NEW-TEK | SCHMID® Company

integrated solutions in solar energy and energy storage

Company Profile
Kyrgyzstan, 2020

Agenda

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ABOUT US

NEW-TEK LLC is a Kyrgyz-German company engaged in the development and implementation of innovative projects in solar energy, energy storage in the CIS countries, Europe, and the Middle East.

Our advantage is the production of PV solar modules in our own factory, equipped with the most modern production equipment.

We offer solutions in providing alternative energy for private users, small businesses, and industrial facilities.

New-Tek LLC found in 2015.
In 2016, it launched the production of Class A photovoltaic solar modules.

2015

FOUNDATION

BABEK LTD AND SCHMID GROUP FOUNDED THE NEW-TEK LLC

MARCH. START OF CONSTRUCTION PLANT IN BISHKEK FEZ

CONSTRUCTION

2016

STAR-UP

NOVEMBER. LAUNCHING THE PLANT FOR COMMERCIAL OPERATION

2017. 2 MW OF PV MODULES WERE PRODUCED

FACT

2017

2018

IEC CERTIFICATE

GERMAN STANDARD. IN 2018, NEW-TEK HAS PASSED TUV RHEINLAND CERTIFICATION

APRIL. OPEN A BUFFER WAREHOUSE IN GERMANY

WAREHOUSE

2019

MAY 2019. WE RECEIVED UL CERTIFICATE BY TUV RHEINLAND

UL CERTIFICATE

2020

PLAN 5BB

PLAN 100MW + 5BB: UPGRADE OF THE PLANT UP TO 5BB CELLS AND INCREASE OF POWER UP TO 100 MW

New-Tek LLC: short review

GENERAL INFORMATION

Year of founded:	2015 - company foundation 2016 - start of production
Area:	Renewable energy sources
Focus:	Solar Energy PV Solar Modules
Owner:	Kyrgyzstan: Babek LLC Germany: SCHMID Group
Head Office:	Bishkek, Kyrgyzstan
Manufacture:	«Bishkek» FEZ, Ak Chii Chui Region, Kyrgyzstan
Volume of production:	100 MW annual year / ~ 400 ths. PV Modules (4BB) 75 MW annual year / ~ 270 ths. PV Modules (5BB)

BUSINESS FOCUS

Financial highlights: The annual turnover of the company is 20 million US dollars

Geography of sales:
- Kyrgyzstan
- CIS
- Europe
- Middle East

Our advantages:
- Production on the German automated line
- At manufacture we use silicon cells of the highest quality - Grade A
- High level of mechanical strength and minimum level of degradation of crystals
- Build solar power plants "turnkey"

Product:
- Polycrystalline and monocrystalline PV Solar Modules of Premium Quality
  - The effectiveness of efficiency of at least 18.1%
  - Max power (Pmax) up 250 W to 370 W
  - Warranty: 10 years for materials and manufacturing, 25 years of power output
- Solutions for energy storage based on lithium and vanadium batteries
- Mobile and Fixed On- or Off-Grid solar stations

SOLAR ENERGY – THIS ENVIRONMENTAL CLEAN RENEWABLE SOURCE OF ENERGY ON THE EARTH

Our company has a fully automated production line with three quality control posts and a single database for accounting the products.

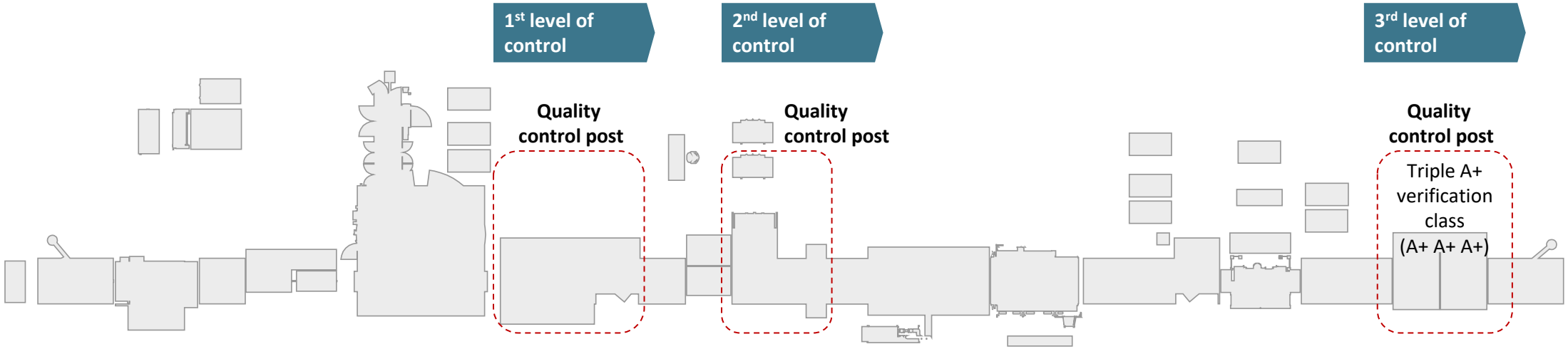


PHOTO OF FACTORY NEW-TEK LLC (KYRGYZSTAN)

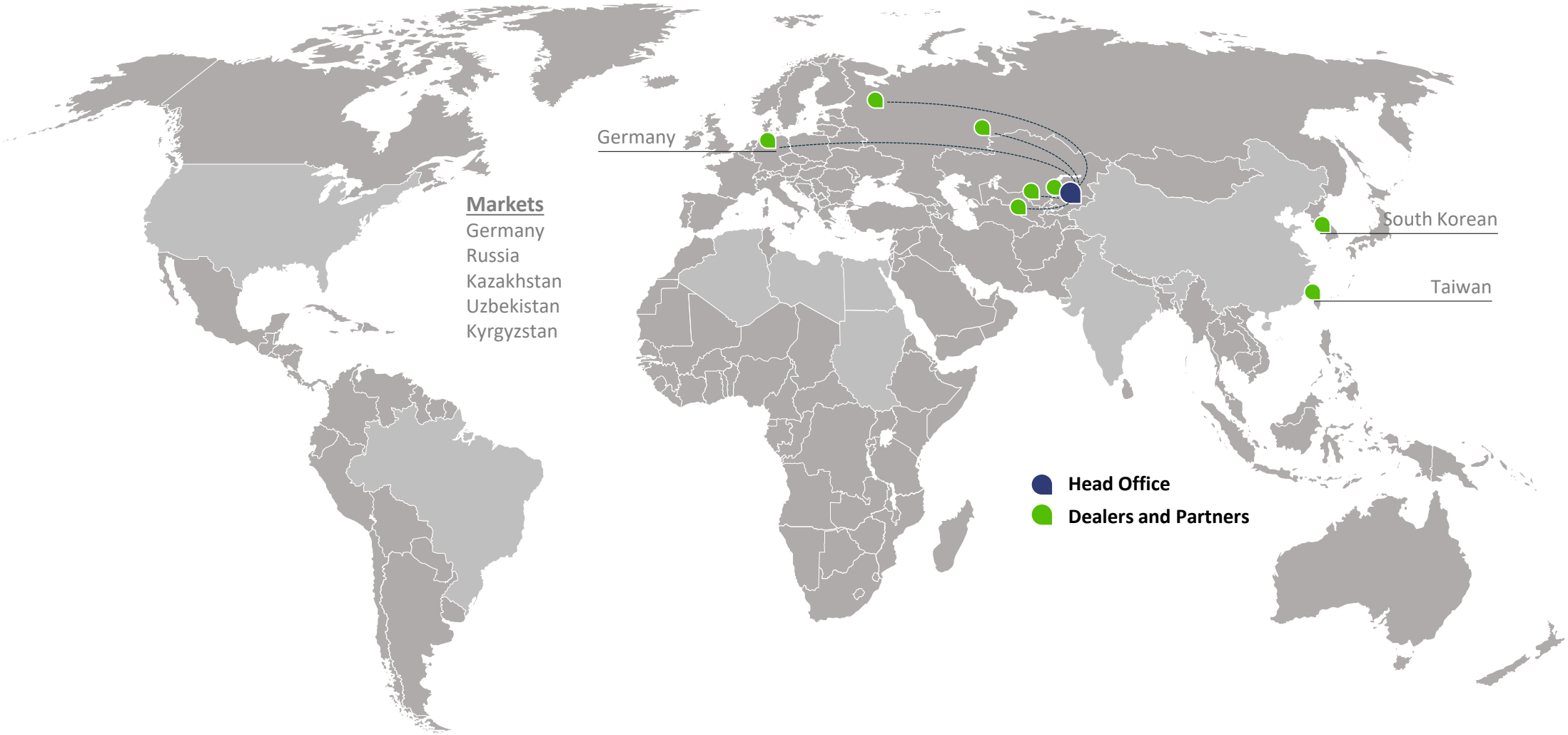



Production PV module on the New-Tek line in the video:

The link to the video on YouTube:

https://www.youtube.com/watch?v=y7D-BLaf1qA&t=1s

Our friendly network:



OUR PRODUCTS

We offer PV modules of our production under TM NEWTEK NTE®, solutions in the fields of energy storage and solar energy

Alternative Energy: Why Use Our Photovoltaic Solar Modules

High-efficiency NEWTEK NTE PV Solar Modules with power from 250 W to 370 W constructed using 60 or 72 mono- or polycrystalline cells of GRADE A with an efficiency of **at least 18.0% for Poly and 22.0% for Mono.**

With a lifetime of at least 25 years, at a reasonable cost, aesthetic design, and ease of installation, our PV solar modules are a universal solution for the construction of industrial solar power plants and small station for residential house, for the autonomous power supply or Off-Grid independent source of energy.

NEWTEK NTE photovoltaic modules manufactured by international standards of quality on German equipment from **SCHMID GROUP®** Company.

- 10 years — 10 years manufacturer's warranty for materials and workmanship compliant to industrial standard
- 4BB/5BB — Greater number of bus-bars provide uniform heating Guarantee lower degradation of silicon cells
- P-Max — High performance in low light is reached by unique technology and materials
- Watt — Positive power tolerance from 0-5W Higher guaranteed yield W
- 550 kg — Snow load up to 550 kg / m2 Durable operating capacity in extreme conditions
- 100% — 100% inspection of manufacturing at 3 stages and control over micro cracks on the cells
- Soft Grip — Reinforced anodized aluminum frame Higher durability and ease of installation
- IP 65 — High quality of Junction Box with/without climate membrane for condensation prevention
- AR anti-reflection — The front glass is covered with anti-reflective layer for better performance
- TUV IEC/UL — The products are certified according to IEC and UL standards by German concern TUV Rheinland

PV solar modules of NEWTEK NTE series from the 60 cells (6x10)

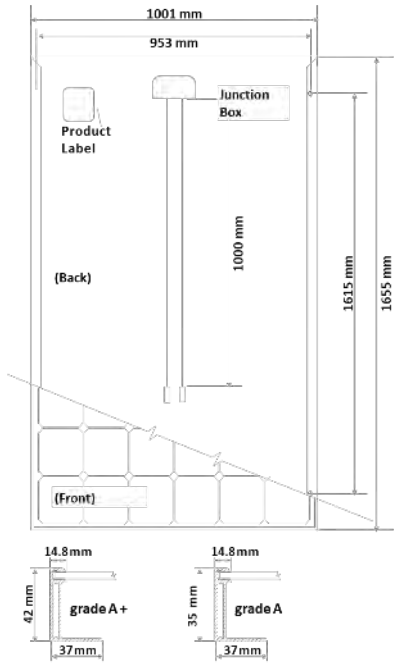
GRADE A / A+

Maximum Power at STC (Pmax):	280 / 290 / 300 / 310 / 320 W
Cell Efficiency:	19,6% / 20,6% / 21,1%
Cell Arrangement:	60 (6x10)
Cell Grade, bus-bars:	Grade A, 4BB / 5BB / M2
Operating temperature:	from -40º C to +85 ºC
Maximum Static Load, Front (Snow):	1 600 Pa
Maximum Static Load, Back (Wind):	1 600 Pa
Dimension:	1665x1001x35 (42) mm
Weight:	18,5 kg ± 1 kg
Number of PV modules on the pallet:	30 / 45 pcs

Electric characteristics at normal operation conditions (STC)
STC Conditions: Irradiance: 1 000 W/m2, cell temperature: 25ºC, AM=1.5.
Tolerances at STC conditions: Pmax ±5%, Voc ±3%, Isc ±4%

Maximum Power at STC (Pmax):	250 / 260 / 270 / 280 W
Cell Efficiency:	18,0% / 18,4% / 18,8%
Cell Arrangement:	60 (6x10)
Cell Grade, bus-bars:	Grade A, 4BB / 5BB / M2
Operating temperature:	from -40º C to +85 ºC
Maximum Static Load, Front (Snow):	1 600 Pa
Maximum Static Load, Back (Wind):	1 600 Pa
Dimension:	1665x1001x35 (42) mm
Weight:	18,5 kg ± 1 kg
Number of PV modules on the pallet:	30 / 45 pcs

Front cover:	Tempered Glass, 3.2 mm thickness with AR layer
Back cover:	Backsheet white or black
Frame:	Anodize Allow, 1,6 mm thickness
Junction Box:	IP65 Protect + climatic membrane (option)
Bypass Diodes:	3
Cables (length/area):	1000 mm / 4 mm²
Connectors:	PV4S (MC4)



CERTIFICATIONS

IEC 61215, IEC 61730-1, IEC 61730-2
UL 61730-1:2017, UL 61730-2:2017
RST, EAC

German Solar Production

Designed in GE
Produced in KG

WARRANTY

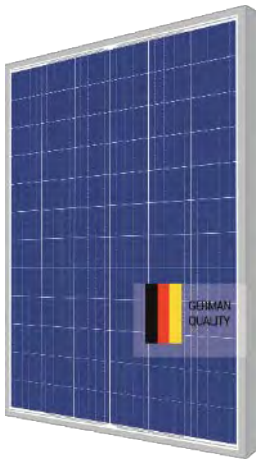
10 YEARS · 25 YEARS
PRODUCT · LINER POWER

PV solar modules of NEWTEK NTE series from the 72 cells (6x12)

GRADE A / A+

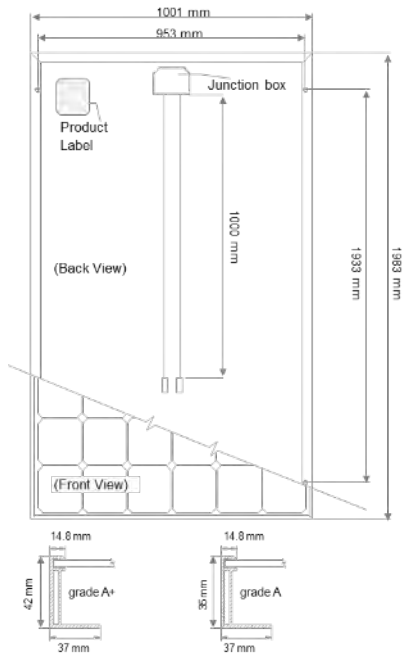
Maximum Power at STC (Pmax):	340 / 350 / 360 / 370 / 380 W
Cell Efficiency:	20,0% / 20,2% / 20,4%
Cell Arrangement:	72 (6x12)
Cell Grade, bus-bars:	Grade A, 4BB / 5BB / M2
Operating temperature:	from -40º C to +85 ºC
Maximum Static Load, Front (Snow):	1 600 Pa
Maximum Static Load, Back (Wind):	1 600 Pa
Dimension:	1983x1001x35 (42) mm
Weight:	23,5 kg ± 1 kg
Number of PV modules on the pallet:	30 / 45 pcs

Electric characteristics at normal operation conditions (STC)
STC Conditions: Irradiance: 1 000 W/m2, cell temperature: 25ºC, AM=1.5.
Tolerances at STC conditions: Pmax ±5%, Voc ±3%, Isc ±4%



Maximum Power at STC (Pmax):	310 / 320 / 330 / 340 W
Cell Efficiency:	18,2% / 18,5% / 18,8%
Cell Arrangement:	60 (6x10)
Cell Grade, bus-bars:	Grade A, 4BB / 5BB / M2
Operating temperature:	from -40º C to +85 ºC
Maximum Static Load, Front (Snow):	1 600 Pa
Maximum Static Load, Back (Wind):	1 600 Pa
Dimension:	1983x1001x35 (42) mm
Weight:	23,5 kg ± 1 kg
Number of PV modules on the pallet:	30 / 45 pcs

Front cover:	Tempered Glass, 3.2 mm thickness with AR layer
Back cover:	Backsheet white or black
Frame:	Anodize Allow, 1,6 mm thickness
Junction Box:	IP65 Protect + climatic membrane (option)
Bypass Diodes:	3
Cables (length/area):	1000 mm / 4 mm²
Connectors:	PV4S (MC4)



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IEC 61215, IEC 61730-1, IEC 61730-2
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Designed in GE
Produced in KG

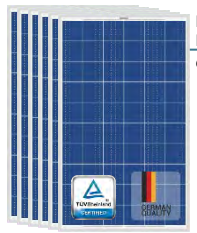
WARRANTY

10 YEARS · 25 YEARS
PRODUCT · LINER POWER

S.HOME kit ®: solar stations for households are an excellent solution for powering a summer house, residential house, guest house and etc.

*The solar station **S.HOME kit** from the company **NEW-TEK LLC** is designed to provide electricity to a residential house, holiday village, agricultural, and farming enterprises. Such a station has several advantages: it does not require special maintenance, can be dismantled and moved to a new location, provides complete autonomy, is installed in any place and at any time of the year.*

SOLAR HOME KIT	SHOME 0.5	SHOME 1.0	SHOME 2.0	SHOME 3.0	SHOME 5.0
Power, kW	0.5kW	1kW	2kW	3kW	5kW
PV Module NTE 280-60M, [pcs]:	2	4	8	12	20
Fact power, [kW]:	0,56	1,12	2,24	3,36	5,60
Invertor Off-Grid EPSOLAR, [kW]:	IP 1000	IP 1500	IP 2000	UP 3000	UP 5000
MPPT Controller EPSOLAR, [A]:	30	40	60	2x50	3x60
CSPOWER battery 12V-200Ah, [pcs]:	1	2	2	4	6
Roof-mounting, [set]:	1	2	4	6	10
Rack for battery 600x300x400, [pcs]:	1	1	1	2	3
Cable with UV-protect, 4mm2, [m]:	20	30	40	60	80
Connector MC-4 (plus/minus) [pcs]:	4	8	16	24	40
Connector MC-4 (Y-type) [pcs]:	2	4	8	12	20



PV SOLAR MODULE NEW-TEK NTE
Own production

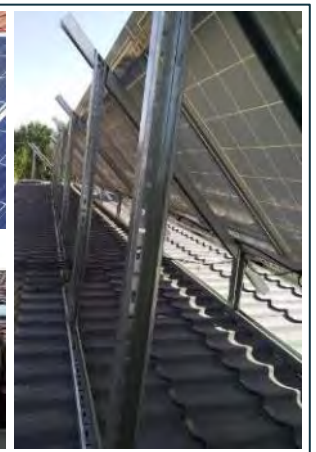
MPPT CONTROLLERS

HYBRID, ON-GRID, OFF-GRID INVERTERS
From certified European and Chinese manufacturers

AGM, GEL or LIFEPO4 BATTERIES
From certified European and Chinese manufacturers

SOLAR CABLE WITH UV 4/6/8/10 mm2
From certified European and Chinese manufacturers

MC4/PS4 CONNECTORS Y-TYPE, PLUS/MINUS
From certified European and Chinese manufacturers

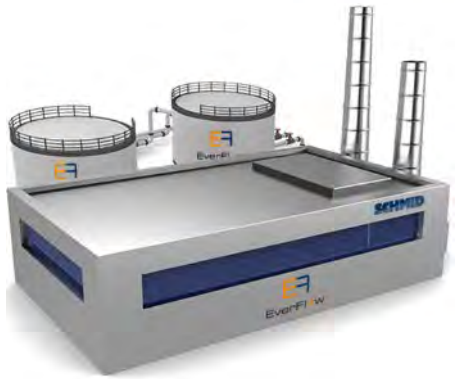


Warranty:

1. *Warranty on PV modules 10 years, life shelf 25 years or more*
2. *Warranty on Inverter and MPPT controller 2 years*
3. *Warranty on the Roof-mounting 5 years, life shelf 25 years*
4. *Warranty on battery from 1200 cycles with DOD 50% and t of use from +10^{0}C to +25^{0}C*

Ready-made Solution for energy storage on the VRFB-technology

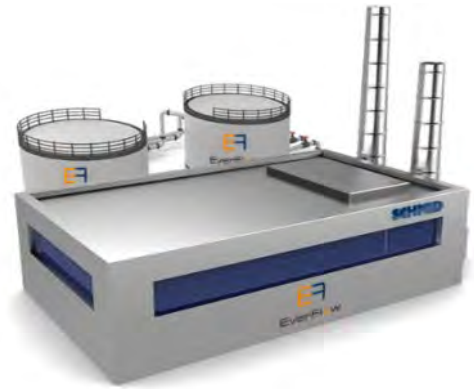
100% сделано в ГЕРМАНИИ



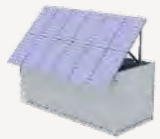
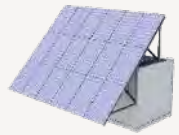
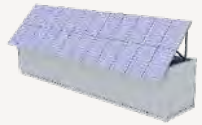
KEY BENEFITS

- Electrolyte: non flammable | non explosive | no aging effect
- 100% deep discharge allowed with no effect on power and capacity
- The electrolyte in the tanks has no self-discharge and does not lose power
- No emissions / CO2 neutral
- Eco Design. High level of maintainability
- Charging from any source: RES, traditional source, DGS
- No limitation of discharge/charge cycle: minimum > 10 thousand
- Low maintenance costs
- Low noise level
- Unattractive to thieves. No precious metals and no reuse of components
- Scalability: allows you to group a container to increase power or capacity without limitation

EverFlow® Portfolio: solutions from private homes to giant storage for energy

Compact Storage Telecom Storage	Storage Container	Building Integrated Storage	Large Scale Storage
Compact design and small footprint for easy installation	The storage building block for fast installation & safe operation	Individual integration of power and energy according to requirements	Turnkey storage facility according to requirements
			
▪ Private home storage ▪ Telecommunication towers ▪ Small - medium businesses ▪ Off-grid- application ▪ Backup	▪ District storage ▪ Public buildings ▪ Medium - large businesses ▪ Weak-grid support | Off-grid ▪ E-mobility ▪ Backup	▪ Apartment buildings ▪ Medium - large businesses ▪ Weak-grid support | Off-grid ▪ E-mobility ▪ Backup	▪ Buffering large scale PV- and Wind-farms ▪ Mining industry

MOBISOLAR-NTE2040 mobile solar power station: good solution for business, military, geologists and other tasks

 x12 	 x18 	 x24 	 x36 
POWER: 3.0 / 3.6 kW	**POWER: 4.5 / 5.4 kW**	**POWER: 6.0 / 7.2 kW**	**POWER: 9.0 / 10.8 kW**
20ft container		**40ft container**	
• Fridge • Energy efficient light bulbs (10-20 pcs.) • LCD TV • Washing machine (washing 3-4 times a week) • Dishwasher (washing 5 times a week) • Computer • Small air conditioner • Stand-by	• Fridge • Energy efficient light bulbs (20-30 pcs.) • LCD TV (1-3 pcs.) • Washing machine (washing 3-4 times a week) • Heater 0.5 kW • Computer • Small air conditioner • Stand-by	• Fridge • Energy efficient light bulbs (30-40 pcs.) • LCD TV (3-4 pieces) • Washing machine (wash 5-7 times a week) • Heater 1-1.5 kW • Computer (1-2) • Pump for heating 0.2-0.4 kW • Small air conditioner • Stand-by	• Fridge • Energy efficient light bulbs (40-50 pcs.) • LCD TV (4-5 pieces) • Washing machine 2 pcs. (washing 3-4 times a week) • Heater 2 pcs. power of 1-1.5 kW • Computer (3-4) • Pump for heating 0.2-0.4 kW • Small air conditioner • Stand-by

<u>Attention:</u>

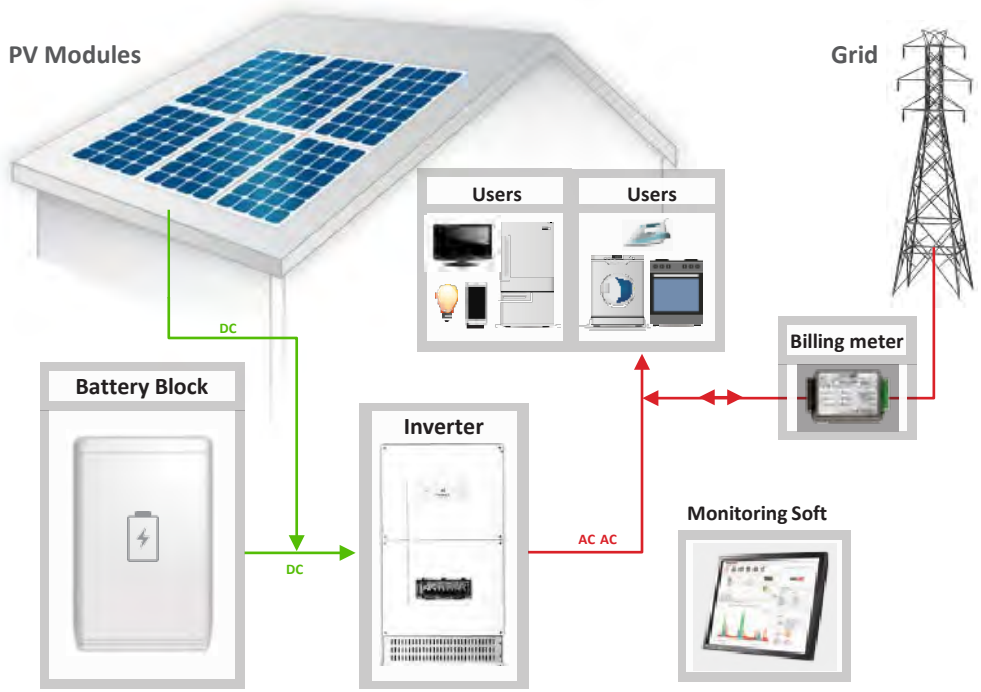
The autonomous solar power station is built based on standard 20ft and 40ft containers for ease of transportation and installation. Inside the container is equipped with the necessary fixtures for fixing equipment and safe delivery. Inverters and batteries are already installed inside and do not require additional works.

OUR SOLUTIONS

NEWTEK NTE PV solar modules are a universal solution for various tasks: from small private to big commercial projects

Solar stations for different tasks: from backup and autonomous supply to projects under the green rate

The technical scheme of connection for solar power station



Type of Batteries
AGM / GEL / LiFePO4 / VRBL

Solar Power Station with batteries pack as backup system

BACKUP SYSTEM • PV Modules • Inverter • Controller • Batteries	Backup power will provide housing with electricity at the time of power outages in the grid
AUTONOMOUS POWER SUPPLY • PV Modules • Inverter • Controller • Batteries	Independent power supply allows you to abandon the traditional connection and provide yourself with a completely independent source of electricity
THE COMBINED POWER • PV modules • DGS / Wind Station • Inverter • Controller • Batteries	The combined power supply allows to provide housing with energy from various power sources, thereby minimizing the risks of being left without energy
STATION UNDER THE GREEN TARIFF • PV Modules • Inverter • Controllers • 2-sides meter	Solar stations with the transfer of surplus electricity to the central network at the "green tariff" allow you to receive additional income

NOTICE:

PV Module, inverter and controller are enough for solar power station operation.
The battery is necessary for the accumulation of solar energy during the day and use the night when the solar modules do not produce energy.

New-Tek LLC offers to construct turn-key solar power plants with a capacity of up 1 to 50 MW

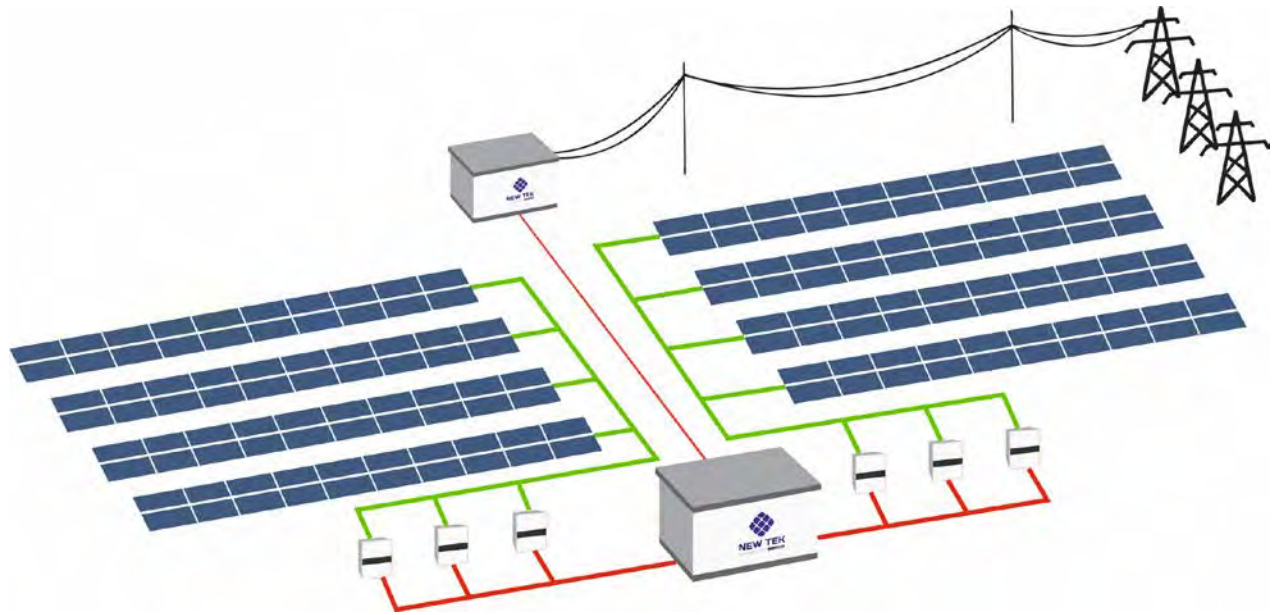
Our company does not sell only PV solar modules, but we can construct the Solar Power Plants (SPP) with a turnkey capacity of up to 50 MW.

- The engineers from Germany are design, construction, and control;
- All components for the solar power plant (strig inverters, mounting ground or roof systems, controllers, wire, connectors, etc.) supplied from the best European manufacturers;
- The average construction period of a 1 MW Solar Power Plant (SPP) is 6-8 months.

KEY ADVANTAGE

The key advantage of our company is that we by himself produce PV solar modules at our factory, and when to construct the solar power plants turn-key, we do not lay double profits.
That is very profitable for the customer.

Drawing
Solar Power Plant (SPP)



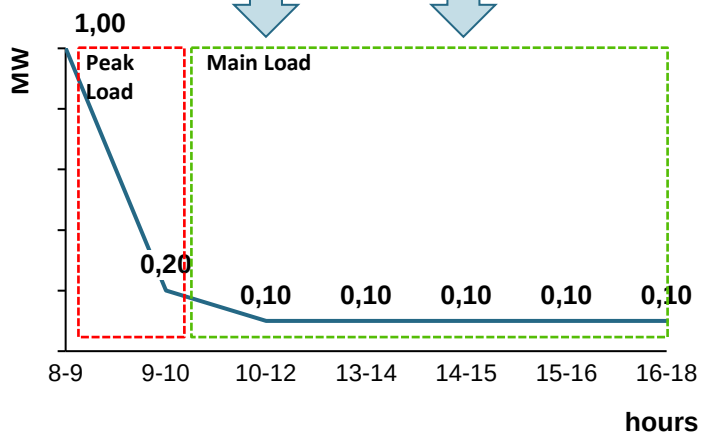
1. PV solar modules
2. String inverters are network external / internal
3. Substation step-up / step-down
4. DC cable / AC cable
5. Monitoring and control system

Our company offers solutions to cover peak loads for industrial enterprises with reduced costs

VRFB

LiON

SALWATER BATTERY



PROBLEM

- Many industrial enterprises purchase increased capacity from energy suppliers to the launch of equipment at the plant.
- Increased power capacity requires regular payment, even if it is not used.
- Increased expensive included in the cost of production and it will be increase prices

SOLUTION

- We offer design, supply, and installation of batteries of the required capacity to cover peak loads during equipment startup.
- That allows you to optimize energy-expensive due to:
  - rejection of increase capacity;
  - charge the battery at a cheaper nightly rate.

Solar energy can be used in any field: a main or alternative energy source, backup system supply, optimization costs, business, etc.

SOLAR ENERGY:

THE GREEN AND CLEAN ALTERNATIVE ENERGY

THE USE MODEL

DESCRIP-TION AND EXAMPLE

1 HOME / PRIVATE

- PV Solar Modules used to generate electricity in living quarters, for example: in country cottages or country houses, where there is a problem with a traditional power source.
- Apply as a primary or backup power source, or supply some consumers/equipment

2 FACTORY / BUSINESS

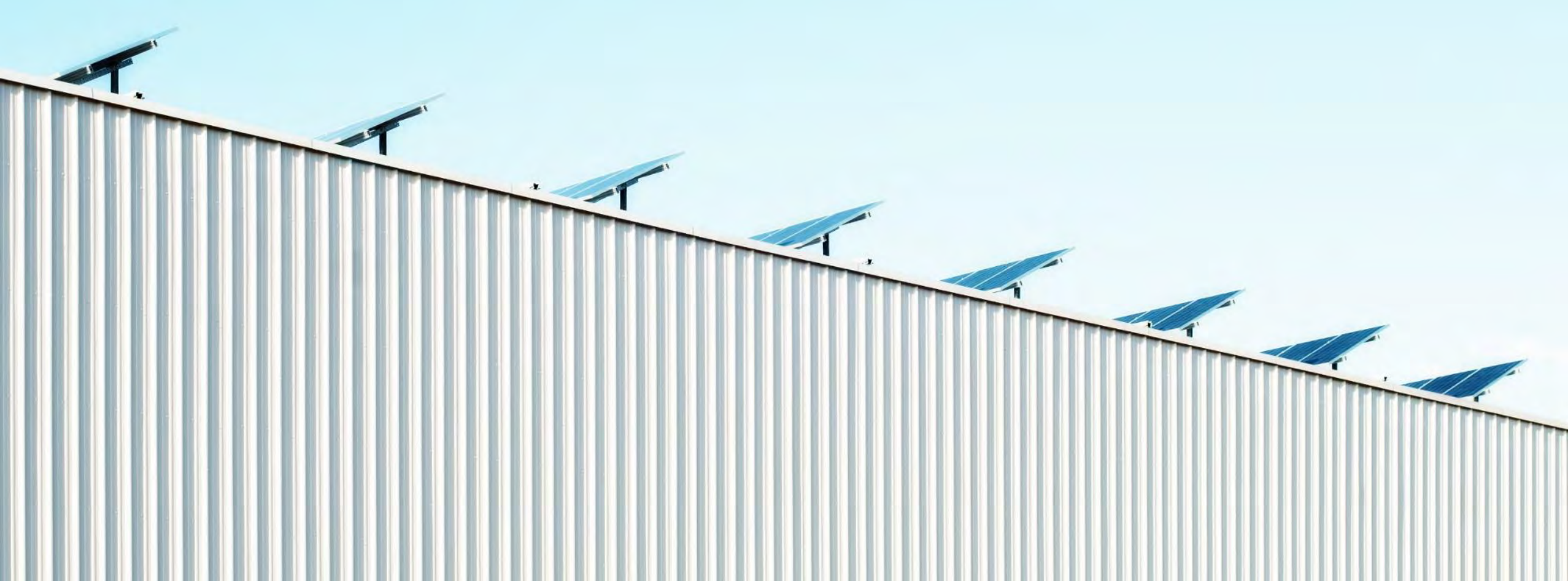
- Solar power plants can use as an alternative or mixed power source on the small factories to reduce operating costs.
- Some companies use a solar power plant as a power source in hard-to-reach places: cellular operators, mining companies, and others.

3 INFRASTRUCTURE

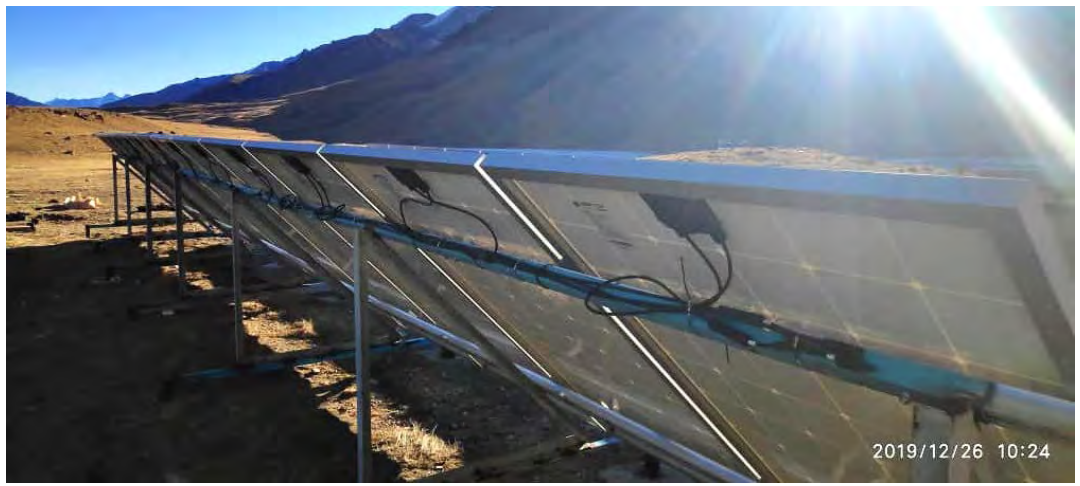
- Solar power plants in urban infrastructure used as a power source for city facilities: covered parking, street lighting, information signboards, pedestrian traffic lights, etc.
- Advertising companies use solar power plants to illuminate outdoor: billboards and light advertising tabloids.

Our Projects

PV solar modules NEWTEK NTE are used both for industrial Solar Power Plant and for the private sector



The project is at an altitude of more than 3 thousand meters. A solar station a capacity of 17.4 kW for the power supply of a private house



Under the project, the solar station provides energy supply to abandon the gasoline generator, which regularly consumed fuel.

For the solar station, we used 60 photovoltaic modules from New-Tek LLC, model NTE 290-60M capacity of 290W.

The PV modules mounted on the ground on an aluminum-mount system.

For the nighty consumption, the energy stored in 8 pcs LiFePO4 batteries a total capacity of 800 Ah.

A hybrid inverter capacity of 10 kW and voltage 48V is converting DC 48V to AC 220V.

Project

• Location:	Kyrgyzstan, altitude 3 220 m
• Date of installation:	December 2019
• Type of mounting:	On the Ground

System parameters

• Power:	17,4 kW
• PV quantity:	60 pcs
• Output:	22 492 kW/annual 50-60 kW/day

The Open Village project in the Moscow. Private house with modern solutions in the field of electricity, heating, etc.

Under this project, the solar station performs a fully autonomous power supply of this house.

For the station were used 16 mono-photovoltaic panels of the New-Tek LLC, the model GRADE A+ NTE 285-60M, with a power of 285W each.

The PV modules are installed on the roof of the house on an aluminum roof-mounting system. The energy is stored in 4 AGM batteries with a capacity of 200Ah, each.

The inverter converts direct current from DC solar panels to alternating current AC 220V and provides power to electrical appliances in the house.

Project

- Location: Moscow oblast, Russia
- Date of the installation: September 2019
- Type of the mounting: Roof

System parameters

- Power: 4,5 kW
- PV quantity 16 pcs
- Output: 4 270 kWh/annual

Test project for FAO UN: provision of 8 forest cordons with solar stations of 0.5 kW each for main and backup power












Under the project, a solar station is the main energy supply source for the forest cordons in Kyrgyzstan.

For one Solar Kit capacity, 0.5 kW used: two photovoltaic modules from New-Tek LLC, model GRADE A+ NTE 260-60P, capacity 260W each.

The PV modules are installed on the roofs of forest cordons on an aluminum mounting system. For the nighty consumption solar energy is stored in the one GEL battery capacity of 200Ah.

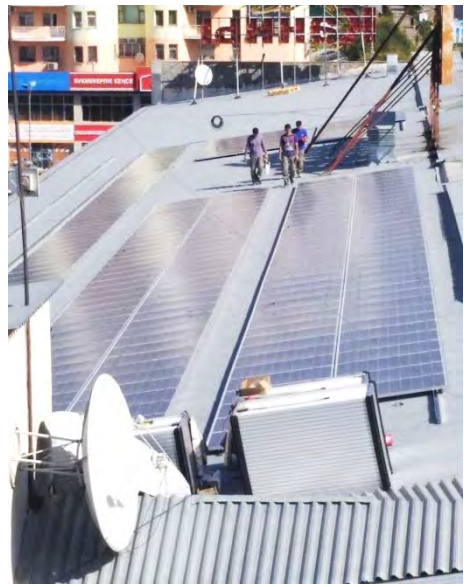
Project

- Location: Regions of Kyrgyzstan
- Date of the installation: Feb-Mar 2019
- Type of the mounting: Roof

System parameters

- Power: 0,5 kW x 8 sets
- PV quantity: 16 pcs
- Output: 650-800 kWh/annual

Solar Power Plant, 75 kW
Shymkent, Kazakhstan



According to the project in Shymkent, the solar power station is integrated into the power supply system to reduce costs.

For the station used 294 photovoltaic panels of the company New-Tek LLC, model GRADE A + NTE 255 60P with the total capacity 75KW.The PV modules are installed on the roof of the building on an aluminum fixing system.

The station delivers excess energy to the central network and, if necessary, it can take for needs in the nighty.

Project

- Location: Shymkent, Kazakhstan
- Date of installation: October 2018
- Type of mounting: Roof

System parameters

- Power: 75 KW
- Quantity modules: 294 pcs.
- Output: 112 500 KW/year

Solar Power Plant, 29 КВт
Freudentstadt, Germany

The solar station is integrated into the power supply system in the Freudenstadt city in a private house.

For the station used 114 photovoltaic modules of the New-Tek LLC, model GRADE A+ NTE 255-60P. The total capacity is 29KW.

The PV modules are installed on the roof of the house on an aluminum fixing system.

The station delivers excess energy to the central network and, if necessary, it can take for the nighty energy supply.

Project

- Location: Freudentstadt Germany
- Date of installation: May 2018
- Type of mounting: Roof

System parameters

- Power: 10,2 KW
- Quantity modules: 40 pcs.
- Output: 15 000 KW/year

Solar Power Plant, 10 KW
Astana, Kazakhstan

The solar power plant is installed as a source of a backup power system in the city of Astana for one of the enterprises.

For the station used 40 photovoltaic modules by New-Tek LLC, model GRADE A+ NET 255-60P, a power of 255W each. The total capacity is 10.2 kW.

The solar power plant is mounted on an aluminum mounting system from Future Power Solution. The Future Power Solution company performed all the installation works.

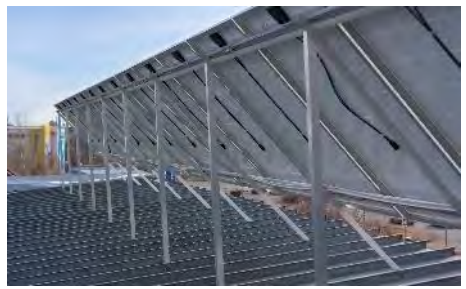
Project

- Location: Astana, Kazakhstan
- Date of installation: December 2017
- Type of mounting: Ground

System parameters

- Power: 10,2 KW
- Quantity modules: 40 pcs.
- Output: 15 000 KW/year

Solar Power Plant, 10 KW
Astana, Kazakhstan, Astana Su Arnasy



The solar power station is installed as a power source in the city of Astana for the state enterprises - Astana Su Arnasy.

For station used 40 photovoltaic panels from the company New-Tek LLC, model GRADE A+ NTE 255 60P, capacity 255 watts each.

A roof-based solar power station is installed on an aluminum fixing structure from Future Power Solution Company. Future Power Solution Company has carried out all necessary installation work.

Project

- Location: Astana, Kazakhstan
- Date of installation: November 2017
- Type of mounting: Roof

System parameters

- Power: 10,2 KW
- Quantity modules: 40 pcs.
- Output: 15 000 KW/year

Solar Power Plant, 10 KW
Astana, Kazakhstan

The solar power station is installed as a source of backup power system in the city of Astana for one of the enterprises.

For station used 40 photovoltaic panels from the company New-Tek LLC, model GRADE A+ NTE 255 60P, capacity 255 watts each.

A roof-based solar power station is installed on an aluminum fixing structure from Future Power Solution Company. Future Power Solution Company has carried out all necessary installation work.

Project

- Location: Astana, Kazakhstan
- Date of installation: October 2017
- Type of mounting: Roof

System parameters

- Power: 10,2 KW
- Quantity modules: 40 pcs.
- Output: 15 000 KW/year

THANK YOU FOR ATTENTION!

PLEASE CONTACT US IF YOU HAVE ANY QUESTIONS:

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