SOLAR

AUTONOMOUS LIGHTING
A SUSTAINABLE SOLUTION

NOVEA

NOVÉA

NOVEA
GROUPE RAGNI

“LEADER IN OFF GRID SOLAR LIGHTING SYSTEMS”

Novea is leader and precursor of designing and manufacturing off grid solar lighting systems. We have been committed from the start to technological innovation for harnessing solar power, and are proud to leverage our technical competencies and passion for Research & Development to serve the energy transition.

In 2015, we decided to combine our forces with those of Ragni, French manufacturer of public lighting equipment, whose know-how in the designing and production of luminaires is recognised in France and elsewhere. Thanks to that alliance, we are able to use solar energy to power reliable luminaires.

That opens a number of vistas and provides advantages that are of enormous value in international markets, particulary in tropical and equatorial areas. The exceptional solar potential of that countries and their great development opportunities are extremely promising for solar-powered lighting. That is why we believe we can provide our know-how to local public lighting companies, thus addressing the increasing need of users for night-time safety and convenience.

For several years, we have been working with different countries to supply high-quality solar public lighting solutions. Our products use high-performance technology to offer ruggedness and reliability. Our mastery of the technology and the long lifespan of our batteries make our solar-powered lights the most sustainable in the market.

Our local partners work to provide a key value, that of closeness.
That is what enables us to remain responsive to your every need.

Today, Export is our priority and we will spare no effort to provide you with the best service.

Many countries have already placed their trust in us. Their satisfaction is our greatest reward!

NOVÉA

KNOW-HOW

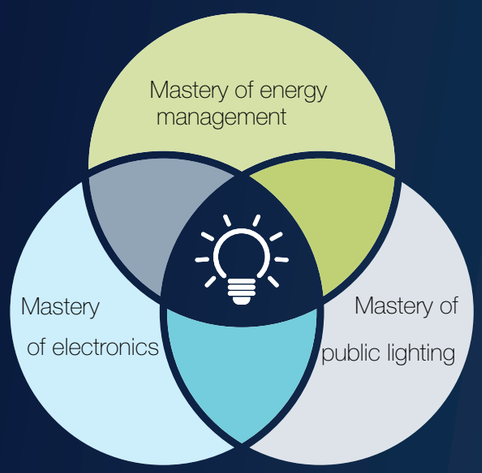
As a specialist of solar-powered lighting, Novéa can enable you to benefit from dual expertise: standalone power generation and outdoor lighting.

MASTERY OF ELECTRONICS:
- Developing our own systems to maximise performance and avoid unreliable assemblies
- Designing secure systems that are adapted to the constraints of the installation sites

MASTERY OF ENERGY MANAGEMENT:
- Producing accurate energy studies that take account of all the technical parameters to size our solar assemblies appropriately
- Supplying transparent and clear information about the performance you can expect from your systems

MASTERY OF PUBLIC LIGHTING:
- Offering personalised photometric studies to adapt the lighting to your needs and the traffic in the areas to be lit
- Making lighting units with reliable and rugged components, fitted with the best LEDs in the market.

- ✓ We are committed to eco-design and the use of high-quality French materials
- ✓ We develop tailored products to address any particular requirements



“ MOST EFFICIENT & RELIABLE BATTERY ON THE MARKET ”

SERVICES

As a specialist of self-powered lighting systems, Novéa has its own designing department with specialist engineers and technicians. We can therefore support customers with advice before and after the sale.

1.

STATEMENT OF NEED

BEGINNING OF THE PROJECT: lighting customer's statement of need

2.

STUDIES

PHOTOMETRIC: personnalized solution according to your need

ENERGETIC: sizing of the main components (solar panel and battery)

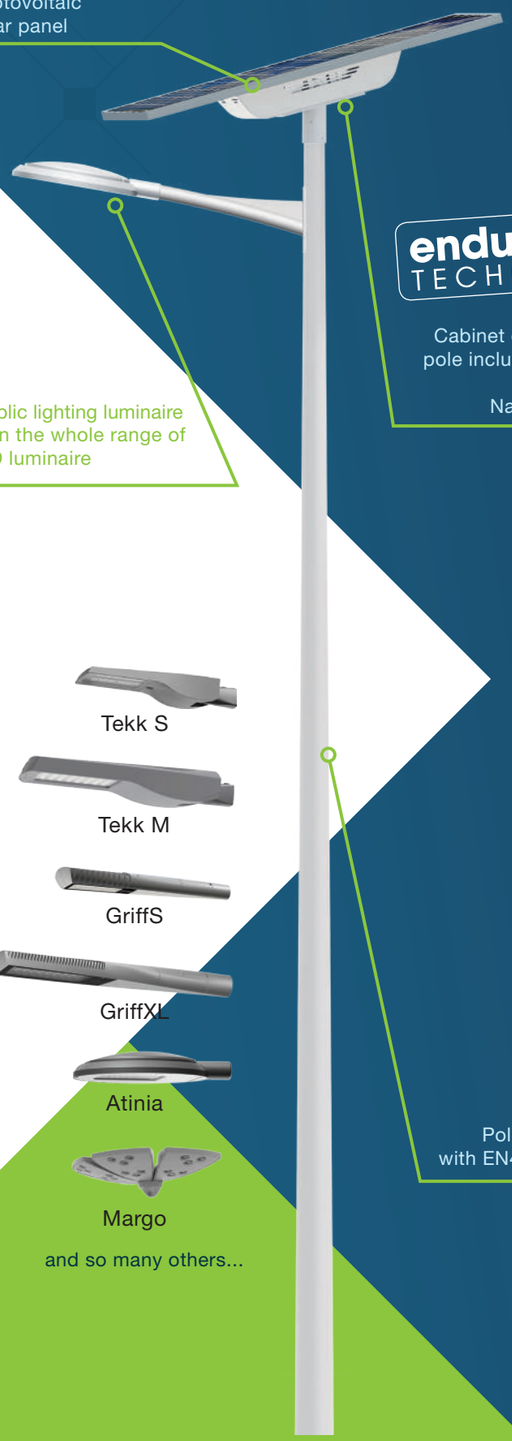
MECHANICAL: design and feasibility study (mechanical strength)

3.

PRODUCT

PRODUCTION: fabrication, assembly, finish, soft programming. Quality controls before sending

NOVEA SOLAR STREETLIGHT



endurance+ TECHNOLOGY

HIGH-PERFORMANCE LED LIGHTING
> 180 lm/W
Service life > 100 000 hours

SMART OPERATING
Programmed and safe

RUGGED AND LONG-LASTING BATTERY
Service life > 10 years

LIMITED MAINTENANCE

PLUG AND LIGHT
Easy to install

WARRANTY 5 YEARS

MADE IN FRANCE
By sustainable companies: Novea (2007), Ragni (1927).

Tekk S

Tekk M

GriffS

GriffXL

Atinia

Margo

and so many others...

ENDURANCE+ TECHNOLOGY

Endurance+ Technology is the association :

- a Lithium Iron Phosphate battery developed in partnership with the C.E.A. thanks to a Research and Development program of more than 6 years;
- an electronic card dedicated to this battery and entirely developed by NOVEA to optimize its management and service life;
- a foundry aluminium casing to provide robustness and reliability. It is designed entirely by NOVEA and combines the lithium battery and management electronics in a single sealed unit.

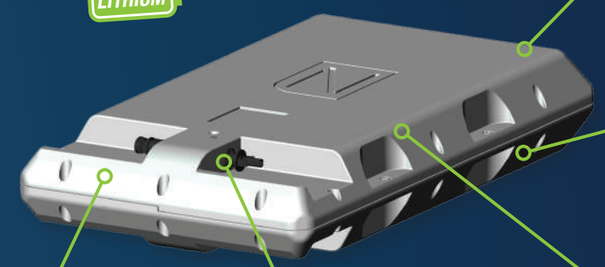
EASY SETTING
Compact, fast connectors

RUGGED AND LONG-LASTING
IP66

MADE IN FRANCE

PERFECTLY SECURE
Anti-theft screws

endurance+ TECHNOLOGY
LITHIUM



endurance+ TECHNOLOGY

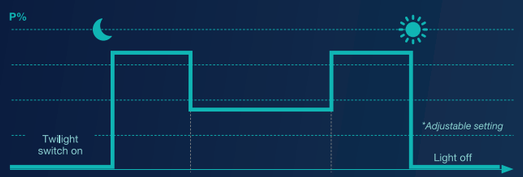
Endurance+ technology, designed by Novéa, offer the best lifespan of the market thanks to its lithium LiFePO4 cells and its unique management of energy flows. LiFePO4 batteries have been documented by scientists as most efficient and most suitable for public solar lighting market.

SMART OPERATING

Programmed and safe

The lighting is managed by the load regulator. That makes it possible to design the night lighting to suit the lifestyles of users: lighting is limited to the needs, with a responsible lighting approach. Lighting management also makes it possible to rate the solar panels and battery capacity exactly to suit the requirements.

PROGRAMMING



100% power for x hours after dusk, then dim to 50% in the middle of the night and get back to full power y hours before dawn.

100% power for x hours after dusk, then dim to 50% up to dawn

*other operating programs available

For each project and each geographical zone, Novéa completes a detailed energy balance to validate the required operating program.

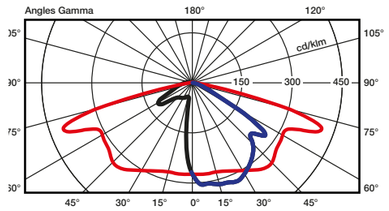
HIGH-PERFORMANCE LED LIGHTING

> 180 lm/W
Service life > 100 000 hours

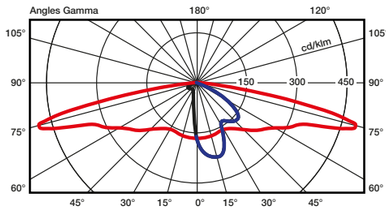
PHOTOMETRY

Novéa offers different photometric distributions in order to optimise the location of lighting columns. The photometric distribution is selected on the basis of a detailed photometric study by our designing department.

PHOTOMETRICAL DISTRIBUTION EXAMPLES



ASY11: Designed for main and secondary roads lighting.



ASY13: Designed for narrow roads or pedestrian paths lighting.

PHOTOMETRICAL RESULTS ON STANDARD ROADS

COMBI TOP 1 - 15 W - ASY11 Optical

	Spacing	Light height	Average illumination	Mini illumination	Uniformity
20 m x 5 m	20 m	4 m	15 lux	6.15 lux	0.40
25 m x 5 m	25 m	4 m	12 lux	3.38 lux	0.28
30 m x 5 m	30 m	4 m	10 lux	1.50 lux	0.15

COMBI TOP 3 GRIFF S - 30 W -ASY11 Optical

	Spacing	Light height	Average illumination	Mini illumination	Uniformity
25 m x 7 m	25 m	5 m	18 lux	7.30 lux	0.395
25 m x 7 m	25 m	6 m	16 lux	7.15 lux	0.430
30 m x 7 m	30 m	5 m	15 lux	4.97 lux	0.322
30 m x 7 m	30 m	6 m	14 lux	5.47 lux	0.392

COMBI TOP 5 GRIFF XL - 50 W - ASY11 Optical

	Spacing	Light height	Average illumination	Mini illumination	Uniformity
30 m x 7 m	30 m	6 m	23 lux	9.12 lux	0.392
30 m x 7 m	30 m	7 m	21 lux	8.43 lux	0.400
30 m x 10 m	30 m	7 m	18 lux	7.57 lux	0.419
30 m x 10 m	30 m	8 m	17 lux	8.26 lux	0.495
35 m x 9 m	35 m	8 m	15 lux	6.29 lux	0.418

COMBI TOP 1

TECHNICAL CARACTERISTICS

Solar panel power		60 Wp
Light height		3,5 m to 6 m
Endurance + Technology battery capacity		210 Wh and 420 Wh
Lighting power		5 to 30 W
Lighting flux		800 to 4 800 lumens
Luminous efficiency		160 lm/W (3 000 K) - 180 lm/W (4 000 K)
r Color temperature		3 000 or 4 000 K
Operating temperature		-4°F+140 °F
Lighting management		Presence detector integrated in the luminaire, dusk sensor, time slots, dimming mode
Service life	Luminaire:	100 000 h at 80 % of the flux
	Solar panel:	25 years at 80 % of the initial power peek
	Battery:	> 10 years
	Electronic device:	> 20 years
Scx and weight of the solar module and luminaire	SC_x	0,288 m² (15° inclined solar panel version) / 0,432 m² (30° inclined solar panel version)
	Weight	21 kg (210 Wh battery) / 23 kg (420 Wh battery)

Solar module and luminaire to be mounted on cylindrical-conical pole in top 60 or 76 mm

* Inclination of the solar panel at 15° or 30° depending on the geographical area

COMBI TOP 2
TEKK S / GRIFF S

TECHNICAL CARACTERISTICS

Solar panel power	120 Wp
Light height	4 to 6 m
Battery capacity	345 to 704 Wh
Lighting power	10 to 30 W
Lighting flux	1 600 to 5 400 lumens
Luminous efficiency	160 lm/W (3 000 K) - 180 lm/W (4 000 K)
Color temperature	3 000 or 4 000 K
Operating temperature	-4 °F + 140°F
Service life	Luminaire: 100 000 h at 80 % of the flux Solar panel: 25 years at 80 % of the initial power Battery: peek Electronic device: > 10 years > 20 years

5 YEARS WARRANTY

* Inclination of the solar panel at 15° or 30° depending on the geographical area

www.novea-energies.com

COMBI TOP 3
TEKK S / GRIFF S

TECHNICAL CARACTERISTICS

Solar panel power	185 Wp
Light height	4 to 8 m
Battery capacity	532 to 1 064 Wh
Lighting power	20 to 40 W
Lighting flux	3 200 to 7 200 lumens
Luminous efficiency	60 lm/W (3 000 K) - 180 lm/W (4 000 K)
Color temperature	3 000 K or 4 000 K
Operating temperature	-4 °F +140°F
Service life	Luminaire: 100 000 h at 80 % of the flux Solar panel: 25 years at 80 % of the initial power peek Battery: > 10 years Electronic device: > 20 years

5 YEARS WARRANTY

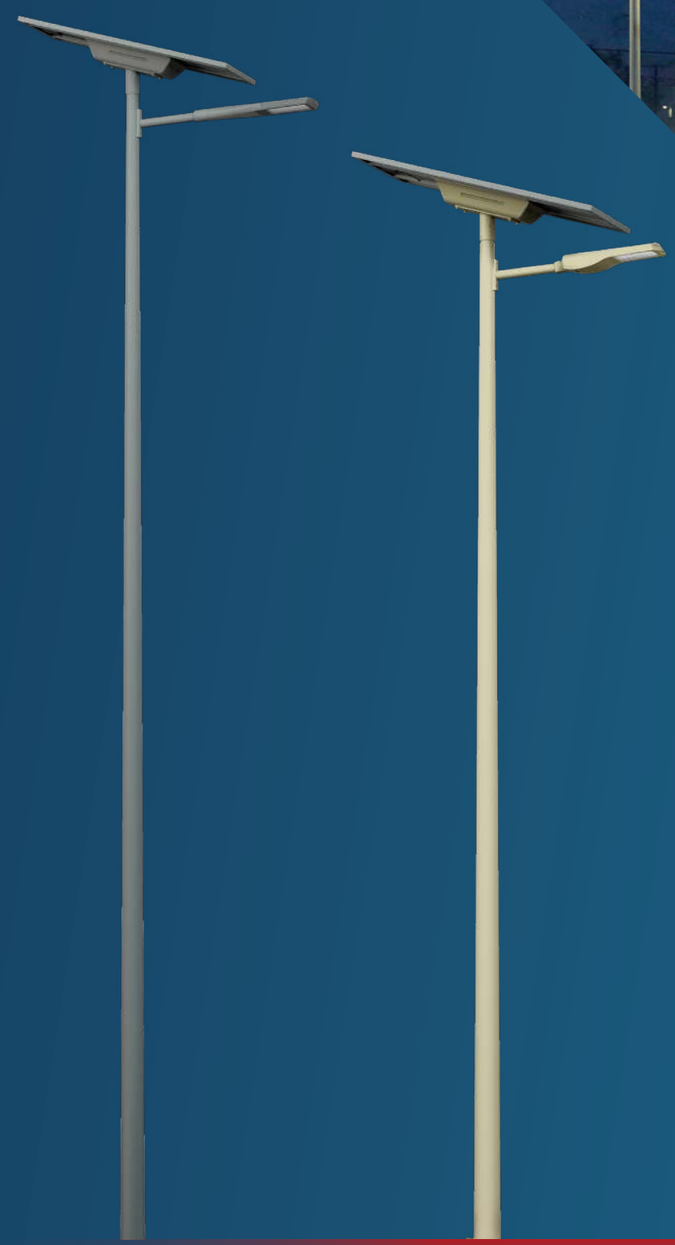
* Inclination of the solar panel at 15° or 30° depending on the geographical area

COMBI TOP 5
TEKK M / GRIFF XL

TECHNICAL CARACTERISTICS

Solar panel power	320 Wp
Light height	5 to 8 m
Battery capacity	1 064 to 1 638 Wh
Lighting power	30 à 60 W
Lighting flux	4 800 to 10 800 lumens
Luminous efficiency	160 lm/W (3 000 K) - 180 lm/W (4 000 K)
Color temperature	3 000 K or 4 000 K
Operating temperature	-4 °CF+140°F
Service life	Luminaire: 100 000 h at 80 % of the flux Solar panel: 25 years at 80 % of the initial power peek Battery: > 10 years Electronic device: > 20 years

5 YEARS WARRANTY



* Inclination of the solar panel at 15° or 30° depending on the geographical area

USB CHARGING MODULE

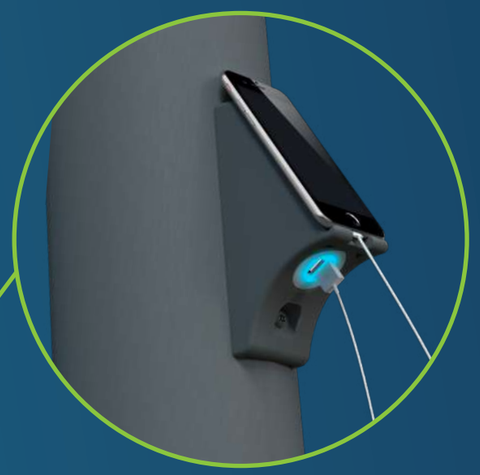
NOVLOAD

The NOVLOAD USB module, designed and developed by NOVEA, is a solution for charging USB devices such as mobile phones. This complementary to lighting service is very pratical in isolated areas.

SMART
Once the battery is fully charged, the excess energy produced by the solar panels powers the USB module. A blue backlight indicates the availability of the service.

LIGHTING PRIORITY
A regulation allows to cut the power supply of the USB module to ensure, without degradation, the lighting function at night

RUGGED
This aluminum casting module is simply attached to one of our solar masts..



NOVLOAD

- Mechanical part in aluminum foundry, RAL optional
- Two USB ports, 10 W
- Visual indicator on the port to notify the availability of the service

REMOTE MANAGEMENT

NOVEA CONTROL

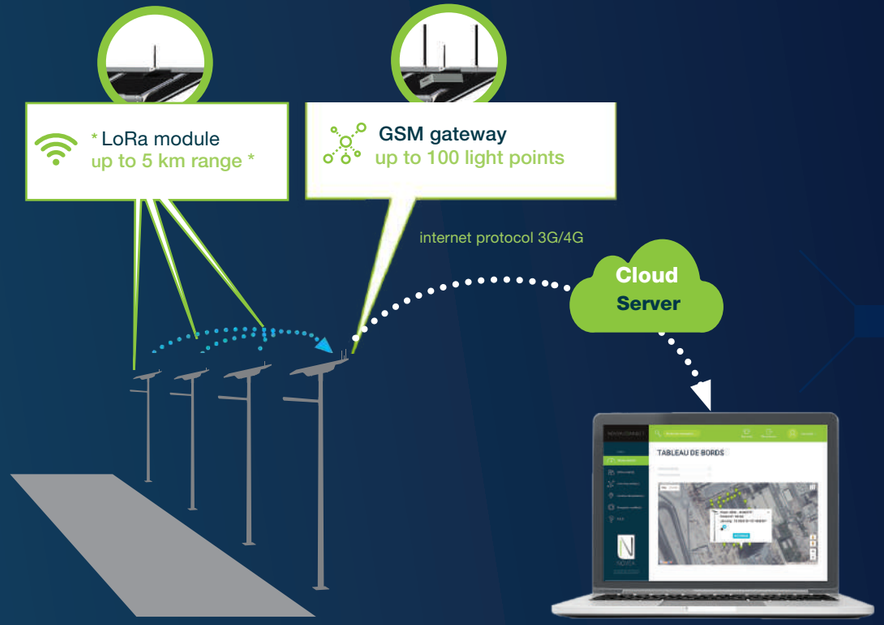
NOVEA CONTROL is a smart system for remote management and control of your fleet of NOVEA standalone solar street lights.

Groups of lampposts are connected via a LoRa module installed on each lamppost, to a wireless data network called LoRaWAN ™, and a GSM gateway pushes all this data on a 3G/4G network. A single GSM gateway can control up to 100 street lights.

MAIN FUNCTIONALITIES

- Management lighting
- Audit performance
- Geolocation bright spots

FLOWSHEET



** In free field / 2 km in an urban environment*

Remote management of your solar lighting **NOVEA CONTROL**

A COMPLETE SOLUTION

In addition to programming remotely and monitor, NOVEA CONTROL helps you implement intelligent and economical corrective maintenance, thus facilitating optimal management of your solar lighting.


BAFOUSSAM III ème


Pointe au Sel
Musée du Sel

NOVEA

GROUPE RAGNI

Autonomous lighting
a sustainable solution

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