik Margaryan
CEO & Founder

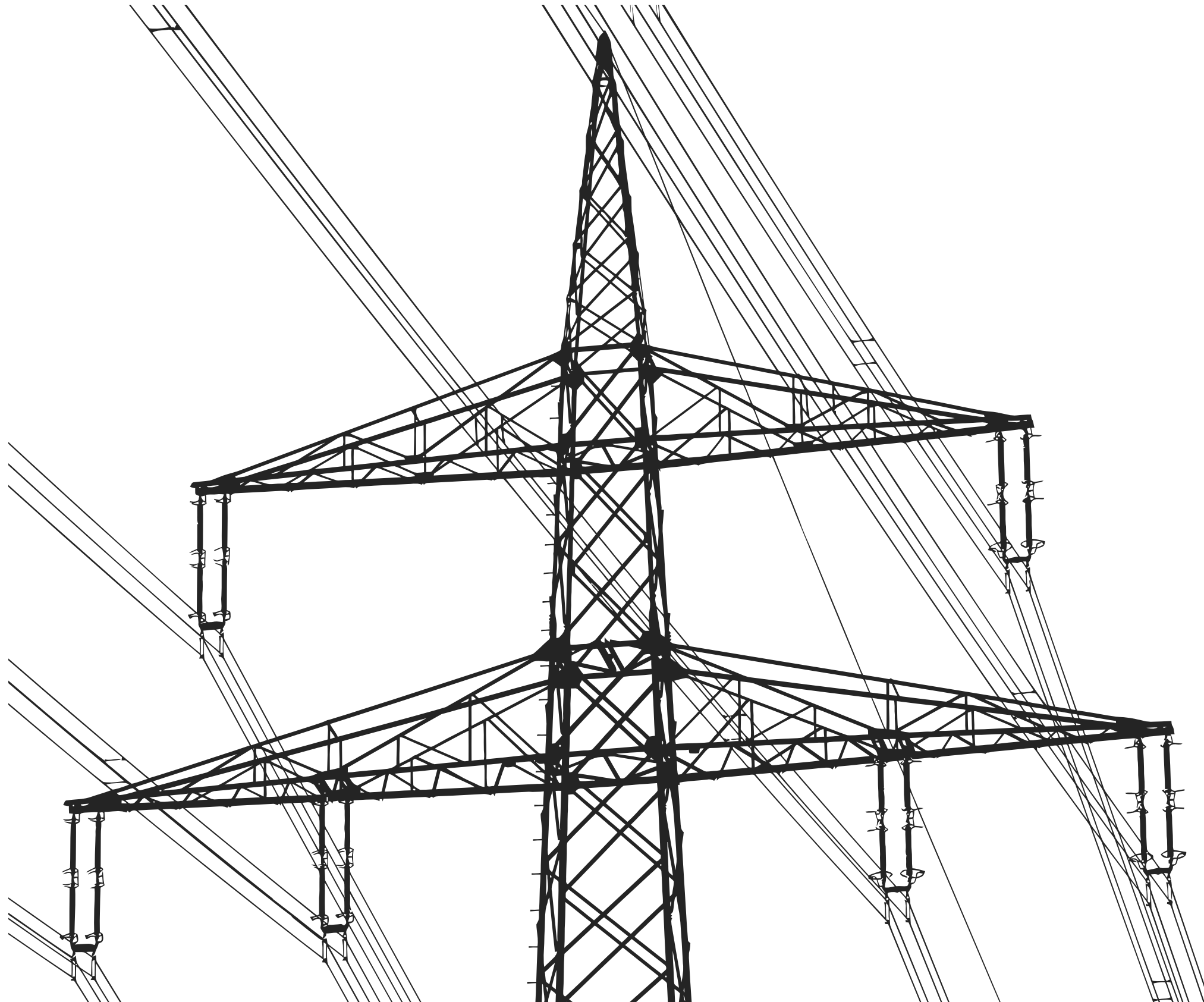
ENEREX has adopted a customer-oriented policy, providing them with an opportunity to choose the option that suits them best. It refers to the electricity tariff, payment, and cost-benefit ratio.



- What We Offer
- GR & Market Development
- How to Become a Customer

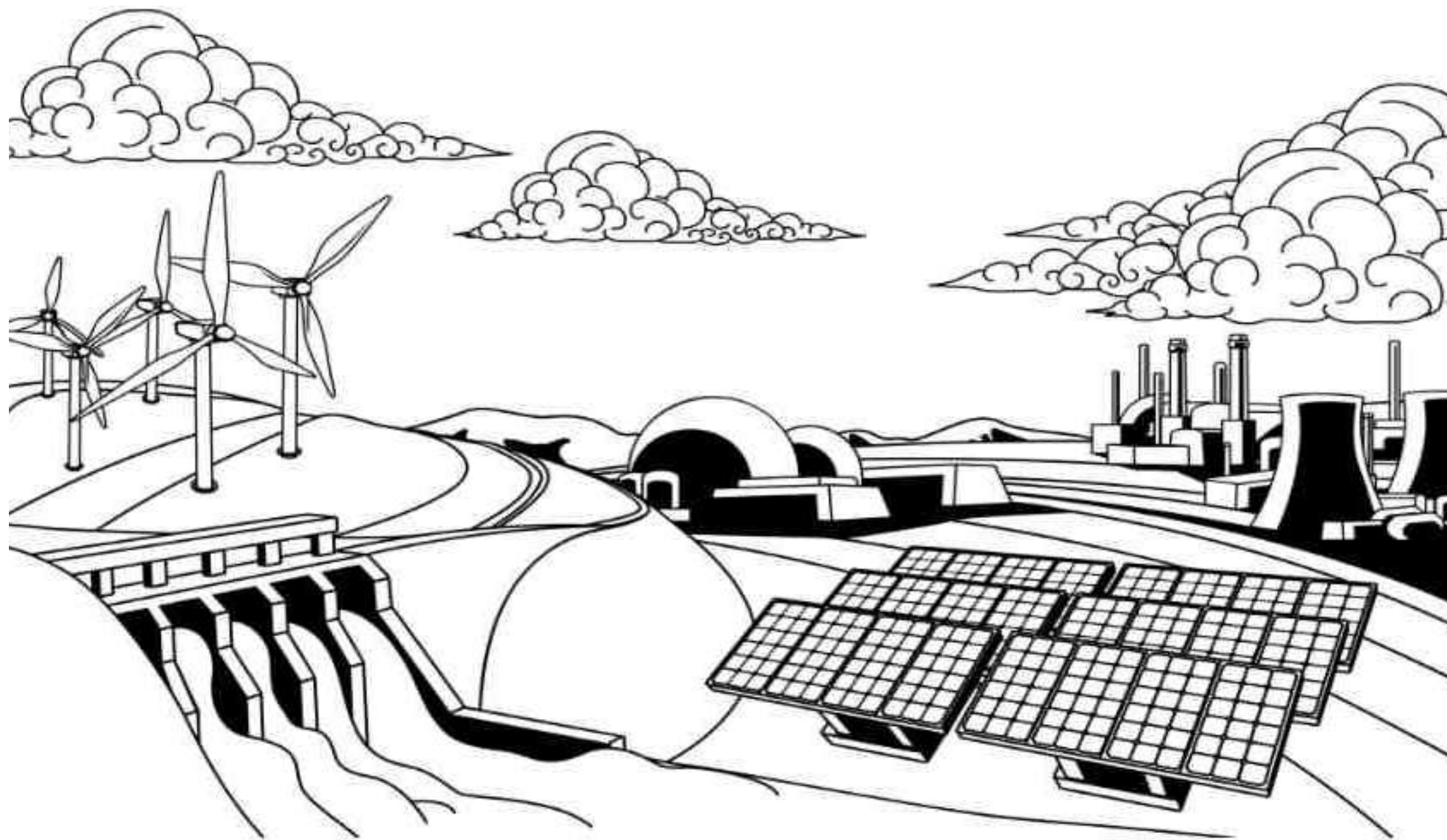
ENEREX

Pioneer of the liberalized electricity market in Armenia



- **ENEREX** was founded in 2021 under the umbrella of Shtigen Group. The company offers the most favorable electricity cost to the enterprises.
- **ENEREX** has adopted a customer-oriented policy, providing the customers an opportunity to choose the option that suits them best. It refers to the electricity tariff, payment, and cost-benefit ratio.
- **ENEREX** carries out energy trade using models developed by leading local and international experts in the field.

ENEREX & GR



ENEREX has greatly contributed to the formation of the liberalized electricity market in Armenia through the legislation-forming process.

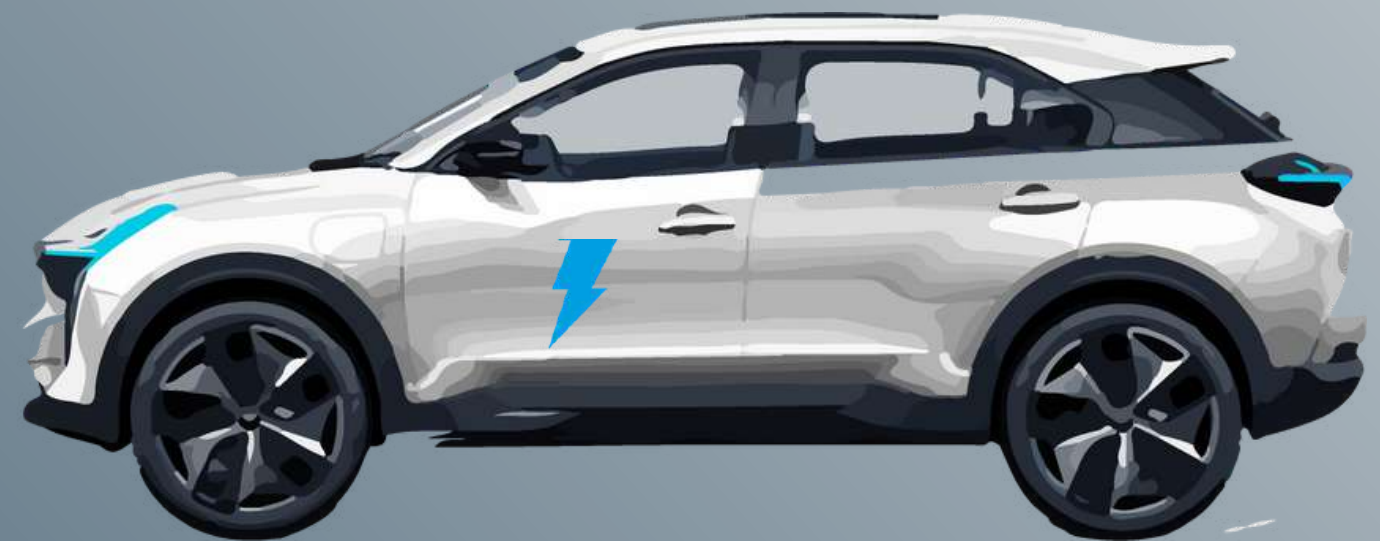
ENEREX took part in the formation of new market mechanisms, encouraging the development of RE plants with commercial purposes, as well as the expansion and diversification of RE source usage.

PARTNERS & CUSTOMERS





- Electric Vehicles
- EV Charging Facilities
- EV Aftersales Service
- GR & Market Development



E-MOBILITY

Andron brings the future, providing full electric vehicles, EV charging facilities, and EV after-sales service.

ELECTRIC VEHICLES

Since 2020, **Andron** has been a multi-brand dealer officially representing several Chinese EV producers in Armenia.

Fully electric crossovers Neta U and Neta V are well used by the local population for the past 3 years.

Benefits

- A brand new SUV from the assembly line
- 100% Electric
- 0 Emission
- Absence of noise
- High level of comfort
- PR impact from using low carbon products
- 100 km ~ 500-700 AMD (10 times cheaper than the cost of gasoline used in an equivalent vehicle)



E-MOBILITY

EV CHARGING FACILITIES

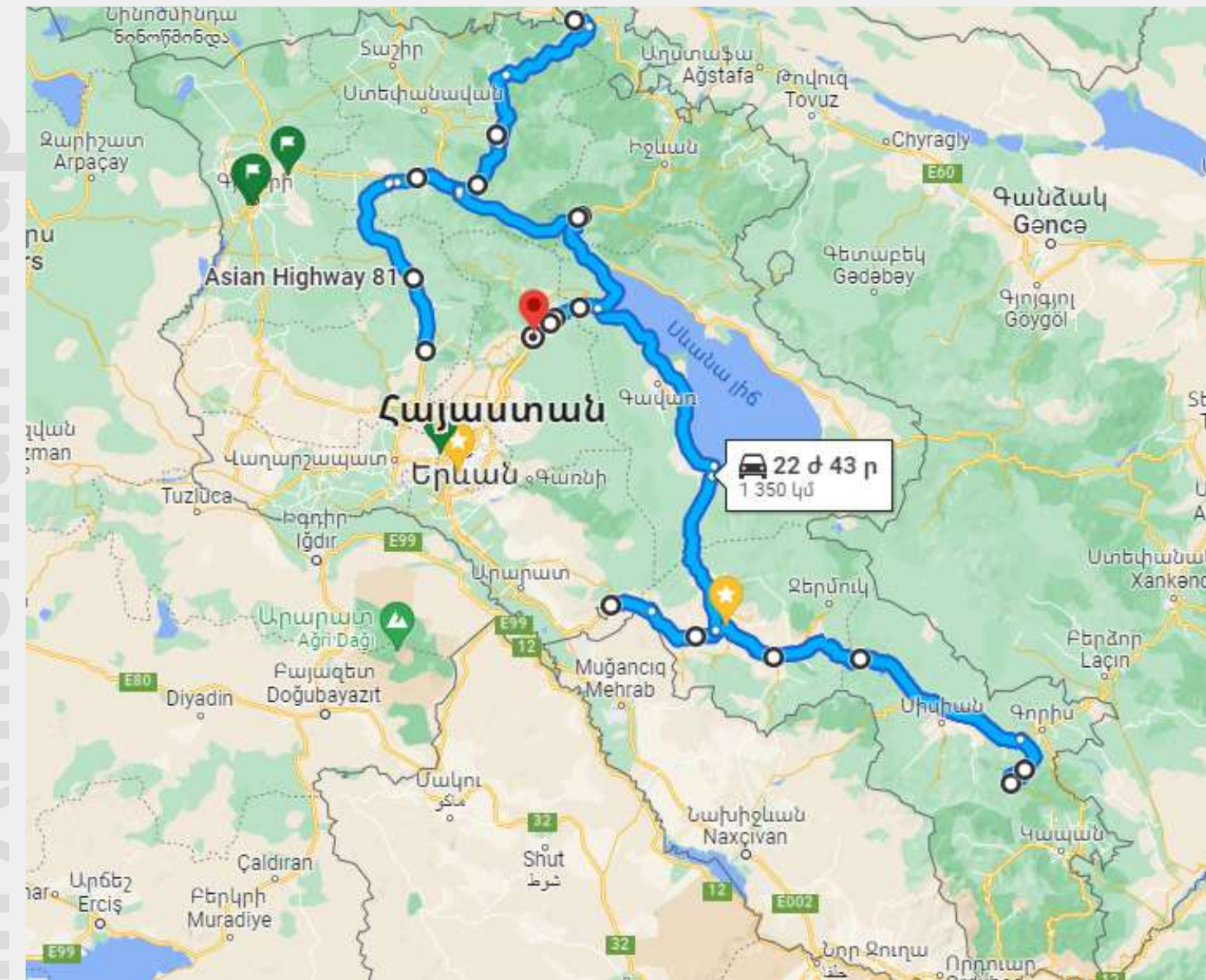
The project objective: Facilitate a national shift to EVs

The national fast-charging (DC) network combined with solar PV facilities designed by **Andron** is well implemented in Armenia. Our mission is to become the region's #1 charging network, advocating a full shift to a green & clean environment.

***A joint project with Armenian Government and EBRD**



Fast charging network; >40 stations all over Armenia

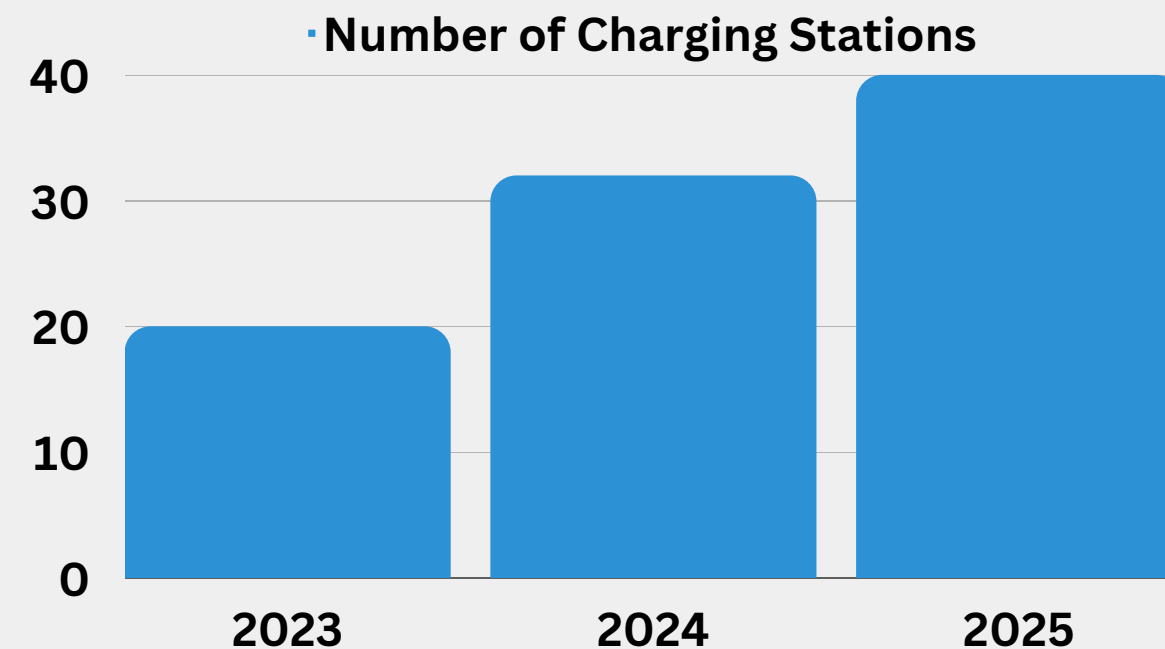


E-MOBILITY

EV CHARGING FACILITIES

Project Details

- Number of fast charging stations: 40
- Minimum power of the station: 40*120kW
- Minimum power of each gun: 60kW
- Main types of plugs & at least 2 power guns
- At least one GB/T plug at each station
- Installed PV Capacity: 40*150kW (AC)
- Total investments: ~\$10MM (2.1MM shareholder equity; ~\$8MM EBRD investment)
- Partnerships: EBRD, ADB, PPP



E-MOBILITY

EV AFTERSALES SERVICE

***In 2020, Andron opened the first EV aftersales service center in Armenia.**

- The best warranty service in the country
- Diagnostic software for each car brand
- Special repair toolset for each car brand
- Online/onsite service trainings for the staff
- The available battery capacity evaluation stand



16/10 Tbilisyan highway, Yerevan, RA



NETA S PRESENTATION

ALL EQUIPMENT IN ONE PLATFORM



The Neta management staff, led by Deputy Director Wang Chen Ji, visited Armenia for the first time. Also, the minister of the Economy of Armenia participated in Neta S presentation.

Neta S, the latest model of the Chinese Neta car brand, was presented to the Armenian market within the framework of the Leasin Expo organized at the Sports Concert Complex.



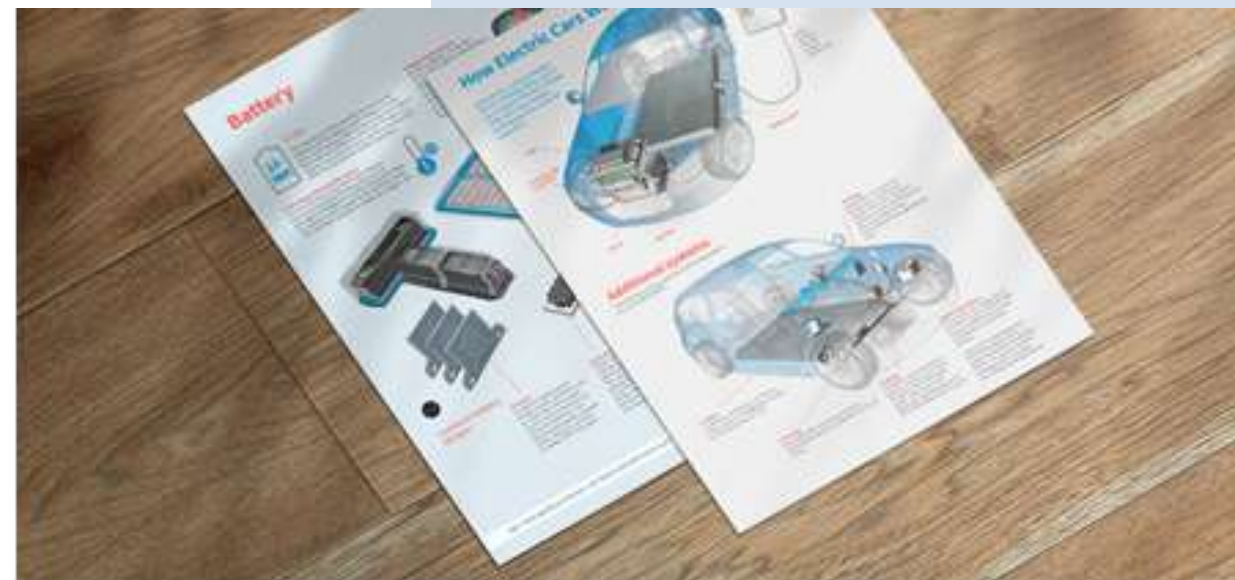
GR & AWARENESS BUILDING

Achievements in establishing customs and tax privileges:

- Free parking for EVs in Yerevan
- The trade-in process is regulated by the state since January 2022.
- The government stimulates EV market by exempting EV sales from import customs (15%) and VAT (20%), with a total benefit of 38% savings as VAT is added after customs tax inclusion (quotation of 7,000 units for 2022; and 8,000 units for 2023).

Public awareness-building campaign

*The World Bank GEF program and the Ministry of Environment authorized **Andron** to organize public awareness-building campaigns, including outdoor promotion with free educational materials.*



E-MOBILITY



OUR AFTER-SALES SERVICE CENTER

Yerevan city, Tbilisyan highway, 16/10 building



OUR HAPPY CLIENTS

68 in one and a half year or 10% of the market



OUR SHOWROOM

Yerevan city, Tbilisyan highway, 21/8



OUR CHARGING NETWORK

2 IN 2022 | 40 IN 2025



Shtigen Ventures

The greenlight for your investment



Hakob Khotsanyan

CEO & Founder,
Ventures

Inspired by Shtigen's mission, Fund aims to leverage private capital with concessional funds from Institutional Investors and Multilateral Development Banks (EBRD, ADB, GCF, etc.) for implementing the most efficient equity and quasi-equity investments into Green Projects in Armenia



SHTIGEN VENTURES
FOUNDED TO RAISE

BUSINESS

SHTIGEN VENTURE CAPITAL

Overview

Shtigen VC is a non-public Venture Fund established by Shtigen Group and its 3 partners in December, 2022. It is registered and regulated by the Central Bank of Armenia.

- Registration number - 0070.

Rationale

Inspired by Shtigen’s mission to leverage private capital with concessional funds from institutional investors and MDBs (e.g. EBRD, ADB, GCF) for implementing secure and efficient equity and quasi-equity investments in green projects of Armenia.

Fund

- Size: ~\$10-11 mln
- Hurdle rate: 8%
- Term: 10 Years (+1 year extension, if needed)
- Sector: Defined by Green Taxonomy
- Stage: Pre-Seed / Seed / Developing
- Active Investment Period: 1-5 years
- Fund IRR expectation: 20-22%
- Targeted portfolio size: 10-15 companies
- Targeted return: 4X+ on investments

Fund Structure:



FORUM

31 March, 2023

Description

The forum brought together representatives and experts from state and international organizations, businesses, and the banking sector to explore the potential for green energy development in Armenia.



**Shtigen VC Non-Public
FUND**

**Launch of the Shtigen Venture Fund and Panel Discussion
on the innovative green finance instruments.**

Topics

- ✿ What are the innovative green finance instruments?
- ✿ How to fuel the development of the green business?
- ✿ How to mobilize private and institutional capital into climate action?



CSR/CNR & AWARENESS BUILDING

↓
Corporate National
Responsibility

SHTIGEN'S Social Impact

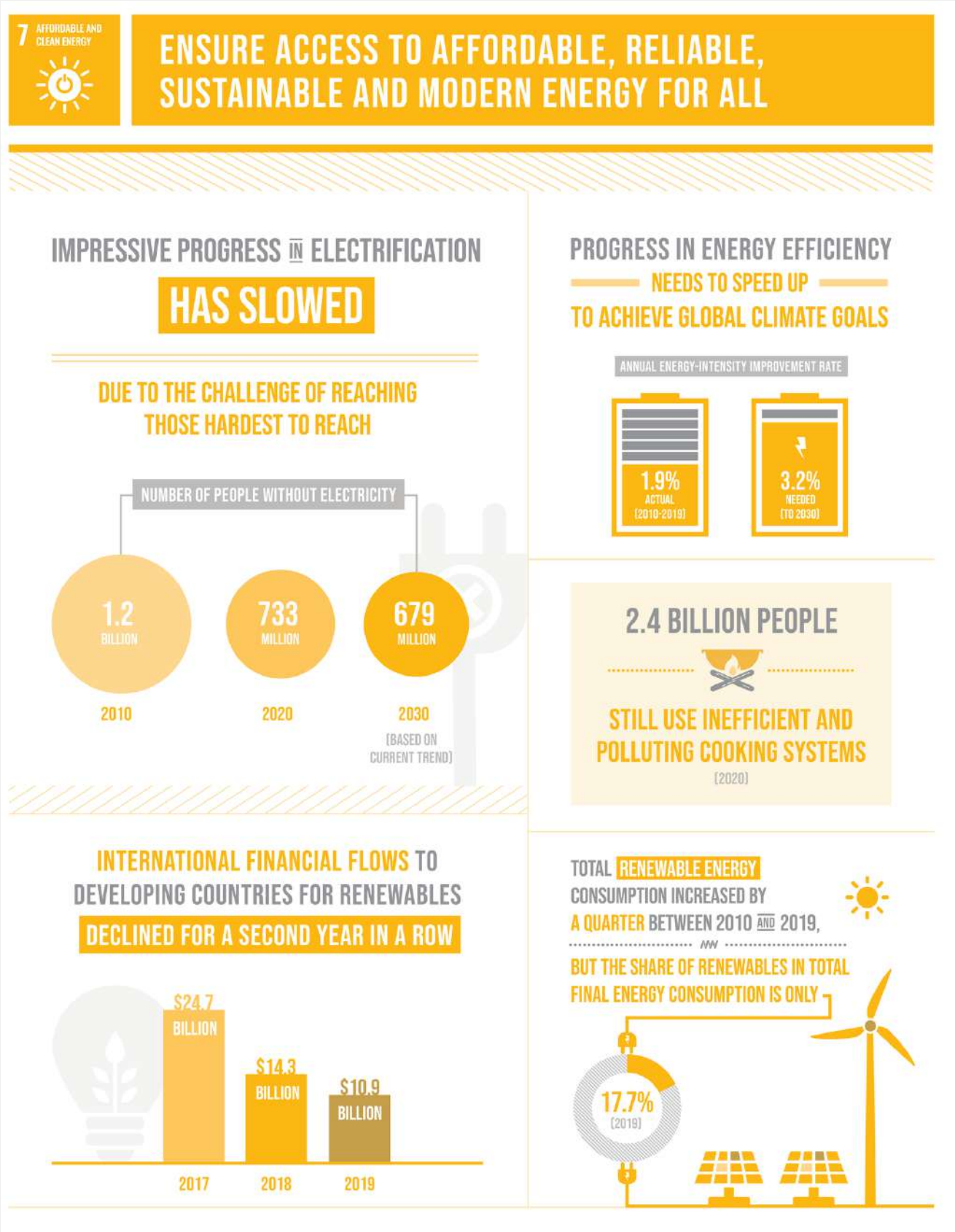
- Educational projects
- Contributory projects
- International expos
- Awareness building projects
- Forums



SHTIGEN
ACADEMY


SUNRISE

UN SD GOAL 7: AFFORDABLE & CLEAN ENERGY



SHTIGEN GROUP provides affordable solar energy solutions by promoting green technologies and the country’s energetic self-sufficiency.



- Solar water heaters
- Photovoltaic panels
- Heat Pumps



- Electric Vehicles
- Solar Power banks
- Solar Generators

SUNRISE IN ARTSAKH



- In April of 2022, Shtigen Group launched the “Sunrise in Artsakh” project with the aim to establish energy security and independence through solar energy in the Republic of Artsakh.
- Shtigen Group donated 12 solar water heaters to various settlements in Artsakh.
- "Arevik" Children's Medical Association in Stepanakert was also equipped with solar water heaters and PV station as part of the project.

Around 200 houses in Artsakh were equipped with solar water heaters, guaranteeing a constant hot water flow for at least 2 decades with zero utility cost.



DEFENDER OF THE MOTHERLAND

SUPPORTING THE FAMILIES OF FALLEN HEROES

- Immediately after the November 2020 ceasefire, Shtigen Group initiated a program called "Defender of the Motherland". Meanwhile, a group of Artik residents living in Russia started implementing the "Help to the families of the victims" initiative.
- Combining the goals and resources of the two initiatives, we launched a joint project in order to install solar power plants on every fallen soldier's house.
- Thanks to this initiative, the families of fallen heroes were provided with free electricity for several decades.



BRIGHT BORDER PROJECT

ENERGY-EFFICIENT LED BULBS FOR BORDERLINE COMMUNITIES

In 2016 Shtigen Group joined "Bright Border" social initiative providing energy-efficient LED bulbs for borderline communities.

***More than 6,600 families from 30 border villages of Armenia and Artsakh received around 33,000 high quality, lab-tested LED lamps with a three-year service warranty.**

On average, these communities annually save over 4.3 million kWh of energy (195 million Armenian drams).



EDUCATIONAL PROJECTS

SHTIGEN
KIDS

Shtigen Kids is an educational project for 10-16 year-old schoolchildren, increasing their interest in the renewable energy sources and energy-efficient way of living.



- Solar energy
- Electric vehicles
- Efficient heating and cooling systems



EDUCATIONAL PROJECTS

Shtigen Academy is an educational project for universities and colleges, carrying out trainings for young professionals in the following fields of study.



SHTIGEN
ACADEMY

Shtigen Academy collaborates with the two biggest universities in Armenia - the Polytechnic and Agrarian Universities.

We provide courses, organize master classes and internships for students. As a result, some students eventually become part of our employees' team.



SEVAN STARTUP SUMMIT

2023



- Shtigen Group was the "Sustainable partner" at Seaside Startup Summit, conveying its values and ideology through an energy-independent box pavilion.
- During the event, a memorandum of cooperation was signed between Shtigen Ventures and Triple S Ventures, with the aim of expanding their collaboration by leveraging the potential and shared values of both companies.
- The Seaside Startup Summit also featured Andron, the exclusive representative of the NETA brand in Armenia, along with Shtigen Group. Additionally, Enerex, an electricity trading company providing a cost-effective alternative to HEP, offered electricity at more affordable rates.



SEASIDE STARTUP SUMMIT

2023



At the 2023 SSS startup event in India, Shtigen Group was represented as a "Renewable Partner". The team actively participated at the economic forum, panel discussions, as well as mentored some of the startups.



Prizes by Shtigen Group



SEVAN STARTUP SUMMIT

2018



Shtigen Group participated at the event as a technological company with its own success story.



Shtigen Group has donated \$2000 to the third winner of the startup battle.



Shtigen Group has supplied the event with solar electricity using a mobile hybrid solar electric station.



STARMUS

THE FUTURE AT THE SHTIGEN GROUP'S BOOTH

In 2022 we were the only solar energy company at STARMUS international festival of astronomy, science, arts and knowledge held in Yerevan.



More than 2000 people visited the Shtigen's booth



Our solar energy team has "defeated" oil by crushing the symbolic oil container, "made the sunrise" in Artsakh by lighting up an image of the sunrise, and lit up the slogan of Andron - "Charge Your Dreams".



Garik Israelyan, an astrophysicist and the founder of STARMUS festival, was one of the many honored guests at the Shtigen Group's booth.



DIGITEC 2018

AWARENESS BUILDING & FUN

Shtigen was a part of Digitec, Armenian high-tech expo, which annually hosts more than 60,000 visitors.

The coffee for our guests was really made with the water from the solar heater, showing the effectiveness of this technology.

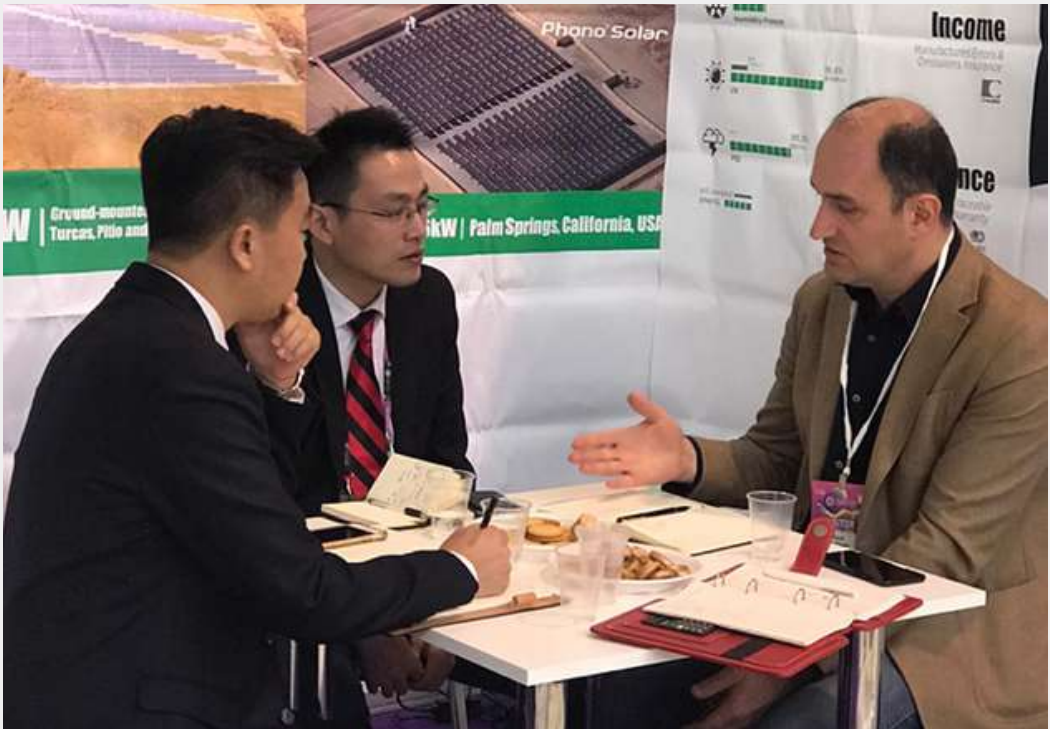
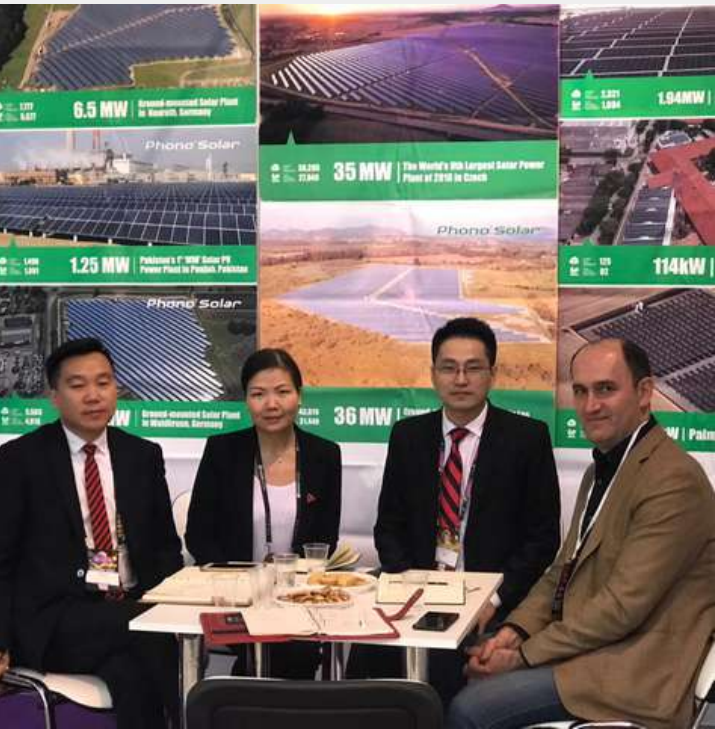


INTERNATIONAL EXPOS

ABU DHABI / KIEV / ASTANA / MUNICH



Shtigen Group representatives are among the renewable energy and technology experts from all over the world participating in global solar expos.



ARMENIAN ENERGY WEEK

2018

Shtigen Group took part in the 2018 Energy Week Armenia as a gold sponsor jointly with its global partners. During the event Shtigen and its partner Karen Ghazaryan announced about an investment package with total of 10MW power. As of 2022, the project was completed by 150%.



CENTRAL ASIA AND MONGOLIA ENERGY WEEK- 2023

As the event's sole Gold Sponsor, Shtigen Group makes every effort to promote clean and renewable energy initiatives in the region and Central Asia, as well as to build prospective business collaboration with significant and reliable worldwide corporations.



COP 28 GLOBAL EVENT IN DUBAI 2023

Shtigen Group took part in the most prestigious COP28 UAE meeting on climate change with several missions:

- To be a part of the global summit;
- To contribute to the fight against global climate change,
- To clarify the understanding of innovative ways and mechanisms to attract the private sector to green funds through Shtigen Ventures.

Our team also attended a panel discussion at the COP 28. We additionally addressed Shtigen Ventures' activities when discussing innovative finance strategies for tackling climate change in Armenia.



INITIATED FORUMS

"Solar Artsakh" Forum

On June 15, 2019 Shtigen held the "Solar Artsakh" workshop in Stepanakert, the capital of Artsakh. The ambition was to make the solar energy easily available to Artsakh's population.

The seminar brought together business people, government officials, engineers, as well as the financial sector representatives.



"Arsun" Forum

This investment forum was held in 2019. As a result, the 2MW ArSun utility-scale PV plant project was commissioned.

It was an honor to host Mr. Michael K. Lee, Mrs. Jing Lu and Mr. Vincent Han (Phono Solar's Senior Sales Managers), as well as entrepreneurs, PV plant license holders, and financing field representatives including ArmSwissBank, Ameriabank, and ACBA Leasing.



