

SOLAR IS THE NEW STANDARD



CONTENTS

1 - FONROCHE LIGHTING

Why choose solar lighting?p.4-5
Solar is the new standardp.6-7
The world leader in solar lightingp.8-9
The history of Fonroche Lightingp.10-11
The world first dedicated centerp.12-13

2 - OUR EXPERTISE

4
5
6
7
7
8-1

3-WHAT WE OFFER

Our approach to projects	p.2
Power 365 SOLAR TECHNOLOGY	p.2
Energy storage and management	p.2
Components	p.2

4 - OUR AMBIENCES

New Art	p.28-29
Belle Époque	p.30-31
Opéra	p.32-33
Essential	p.34-35

5 - OUR OPTIONS & SERVICES

Our options	p.36
Our services	p.37
onroche Connect / Play	p.38-39
enovation plan	p.40-41

6 - OUR COMMITMENT

365 nights of guaranteed I	lightingp.42-4
----------------------------	----------------

7 - OUR APPLICATIONS

arking lots	p.46-47
upermarket / Hypermarket parkings	p.48-49
ighways	p.50-51
oads	p.52-53
oundabouts	p.54
olated areas	p.55
ousing estates	p.56-57
reenways	p.58
arks and gardens	p.59
ndustrial and business areas	p.60
pecial projects	p.61

8 - CSR & THE ENVIRONMENT

Greener lighting	.p.64-65
Life cycle analysis	.p.66-68
Recycling	.p.69
Our CSR approach	.p.70-71





Solar energy is an infinite and inexhaustible source of renewable energy. With energy prices on the rise, solar street lighting is becoming the new standard. More than just a cost-effective solution, it is also a way to commit to the Energy Transition. Thanks to its easy installation, lack of cables and electric cabinets, and autonomous operation, the solar street light is more competitive than grid lighting.



NO MORE ELECTRICITY BILLS

100% autonomous, no operating costs.



FAST AND EASY TO INSTALL

No trenches, no cables, no electric cabinet.



MULTIPLE APPLICATIONS

Compliance with current street lighting standards.



ENVIRONMENTALLY FRIENDLY AND SUSTAINABLE

Green lighting, 100% renewable energy.

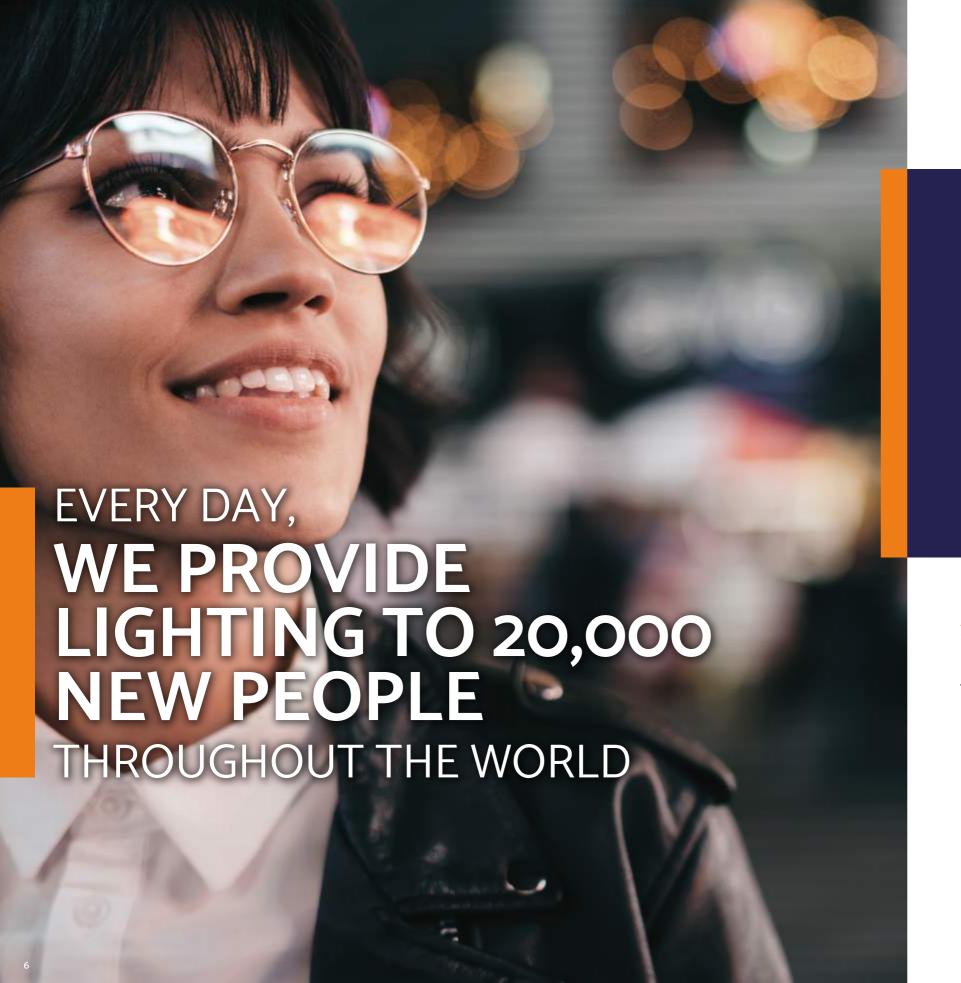


SOLAR STREET LIGHTING,

how does it work?

During THE DAY, the photovoltaic module captures the sun's rays and transforms them into energy. This energy is then stored in a smart battery.

At NIGHT, the energy storage and management system at the top of the pole releases the solar energy collected during the day to power the LED unit which lights up when night falls.



THE NEW STANDARD

At Fonroche Lighting, we are motivated by our desire to revolutionise street lighting around the world.

As a pioneer in the market, we are convinced that solar energy is the best alternative to conventional grid street lighting. Our growth is the result of tremendous dedication and team spirit:

work as a team, win as a team - that's our motto!

Together, we overcome challenges and break the mold to accelerate the transition to a world of sustainable, efficient, economical and responsible lighting.

At Fonroche Lighting, we set the new standards for street lighting. We are the new standard.

SOLAR IS THE NEW STANDARD

About us

"We are a team that's committed to transforming street lighting thanks to our **strong values**!"

TEAM SPIRIT

COMMITMENT

RISK-TAKING

CONQUEST

HUMILITY





Founded in 2011, Fonroche Lighting is the world leader in solar street lighting.

Based in the Lot-et-Garonne region of south-west France, we design, develop, manufacture and install autonomous solar-powered street lights to illuminate all types of infrastructure. With more than 2,000 new projects every year, we satisfy the needs of local authorities and businesses around the world who want to reduce their energy consumption and ecological impact.

Thanks to over 12 years of experience in solar lighting, we have gained a level of expertise that is unrivalled in the market. Manufactured and assembled in Agen, south-west France, our street lights are powerful and reliable whatever the climate.



"Revolutionising the street lighting market is what we are all about"

IN FRANCE

50% market share.

Active in all French departments.

1,000 new municipalities equipped every year.

INTERNATIONALLY

Present in more than 50 countries.

3 government projects won for a total of 145,500 solar-powered street lights (Senegal and Benin).

More than 300 distribution partners throughout the world.

ACCELERATE THE TRANSITION

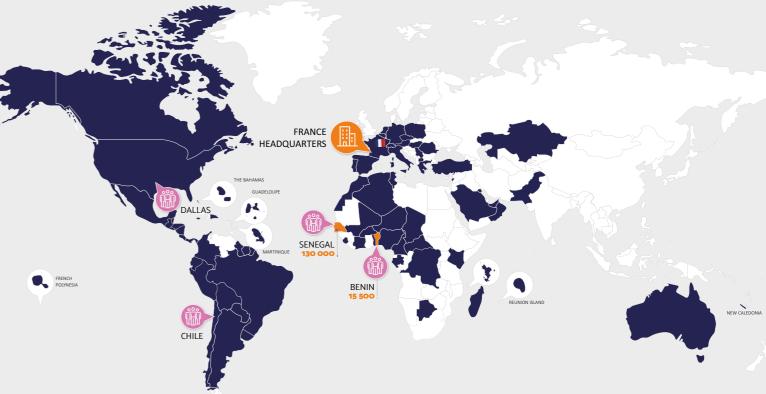
TOWARDS SUSTAINABLE AND POWERFUL LIGHTING



Laurent Lubrano CEO "Although it took almost two centuries to develop grid street lighting, it will take us no more than two decades to be able to deploy solar street lighting on a national or continental scale."

With a solid international presence across 5 continents, Fonroche Lighting supports companies, cities and countries in the deployment of sustainable, powerful and competitive street lighting.

Our technology adapts to all climates and can withstand the most extreme temperatures.



KEY

Location of our projects

Fonroche Lighting head office

Government projects

(more than 15,000 solar-powered street lights deployed).

Fonroche Lighting subsidiaries (sales or project implementation)

THE HISTORY OF FONROCHE LIGHTING, A STORY OF CONQUESTS

For more than 12 years, we have put renewable energies, and solar energy in particular, at the heart of our business, with the aim of revolutionising street lighting practices.

Our unique history is underpinned by technological breakthroughs and major successes in both France and abroad, fuelled by the passion and boldness of our team of experts.

2015

Fonroche Lighting
is the first manufacturer to
develop its own battery system,
POWER 365, which is the only
solution to guarantee
365 nights of lighting
per year and throughout
the world.

First large-scale project in northern France: Highway interchange in Calais.



2011

Creation of Fonroche Lighting by Yann Maus in Agen (Lot-et-Garonne, France). Launch of the first prototype of the solar-powered street light.



France's first hypermarket with solar lighting is designed by Fonroche Lighting - Center E. Leclerc in Carcassonne.

One of the largest viaducts in Latin America Cartagena, Colombia.





- > Expansion into the United States with the acquisition of the US No. 1: Solar One.
- >Thanks to its rapid growth, Fonroche Lighting employs over 100 people.



Launch of the Fonroche Lighting Tour, the first solar lighting roadshow aimed at local councillors in 26 towns in France, Switzerland and Belgium.

> Opening of our 4th subsidiary in Chile, after Africa and the USA.

> 2,000 new municipalities around the world are equipped with solar lighting every year.



The biggest solar lighting project in the world: 130,000 solar-powered street lights - Senegal.

2018 - 2022





- > Fonroche wins ADP Group's tender to supply lighting to Paris' airports (Orly, CDG, Le Bourget).
- > In northern Chile, lighting for the country's largest solar-powered project (2,000 autonomous street lights).



SOLAR NEWS PONROCHE IN THE PON









THE FIRST CENTER IN THE WORLD

DEDICATED TO SOLAR STREET LIGHTING

Inaugurated in July 2023, our new head office is called "La Street", a reference to the building's architectural identity and our core business: lighting the streets and roads of cities and villages around the world. More than just a head office, La Street brings together all Fonroche Lighting's expertise and know-how in solar lighting: from research and development to maintenance, technical studies, battery and system testing, production, management and training. This makes it the largest center in the world dedicated exclusively to solar lighting technology.

Focussed entirely on innovation and intelligence, La Street is aimed at all lighting professionals, from contracting authorities and city technical departments to mayors and government representatives. This center consists of:

A site covering almost 10,000 m²

on 4 hectares of land dedicated exclusively to solar lighting.

An R&D hub

that can accommodate up to 50 engineers specialising in hardware, software, connectivity, batteries and artificial intelligence.

A battery test center

including a series of climatic chambers with the world's largest test capacity dedicated to solar lighting, allowing climates from all over the world to be replicated.

An industrial space spanning 4,000 m²

with a production capacity of over 300,000 lighting kits a year.

A full-size photometric simulator - Lightroom

to simulate solar lighting in a variety of applications (roads, parking lots, greenways, etc.).

A control tower: Fonroche Tower

Dedicated to the supervision and monitoring of our networks of street lights installed in over 50 countries. It receives up to 7 million messages a day.

A training center

QUALIOPI certified training center offers guaranteed quality and professionalism.



OUR EXPERTISE

UNIQUE AND REVOLUTIONARY KNOW-HOW

THE R&D DEPARTMENT

RESEARCH AND DEVELOPMENT

CONTINUOUS INNOVATION AND IMPROVEMENT

AT THE HEART OF OUR PROIECTS

Comprising a team of 50 engineers with expertise in solar energy and street lighting, Fonroche Lighting's Research & Development department conceives, designs and deploys the intelligent, high-performance systems of the future.

OUR EXPERTISE IN R&D

Mechanical design and resistance of materials.

Product design.

Telecommunications and data analysis.

Artificial intelligence.

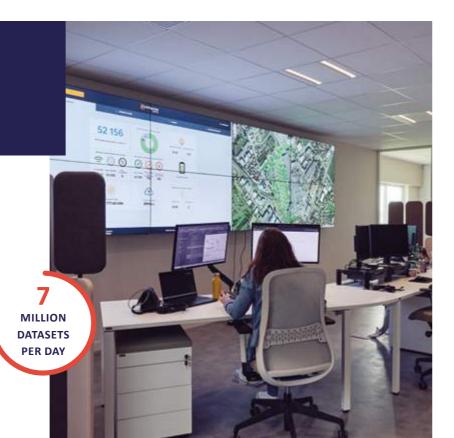
Embedded software and Systems engineering.

Test and validation engineering.

FONROCHE TOWER

THE CONTROL TOWER

Our solar lighting solutions are equipped with connectivity tools that enable us to remotely supervise, monitor and control various street lighting systems installed in over 50 countries. We have developed skills in remote monitoring and data analysis, that are supported by a dedicated team based in the Fonroche Tower, a genuine 'control tower' that receives and analyses up to 7 million datasets a day.



THE POWER ROOM THE LARGEST BATTERY TEST CENTER FOR SOLAR-POWERED LIGHTING

Exposed to strong winds, extreme temperatures, temperature fluctuations, corrosion and humidity, it's safe to say that Fonroche Lighting street lights are really put to the test! To ensure that our solutions remain highly resistant and efficient, we have made use of our expertise in storage systems and invested in a battery testing center for solar-powered lighting, the only one of its kind in the world. The test center is equipped with 12 climatic chambers to simulate all the climates on the planet. We also offer bespoke battery test simulations to replicate the climate where your project will be based.

WE SIMULATE ALL CLIMATES

TO GUARANTEE RELIABILITY, RESISTANCE AND LONGEVITY OF OUR SYSTEMS

The Power Room allows us to put all our batteries and cells through rigorous tests to guarantee 365 nights of lighting a year, anywhere in the world:

Characterisation of battery behaviour in all climates.

Accelerated ageing, lifespan.

Thermal shocks, temperature fluctuations (10 °C/min).

Watertightness.



500 m²
OF DEDICATED SPACE



LEADING MANUFACTURER

IN THE SOLAR STREET LIGHTING INDUSTRY

Our production site, located in south-west France, combines technical expertise, innovation, product quality and responsiveness. This unique site covers more than 4,000 m² and is equipped with the latest innovations in productivity, assembly and logistics to guarantee the 'Made in France' quality of every product.

Each week around 1,500 solar-powered street lights are produced here, with orders shipped all over the world!



QUALITY ASSURANCE

FOR OUR CUSTOMERS

A 'zero defects' quality policy is applied to all our products, with particular attention paid to our choice of suppliers, who must comply with precise and rigorous specifications.

In addition, since 2019, Fonroche Lighting has implemented a quality management system based on the ISO 9001 and ISO 14001 certifications, allowing it to contribute to sustainable development objectives.







THE DESIGN OFFICE

A TEAM OF EXPERTS DEDICATED TO YOUR PROJECT

For each project, a bespoke environmental, mechanical and photometric study is carried out to guarantee optimal lighting performance and reliability. That means that each of our customers benefits from customised technical support for a cost-optimised project.

A unique approach, implemented by Fonroche Lighting: the only solution that guarantees 365 nights of lighting per year, for all projects, wherever they are in the world.

22 engineers and technicians.

Dedicated design offices in each of our subsidiaries to be as close as possible to the projects.

More than 20 solar street lighting projects analysed every day.

THE LIGHTROOM

DISCOVER THE EXPERIENCE OF SOLAR-POWERED LIGHTING

The Lightroom is a full-scale demonstrator that allows lighting simulations to be carried out for a range of applications: parking lots, road infrastructures, greenways, etc. This room, which spans more than 300m², allows our customers to visualise what their project will look like and get a feel for the lighting, thanks to several lighting scenarios that adjust the lenses, the height of LED's light and LED's colour temperatures.



OUR EXPERTISE

LEARNING STREET A DEDICATED TRAINING CENTER

STREET RY FONDOCHE LIGHTING







TECHNICAL TRAINING

IN SOLAR STREET LIGHTING

Learn about solar lighting

Fonroche Lighting has created the first training center dedicated exclusively to this technology. Its aim is to share its knowledge and establish itself as a committed player that works alongside local authorities and professionals in the sector: Learning Street.

This training center offers a unique, ultra-modern setting for all our street light training courses. Equipped with a 50-seat auditorium and areas designed for practical workshops, it is an industrial and technical center dedicated to innovation and intelligence.

Why learning about solar lighting?

- Develop new skills.
- · Access new markets.
- Respond to the energy emergency.

Our training modules

DISCOVER
SOLAR STREET LIGHTING

INSTALLATION AND EXPLOITATION

OF A SOLAR-POWERED STREET LIGHTING SYSTEM

ACHIEVE SUCCESS
IN YOUR PROJECT
IN PUBLIC SOLAR STREET LIGHTING

Training modules adapted to your needs

- Delivered by approved trainers with technical expertise, lighting designers or engineers in solar design offices.
- Suitable for all: public authorities, technical managers, project owners, developers, companies, design offices, project managers, etc
- Qualiopi-certified training courses (certification recognised by the French Government).



FONROCHE LIGHTING'S OFFERING REVOLUTIONISE STREET LIGHTING

Lighting up the world, for all those who need it, and guaranteeing 365 nights of safety, performance and sustainability... that's our mission! Over a decade of R&D has made it possible to develop a unique and revolutionary technology: **Power 365**. The spearhead of our expertise, this technology guarantees a level of reliability and competitiveness that is unrivalled on the market thanks to our combination of powerful products, high-performance components and a project approach specific to each environment. It's the combination of our products and our made-to-measure approach that represents a real technological breakthrough.

Choosing Fonroche Lighting solar street lights means benefiting from expert services and customisation options tailored to your specific requirements.

This spirit of innovation is at the heart of our business, so that we can continue to revolutionise the street lighting market around the world and make solar energy the new standard.





SUCCESSFULLY ACHIEVE

YOUR SOLAR LIGHTING PROIECT

THANKS TO OUR UNIQUE APPROACH TAILORED TO EACH PROJECT

Each project is different. By taking into account the irradiance and weather conditions of each project, we can determine the size of our street light and its components to guarantee 365 nights of lighting.



IDENTIFICATION OF PROJECT

requirements.

1 PROJECT =



COLLECTION of weather data from the site

To determine the size of the system (direct and diffuse irradiation, temperature, rainfall and solar calendar).



SIZING

and simulation of a typical year averaged using weather data from the last 10 vears.

SOLAR AND **ENVIRONMENTAL** STUDY

to calculate solar potential and the energy required.



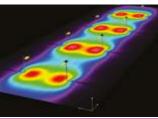
RESULTS

365 nights of guaranteed lighting per year.



ADIUSTMENT

to create a bespoke project tailored to its location.



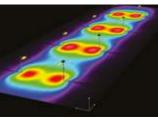
PRECISE

installation for an optimised budget.

BESPOKE

PHOTOMETRIC STUDY

Choice of techniques and system sizing.



POWER 365 SOLAR TECHNOLOGY

POWERFUL, SUSTAINABLE AND INTELLIGENT

Consisting of a highly efficient photovoltaic panel, a smart storage system and the latest LED lighting, the Smartlight solar street light is the most powerful available on the market. We ensure that its components work in harmony to achieve optimum efficiency.





Single or double **MOUNTING ARM**

Various DESIGNS and customisation options available





Made **IN FRANCE**



STORAGE AND INTELLIGENCE

AT THE HEART OF THE SYSTEM

POWER 365, our smart energy storage and management system, has been specially designed by our R&D teams for Smartlight solar street lights.



ENERGY

storage

Robust and durable, the battery technology we have chosen offers the best resistance in terms of charging temperature and lifespan:

NIMH Battery: resistance to extreme temperatures (From -40 ° to + 70 °C).

Long life span (4,000 cycles, i.e. 10-12 years).

Easy to recycle.

100% usable charge without damaging the battery.

No 'hazardous materials' transport restrictions.



Smart **ENERGY** management

Equipped with a custom-developed BMS (on-board battery management system), Power 365 includes:

Programmable operating ranges.

Storage optimisation.

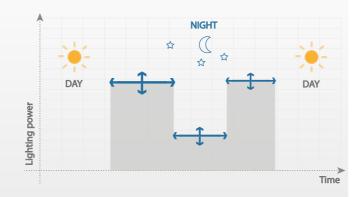
Twilight detection system.

Software to analyse solar irradiation at every point on the globe.

Thermal regulation system.

An anti-blackout safety device.

Geolocation system.





The POLE and the MOUNTING ARM

Made from powder-coated galvanised steel, Fonroche Lighting pole and mounting arms can be customised to suit every project (wood, sublimation, RAL colours, etc.). All our street lights comply with the EN40* standard for wind resistance. They also benefit from reinforced mechanical kits for extreme winds areas. Thus, the variety of configurations makes it possible to adapt our solar solutions to any climatic conditions.

Certifications: EN 40 (*and its international equivalents)

The PHOTOVOLTAIC MODULE



Its role is to capture sunlight in order to generate energy. The size of the module is a key factor in guaranteeing high power output.



Made of high-efficiency poly or monocrystalline modules.

Excellent light capture in all weathers, even in weak sunlight.

Featuring highly resistant.

Equipped with hydrophobic glass.

Certifications: IEC 61215 - IEC 61730

The LED LIGHT



We have developed lighting installations equipped with the latest generation of LEDs that offer the highest efficiency on the market. According to an in-depth study, the thermal dissipation of the modules is excellent and ensures optimal light efficiency.

20 Years Lighting performance exceeding 190 Lm/W.

Low energy consumption.

From 40 to 80 nominal Watts.

Integrated heat dissipation.

Multiple lenses available.

Certifications: CE - ENEC - Dark sky - IEC 60598 - IEC 62471 - IEC 62031 - IEC 62471 - IEC 62493 IEC 61347

YOUR AREA YOUR STYLE OUR AMBIENCES

Bringing style to your local area is our goal.

Design and architectural chromatics professionals have created the entire **SMARTLIGHT** range. We have designed and created several complementary designs, adapting the shapes, colours and textures to suit different applications. From historic village squares and parking lots to residential areas and architectural spaces... whether in urban areas, by the sea or in the countryside, our lights will emphasise the character of your area.

With lines that blend functionality and elegance, the lights in our **SMARTLIGHT** range are designed as a complete package and come in a variety of distinctive styles. In addition to providing solar-powered lighting, Fonroche Lighting can also help you choose the ambience that best suits your environment, reflecting your desire to take an innovative approach to street lighting.





NEW ART

Brilliant Contemporary Mineral



BELLE EPOQUE Refined Authentic Urban



OPERA

Customisable Chic Modern



ESSENTIAL

Sleek Timeless Design



NEW ART

BRILLIANT & MINERAL

Heavily influenced by nature and minerals, the design of the NEW ART lantern for solar-powered street lights is inspired by diamonds, with their solidity and special relationship with light. The facets on top of the lantern give it a raw, carved-out appearance, but also a technological edge.

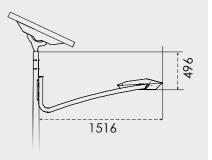


This light, with its fluid, lightweight design, will add a technological touch to your roads, whether in rural or urban environments. NEW ART is ideal for those who want to stand out from the crowd and make an impact.



TECHNICAL CHARACTERISTICS

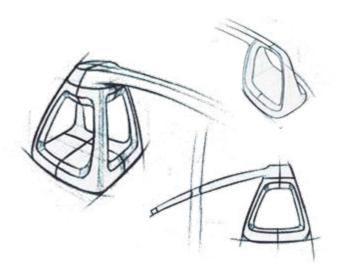
Materials	Aluminium casting
LED modules	Interchangeable IP67 and IK09
Type of mounting arm	Screw-in mounting arm: Available in a single or double version
Lighting efficiency	> 190 lm/W
Colour temperature	2000K- 2200K- 2700K- 3000K- 4000K
ULOR	0%



BELLE EPOQUE

TRADITION & MODERNITY

Inspired by 'traditional' lighting, the BELLE EPOQUE lantern is a nod to days gone by. By turning this lantern upside down, we have brought it up to date, giving it a robust and solid appearance while retaining its refined, distinctive shape.



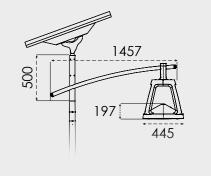
BELLE EPOQUE is a stylish street light that fits in perfectly with traditional urban and architectural spaces, such as village squares, town centers and roads. The shape of the mounting arm and the way in which the lantern is attached gives the impression that the light is suspended in mid-air, which lightens the overall structure.



roads, town squares, parks and gardens, etc.

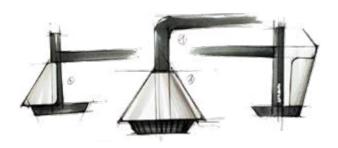
TECHNICAL CHARACTERISTICS

Materials	Aluminium casting
LED modules	Interchangeable IP67 and IK09
Type of mounting arm	Oblong mounting arm: Available in a single or double version
Lighting efficiency	> 190 lm/W
Colour temperature	2000K- 2200K- 2700K- 3000K- 4000K
ULOR	0%
Customisation	Colours (see colour chart)
Equipment	Bird guard included





OPERA brings a modern twist to traditional lighting features such as decorative ornamentation and arches.



Ornate and customisable, OPERA can be easily adapted to suit the specific character of each location. The low position of the LED modules ensures optimised, high-performance lighting. Ideal for urban environments, the OPERA lantern will:

- give residential areas some personality,
- add a touch of modernity to urban roads,
- enhance parking lots,

A collection of 6 colour combinations

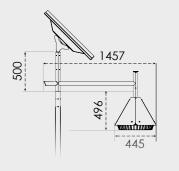
specially designed by urban colourists. Ask for our exclusive colour chart.



Rural footpaths, roads, parking lots, parks and gardens, etc.

TECHNICAL CHARACTERISTICS

Materials	Aluminium casting with decorative sheet metal
LED modules	Interchangeable IP67 and IK09
Type of mounting arm	Suspension-effect mounting arm: Available in a single or
	double version
Lighting efficiency	> 190 lm/W
Colour temperature	2000K- 2200K- 2700K- 3000K- 4000K
ULOR	0%
Customisation	Colours (see colour chart)



OPERA

Enhance your lighting

with decorative features

MULTI-APPLICATIONS

With its timeless design, the ESSENTIAL lantern can be adapted to suit any project and any setting. This highly functional lantern with its sleek, slender lines is designed to blend in with any environment.

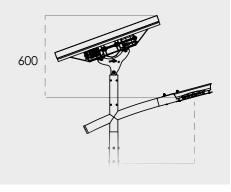






TECHNICAL CHARACTERISTICS

Materials	Calvanicad stand aluminium aasting
IVIaleriais	Galvanised steel- aluminium casting
LED modules	IP68
Type of mounting arm	Galvanised steel feed-through mounting arm- Available
	in a single or double version and with backlights
Lighting efficiency	> 190 lm/W
Colour temperature	2000K- 2200K- 2700K- 3000K- 4000K
ULOR	0%
Customisation	Colours





OUR OPTIONS AND SERVICES

TO CUSTOMISE YOUR PROIECT

The classic and authentic effect of wood

To personalise your projects and give them a natural feel, Fonroche Lighting can customise its solar-powered street lights using the process of sublimation.

This technique faithfully reproduces the appearance of a variety of different species of wood.

Carried out in our partner workshops.

Resistant and durable.

Solvent-free.

4 high-quality wood finishes.

Maximum application length: 8 m.

OUR WOOD SPECIES

Non-exhaustive list









Motion detection to switch on

Fonroche Lighting offers a smart detection system that uses motion sensors to detect pedestrians and cyclists. Presence detection is a feature widely used in the world of wired lighting to reduce the energy consumption of street lights. It is therefore much less used in solar lighting which, by definition, consumes no energy.

However, in some niche cases, it may be worthwhile using this type of detector to meet the requirements of the customer.

BRING YOUR project to life in 3D

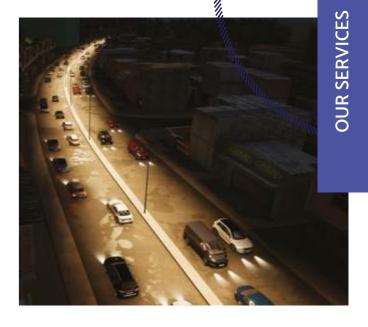
Fonroche Lighting has its own in-house digital modelling team. Expert in its field, ambitious in the technology it deploys and revolutionary in its approach, Fonroche Lighting's BIM and 3D Imaging design office can offer a range of services to satisfy your requirements:

Digital reconstruction of the pre-project environment.

Lighting simulation.

Photo / video communication support.

BIM solutions.



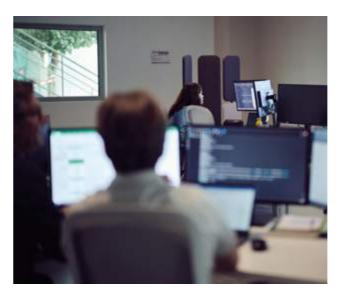
TAILORED financing

Thanks to its network of national, international, public and private financial institutions, our financing department aims to provide each of our customers, whether public or private, with a financing solution tailored to their needs. The advantages of using our financing service:



Obtain funding that's adapted to your needs whether you're a rural community or a government department.

Benefit from ongoing support at every stage of your project.



Help and support WITH INSTALLATION

Customer relations are a vital part of our service and do not end once an order is placed. As experts in solar lighting, our after-sales service teams guarantee project performance.

Our teams can provide support anywhere in the world, offering remote or direct installation assistance, depending on the level of support required, as well as reprogramming or repair operations in fewer than 48 hours.



FONROCHE CONNECT

Take remote control of your solar-powered street lights

Developed by our R&D teams, Fonroche Connect is a remote communication tool specially designed for the solar street lights in the Smartlight range. It enables remote monitoring and surveillance of the lights thanks to the LoraTM wireless radio communication system.

Each street light is geolocated so that the system can be diagnosed in real time and lighting can be controlled all year round.





Why MONITOR

your solar-powered street lighting system?

To intervene

to make repairs or put in place preventive

To check

the energy available and the condition of the street

o analyse

the lighting performance of your street lights.

To adjust the settings to reduce or increase light levels.

To remotely control

o measure

energy savings and the amount of CO2 emissions prevented.



Control your solar-powered street lights

WITH 1 CLICK!

The Fonroche Play application gives you remote control of your Smartlight solar-powered lighting system:

Features

Switch off all or part of the lighting system.

Create groups of street lights or pre-defined zones.

Restore the profile of the lighting source.

Characteristics

Range of up to 300 m.

Radio-frequency communication (LoRa).

Send commands remotely.

Easy to use (smartphone).





WHY UPGRADE

your street lighting system to solar power?

A COMPREHENSIVE SOLUTION for all

By upgrading your street lighting, you will reduce energy consumption and make significant savings overall.

Above all, solar lighting eliminates the need to renovate electric grid, which is a considerable expense for towns and cities. With no cables, no plugs and no electric cabinets, solar lighting is the perfect solution to prevent excessive energy consumption.

To save energy.

To reduce your electricity bill.

For a more environmentally friendly lighting system.

To minimise light pollution.

To play your part in the transition to renewable energy.

To resolve lighting problems (inefficient, obsolete street lights, faulty or unstable networks, etc.).

Solar street lighting ENERGY SAVING PLAN

OUR APPROACH



1

Preparing an energy audit of the lighting system

An analysis of the street lighting bills and the current maintenance contract in the local authority.
 Identification of the most energy-intensive and problematic areas (outdated lighting, dark areas).

2

Diagnosing the condition of the street lighting system



• An on-site technical analysis of: the street lights, electrical supply network...etc.



Defining the best technical solution for renovations



• Depending on the condition of the existing lighting and its components, the aim is to choose the best technical renovation solution by comparing the return on investment for all the solutions (relamping and solar-powered lighting).

EXAMPLE of the Agen urban agglomeration - France

Thanks to the implementation of this plan, the Agen urban agglomeration expects to save 70% on the town's annual street lighting bill, of which 50% is thanks to solar-powered lighting.

Key project figures

6000 lighting points upgraded using Fonroche solar technology.

190 km of power lines removed.

15M euros saved on network connection renovations over 10 years.

Testimonial

The feedback has been very positive, from both a financial and environmental point of view.



Jean-Dionis du Séjour, President of the Agen urban agglomeration

365 NIGHTS OF GUARANTEED LIGHTING TO MAKE YOUR REGION SHINE

Why choose Fonroche Lighting solar-powered street lights?

Because you're joining a ground-breaking technological adventure, offering you a range of French products with excellent autonomy and high power output that comply with street lighting standards. The result: tangible benefits with 365 nights of the year!

It's cheaper right from the initial investment!





THE EXPERIENCE OF XAVIER HAMON, PRESIDENT OF LOUDÉAC COMMUNAUTÉ- FRANCE (22)

Since 2014, Loudeac community has embraced the world of solar-powered lighting. Nearly 500 lights — or 1/3 of our fleet — have already been installed in our business parks, but the project doesn't stop there! Our ambition is to achieve 100% solar power. By gradually replacing traditional lighting with smart solar street lights, we will create a more environmentally-friendly region whilst reducing our carbon footprint, preserving our quality of life and cutting our energy bills.

365 NIGHTS OF SAVINGS



Quick and easy installation, no more electricity bills and no maintenance for ten years: with our solution, you'll make substantial savings right from the outset.

365 NIGHTSOF AUTONOMY



100% powered by solar energy, our solutions do not require connection to the grid. You will benefit from a service with a high level of availability, without any risk of power cuts.

365 NIGHTSOF POWER



We promise to be a genuine alternative to the grid lighting.
Our technology guarantees powerful solar lighting on a par with conventional lighting.

365 NIGHTSOF SAFETY



To ensure that users can travel safely at night, to see and be seen, whether motorists, pedestrians, or cyclists, who are more vulnerable when street lighting is reduced.

365 NIGHTSOF RELIABILITY



Resistant to even the most extreme weather conditions, with high winds and temperatures ranging from -40 °C to +70 °C, you can guarantee your users reliable, robust, 100% solar lighting.

365 NIGHTSOF CONTROL



Control and monitor your solar-powered street lights remotely. This is essential for analysing lighting performance, carrying out routine maintenance and providing lighting that's just right and as close as possible to your requirements.

365 NIGHTSOF INTELLIGENCE



The built-in intelligence in our street lights allows you to program your lighting and guarantees optimised energy storage, automated temperature regulation and anti-blackout security.

365 NIGHTS OF ENVIRONMENTAL RESPONSIBILITY



By using green energy, you are helping to create a more eco-responsible world and playing your part in the energy transition. You are installing street lights that have half the carbon impact of their wired counterparts in France in terms of their life cycle.

SOLAR LIGHTING EVERYWHERE AND FOR EVERYONE

OUR APPLICATIONS

Our ambition is to accelerate the transition to sustainable, high-performance lighting anywhere on the planet. Everyone can benefit from our solar-anchored service, thanks to the power and agility of our technology combined with the inexhaustible resource of the sun. Urban networks, roundabouts, country roads, bus shelters, residences... our daily success is that we provide guaranteed lighting in a multitude of areas that vary in terms of use and size.

Thanks to our bespoke studies, we can provide reliable lighting all year round that meets your needs.

And we will continue our street lighting revolution by extending the use of solar lighting everywhere and to everyone:

solar-powered lighting is the only way forward!



OUR APPLICATIONS

PARKING LOTS









PARKING LOTS

Whether you're developing a new space or making a busy area safer, solar lighting is an excellent choice for all types of parking lots and complies with the standards in force and the technical requirements of each project.

THE reference

Example:

municipality of Privas, France.

The Project:

Lighting of the parking lot at the municipal aquatic

Date: 2019 - 30 solar-powered street lights.

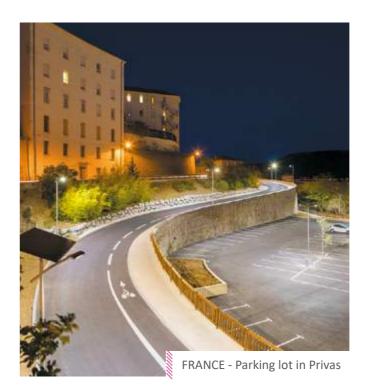
The key focuses:

Reducing installation costs.

Complying with the city's eco-responsible approach.

"The effectiveness of this lighting and the image it conveys for the public and users have been beneficial".

Michel Valla. Mayor of Privas

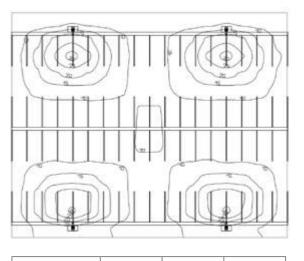


Applications

- PARKING LOTS AREA.
- PRM AREA.
- CAR-SHARING AREA.

The 1

- No need to dig trenches on new surfaces.
- No long-term downtime of the area.
- Easy to install (a simple concrete block).
- Reduced energy bills and carbon footprint.
- 12 lux on average.
- > 0.25 uniformity.
- Use of the Parking lot lens.
- Lighting for comfort and safety which is ideal for low-speed travel.



Parking lot	Ē	Ē min	Uniformity	
	12 lx	3 lx	0.25	

OUR APPLICATIONS

SUPERMARKET-HYPERMARKET PARKING LOTS









SUPERMARKET-HYPERMARKET PARKING LOTS

For supermarket chains, lighting is a key factor contributing to customer comfort and satisfaction, but it can also be expensive to operate and maintain. Whether you're looking to upgrade or install new equipment, autonomous solar lighting is a highly competitive solution that fits in perfectly with retailers' environmental policies.

THE reference

Example of the Carrefour parking lot in Portet-sur-Garonne, France:

The Project:

Lighting for the shopping center parking lot, PRM spaces and connecting routes.

4000 parking lots spaces.

Date: 2018 - 169 solar-powered street lights.

The key focuses:

Upgrading a parking lot in an eco-responsible way.

Complying with the retailer's environmental policy.

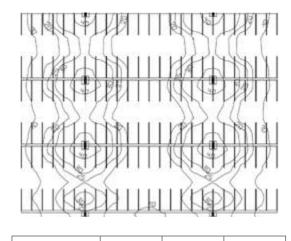


Applications

- PARKING LOTS AREA.
- PRM AREA.
- PARKING LOT'S ENTRANCE AND EXIT.
- CLICK AND COLLECT, AUTO CENTER.

The +

- Complies with the environmental policy adopted by retailers.
- Helps to reduce the carbon footprint.
- No operating costs.
- Quick installation with no works required and no need to close the parking lot for long periods.
- Complies with current regulations.
- 20 lux on average.
- > 0.25 uniformity.
- Use of the "Road 2" lens.



Supermarket- Hypermarket parking lot	Ē	Ē min	Uniformity
	20 lx	5 lx	0.25

HIGHWAYS









HIGHWAYS

The performance and reliability of the Smartlight solar street light has been tried and tested on several motorway projects. Above all, it is easy to install and considerably reduces the duration of infrastructure projects.

THE reference

Example of the highway interchange in Calais, northern France:

Proiect:

Lighting for the A16 highway interchange in Calais. Date: 2018 - 104 solar-powered street lights.

The key focuses:

Guaranteeing powerful, reliable lighting despite low levels of sunlight (Northern France).

Improving the security of a busy border area. Improving working conditions for hauliers.

> "It's a choice that fulfils safety expectations" (source: France TV)

> > Xavier Delebarre Director of DIR Nord Pas-de-calais

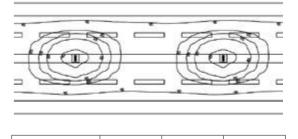


Applications

- MOTORWAY INTERCHANGES.
- MOTORWAYS.
- INTERSECTIONS.
- TOLL BOOTH.
- REST AREA.

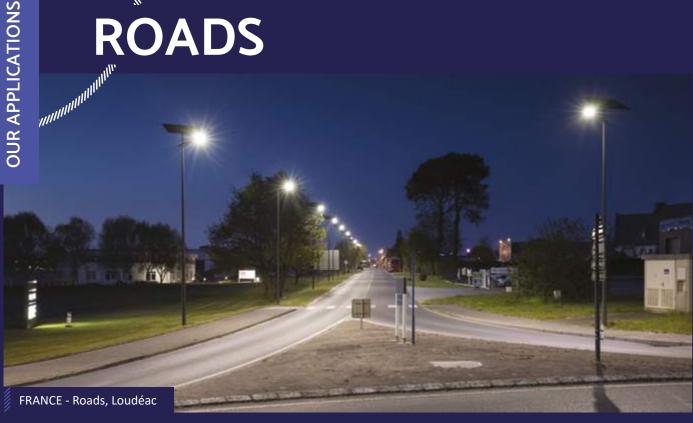
The -

- No major civil engineering works.
- Rapid deployment and installation.
- Work has minimal impact on road traffic.
- Provides lighting from the first evening to ensure user safety.
- Independent street lights: no cascade effect when switched off.
- 10 years without maintenance.
- 20 lux on average.
- > 0.40 uniformity.
- Use of the "Road 2" lens.



Highway	Ē Ē min		Uniformity	
Ingliway	20 lx	8 lx	0.40	

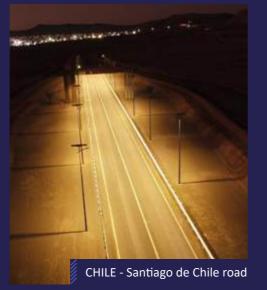
ROADS















Whether on urban, inter-urban or rural roads, illuminating roadways offer to improve user safety and reduce the number of road accidents. Fonroche Lighting solar-powered lighting is the perfect solution for replacing old street lights or equipping new infrastructure.

THE reference

Example of the Kenitra bypass (Morocco):

Project:

Lighting for the extension of the Kenitra bypass in Morocco, 20 km from Rabat.

Date: 2019-2020 - 220 solar-powered street lights.

The key focuses:

Improving safety for motorists.

Providing reliable lighting and hard-wearing materials.



Applications

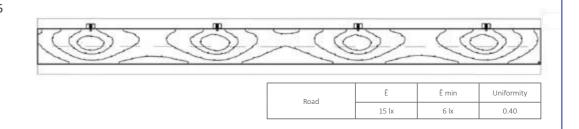
- RURAL ROADS.
- URBAN AND INTER-URBAN ROADS.
- BYPASSES, BRIDGES, VIADUCTS.
- INTERSECTIONS.

The •

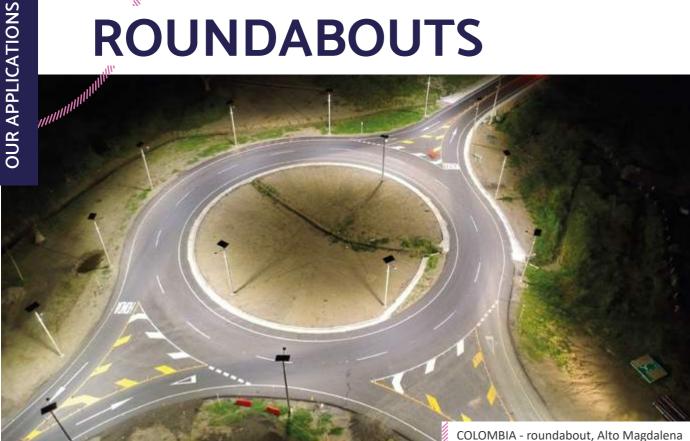
- Provides lighting from the first evening to ensure user safety.
- No major civil engineering works.
- Limited impact on road traffic.
- Minimal maintenance of facilities to reduce local authority costs as much as possible.
- Complies with road safety standards.



- between 10 and 15 lux on average.
- 0.40 uniformity.
- · Use of the 'Road' lens.

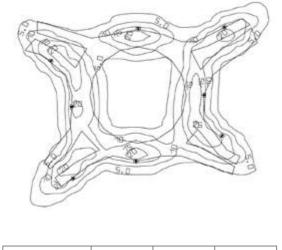


ROUNDABOUTS



Roundabouts are particularly accident-prone areas that need to be illuminated to protect the safety of road users. This technical application meets strict standards and requires high-performance, reliable lighting that provides good uniformity of light.

- +5 lux on average with respect to the incoming
- Use of the "Road 2" lens.



8 lx 0.40

- The 🕇 • The area will be out of action for a relatively short period of time so there will be little impact on road traffic.
- No major and costly civil engineering works.
- Guaranteed safety because the lights cannot be cut off.
- Complies with current street lighting standards.



ISOLATED AREAS

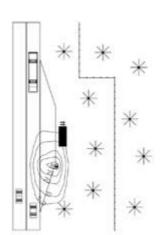
Many areas around the world are not connected to the electricity grid. Connecting to the grid can be very costly or even impossible in countries where the electricity network is unstable. Solar lighting is a simple solution for any environment.

Applications

- PEDESTRIAN CROSSINGS.
- VILLAGE SQUARES.
- BUS SHELTERS.
- DARK AREAS.

The +

- Quick and easy installation.
- Intelligent programming to minimise light pollution.
- Starts working from the very first night.
- An area of 300m² is lit by a single street light.
- 15 lux on average.
- 0.25 uniformity.
- Here is an example of a bus shelter.
- Use of the "Road 2" lens.



3.75 lx 0.25









USA - School pedestrian crossing

OUR APPLICATIONS

APPLICATIONS

HOUSING ESTATES









HOUSING ESTATES

A dilapidated and unstable electricity network, energy-guzzling street lights, etc. Renovating the lighting in housing estates and residential areas is a key focus for local authorities, which are concerned about the well-being and safety of their users. By choosing Fonroche Lighting solutions, they can reduce their electricity bills, minimise their carbon footprint and, above all, ensure that their local area remains appealing.

THE reference "

Example of the Erie residential area in the village of Depew in New York, USA:

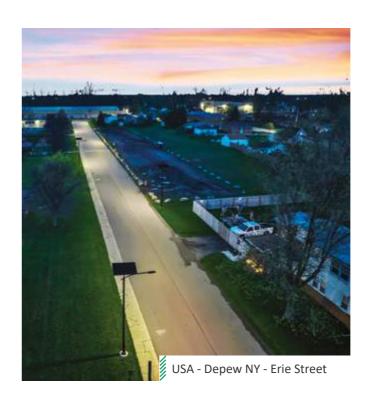
The Project:

Improving the safety of a pedestrian walkway. Date: 2023 - 6 solar-powered street lights.

The key focuses:

This project is part of a wider agreement with the city aimed at reducing costs for taxpayers. Other solar lighting systems have also been installed.

"solar lighting, which is economically beneficial for us and ecologically beneficial for our region". Kevin Peterson - Mayor of Depew

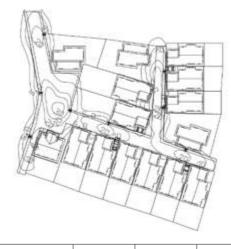


Applications

- HOUSING ESTATES / ECO-NEIGHBOURHOODS.
- FOOTPATHS.
- RESIDENTIAL AREAS.
- ENTRANCES AND EXITS OF THE AREA.

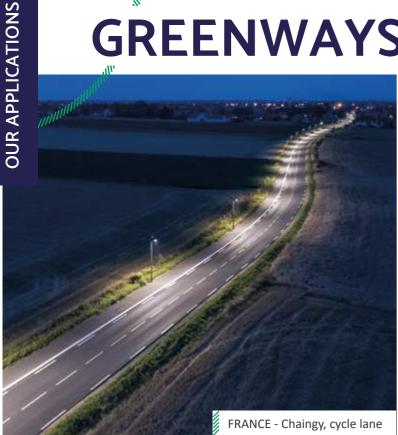


- A solution that is more competitive than conventional lighting.
- Ideal for renovations or eco-neighbourhoods.
- Eliminates civil engineering costs.
- Installation time is halved compared to conventional street lights.
- Fewer worksite-related disturbances.
 - Between 10 and 15 lux on average.
 - 0.25 uniformity.
 - Use of the "Road 2" lens.



Housing estate	Ē	Ē min	Uniformity
	14 lx	3.5 lx	0.25

GREENWAYS



Solar lighting is the perfect solution for greenways and cycle paths, which are often difficult to light because of their long distances; it also means that these routes can be used for longer after dark whilst ensuring that cyclists and pedestrians remain safe.

Applications """

- GREENWAYS.
- CYCLE TRACKS.
- FOOT PATHS.
- SOFT PATHS.



- No civil engineering works.
- Lenses offering the ideal dispersion of light for optimal illumination.
- An eco-responsible solution adapted to a natural environment.



- 7.5 lux on average.
- 0.20 uniformity.
- Use of the 'Road' lens.

TTC)))	TTC IP	777	TTTT
Siccinia	7.5 lx	1.5 lx	0.20	
Greenway	Ē	Ē min	Uniformity	



PARKS & GARDENS





Applications

- PARKS, GARDENS.
- SQUARES, PLAYGROUNDS.
- SMALL SPORTS FIELDS, MULTI-SPORTS GROUNDS.



- Safety and peace of mind for pedestrians at
- Respect for biodiversity thanks to a sustainable low-carbon solution.



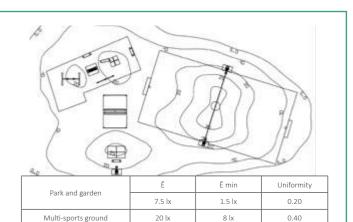
FRANCE - Multi-sports ground

Park and garden:

- 7.5 lux on average.
- 0.20 uniformity.
- Use of the 'Road 2' lens.

Multi-sports ground:

- 20 lux on average.
- 0.40 uniformity.
- Use of the 'Road 2' lens.



INDUSTRIAL AREAS



Industrial areas are facing a number of environmental challenges, one of which is the decarbonisation of their businesses. The Smartlight solar street light is an ideal solution for achieving this objective as it significantly reduces the amount of CO₂ emitted when in use.

- Lower operating costs.
- Decarbonisation of sites.
- An eco-responsible solution with a distinctive design.
- Quick and easy installation.









SPECIAL PROJECTS



From difficult-to-access areas to extreme conditions and bespoke development needs, our R&D and Design Office teams are qualified to work on what we refer to as 'special projects'. Our customised approach means we can cater to specific requests, offering optimised lighting solutions that meet the precise needs and constraints of the location.



Applications

- DIFFICULT-TO-ACCESS TECHNICAL AREAS.
- SKI SLOPES.
- HURRICANE ZONES.
- PARKING LOTS WITH SHADE STRUCTURES.
- Team dedicated to bespoke projects.
- Resistance to extreme temperatures (- 40° / + 70°C).
- No maintenance for 10 years.
- Reinforced mechanisms and anti-corrosion treatment (depending on the project).





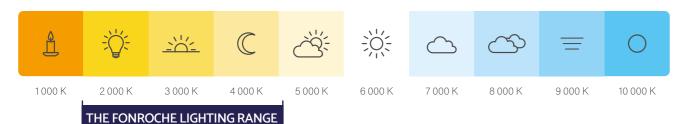
GREENER AND FAIRER LIGHTING

WARMER LIGHTING

THAT WORKS IN HARMONY WITH NATURE

Fonroche Lighting offers a wide range of colour temperatures and lenses with exceptional performance to suit every project and provide a tailor-made solution.

Measured in Kelvin (K) on a scale of 1,000 to 12,000, colour temperature refers to the chromaticity of the light emitted. Adapting the colour temperature of street lights helps to reduce light pollution by providing light that is more respectful of biodiversity and the night sky. The street lights in the Smartlight range offer a choice of colour temperatures to suit any location.



OUR GLOBAL APPROACH

TO RESPECTING BIODIVERSITY

An adapted range of lenses

(with different light dispersions) that allow us to adapt the lighting output of our street lights to respect local biodiversity.

Adjustable light levels

Our street lights can be programmed to provide optimal brightness (dimming or even switching off the street light if necessary).

Control light output

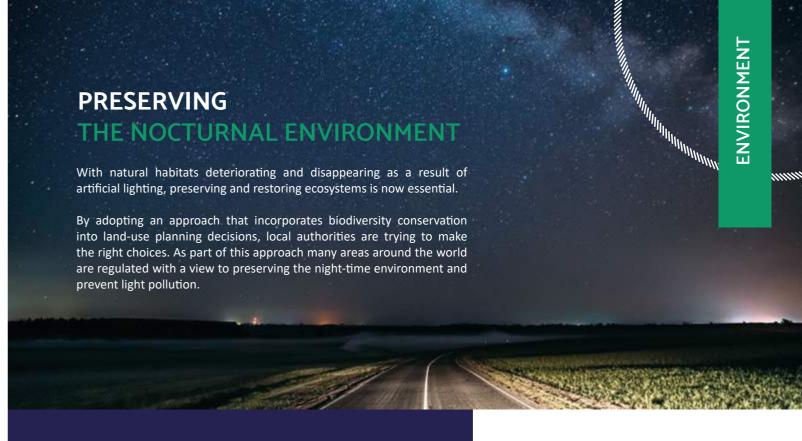
To avoid loss of light (flux code CIE).

"Warmer" colour temperatures

Ranging from 2000K to 4000K to avoid disturbing photosensitive species.

An environmentally responsible approach

Our solution has been designed with the environment in mind: installation with limited impact on the soil, no CO2 emissions during use, no impact on biodiversity, a long service life and almost 100% of the product can be recycled.



A RANGE OF LENSES TO SUIT EVERY PROJECT



Parking lot LENS

Specialised for parking lots and open spaces



Road LENS

Specialised for roads <7m</p>



Road 2 LENS

Roads >7m and parking lots for all types of application



Asymmetric LENS

Specialised for pedestrian crossings

LIGHTING EXPERTISE

All Fonroche Lighting street lights comply with the photometric standards of every country in the world, as well as their light pollution requirements.



Fonroche Lighting street lights are "DarkSky approved". Dark sky-friendly technologies are systems that aid in the mitigation of light pollution.

LIFE CYCLE ANALYSIS ASSESSING THE ENVIRONMENTAL IMPACT OF OUR PRODUCTS



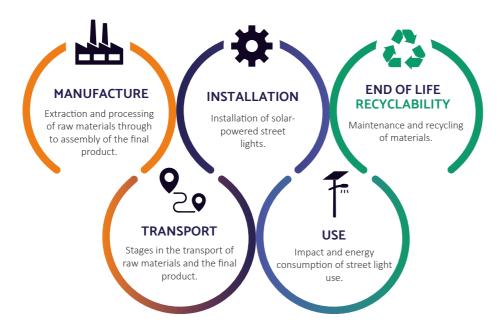
As part of its commitment to eco-design, Fonroche Lighting has carried out a full life cycle analysis of its range of Smartlight solar street lights by assessing their environmental impact.

This LCA process was carried out in accordance with the ISO 14040 and ISO 14044 standards. To provide a basis for comparison, our teams also carried out the same life cycle analysis on conventional street lights connected to the electricity grid.

What is a LIFE CYCLE ANALYSIS?

The aim of this method is to study the environmental impact of a product over its entire life cycle, from manufacture through to use and recycling.

The product's LCA was based on the carbon emissions generated per night over a lifespan of 40 years, which corresponds to the longest lifespan of each component.



SOLAR-POWERED OR WIRED?

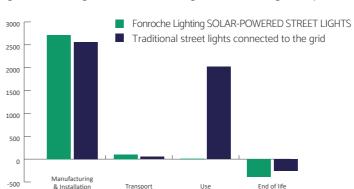
A COMPARISON OF ENVIRONMENTAL IMPACT

If we compare the LCAs for solar vs. wired street lights, Fonroche Lighting's solar street light has a carbon impact that is 6 times lower than the conventional wired solution. Despite having a more carbon-intensive manufacturing phase, due in particular to its storage system, the solar solution's carbon footprint is largely offset by its low CO₂ emissions during installation and use.



CO2 EMISSIONS / A COMPARISON

Comparison of greenhouse gas emissions from Fonroche street lights vs. street lights connected to the grid in France in kgCO2 eq.



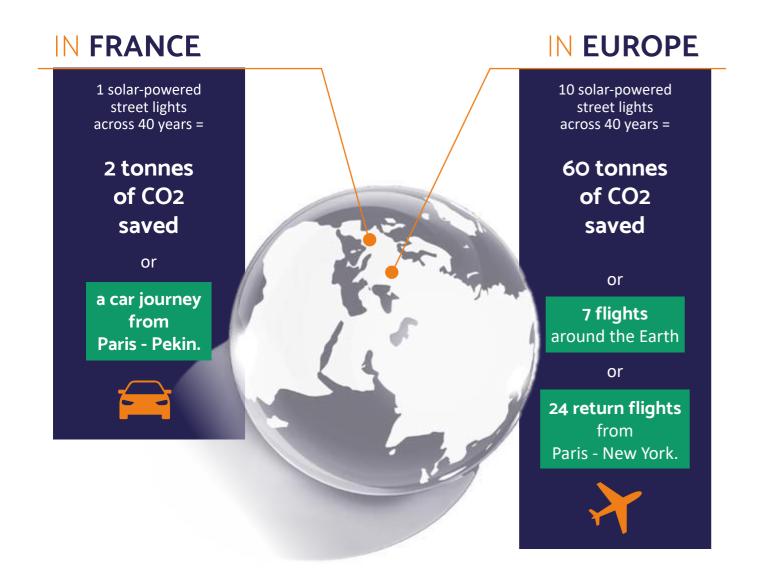
Main calculation bases for the analysis of Fonroche Lighting street lights: 40-year service life with replacement of 2 batteries, 1 PV panel and 2 LED lanterns. IN EUROPE
6 TIMES LESS CO₂
THAN A WIRED VERSION

IN THE USA
10 TIMES LESS CO₂
THAN A WIRED VERSION

Based on an average of 317 gCO2/kWh in Europe and 522 gCO2/kWh in the United States.

TACKLE GLOBAL WARMING

installing FONROCHE LIGHTING solar street lights helps reduce your carbon footprint





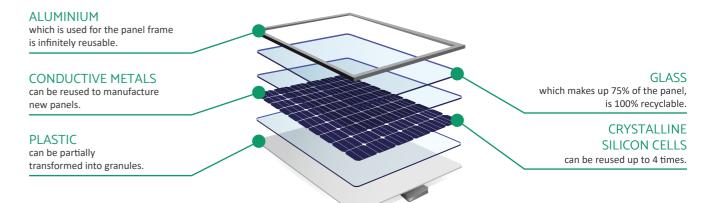
Fonroche Lighting pays particular attention to the lifespan of its products. The solar-powered street lights are designed to be eco-friendly so that their components can be recycled. The most critical components of a solar-powered street light are the photovoltaic panel and the battery.

THE PHOTOVOLTAIC MODULE High-performance and easy to recycle

Fonroche Lighting has been a member of the eco-organisation **SOREN** (formerly PV Cycle) since 2017 for the recycling of its end-of-life photovoltaic panel components.

99 %
RECYCLABILITY RATE

LIFESPAN UP TO 30 YEARS



POWER 365

The most recyclable battery on the market

The Power 365 solar lighting technology developed by Fonroche Lighting manages the storage, programming and intelligence of our solar-powered street lights; it consists of a battery and an electronic board.

The battery uses NiMH technology, which has a very high recyclability rate. In fact, the reusable metals are extracted and recycled, including 84% Nickel-Iron which is used to make steel. **SNAM**, a company specialising in the collection and recycling of batteries, has been appointed to handle the recycling of our storage systems.

Fonroche Lighting is also a member of **EcoSystem**, an organisation specialising in the collection and recycling of electrical and electronic equipment and light bulbs.

ecosystem





99 %
RECYCLABILITY RATE

LIFESPAN UP TO 12 YEARS



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OUR CSR APPROACH

Committed to the regional energy transition

to provide more sustainable lighting

Reducing energy consumption and combating climate change.

Thanks to our commitment to developing environmentally friendly solutions that are 100% powered by renewable energies.

Equal opportunities to promote inclusion and confidence.

- 34% of employees are female, of which 23% are in senior management positions (2023).
- 20 different nationalities.
- 63% of employees have undergone training in 2022.

Identifying and preventing risks to protect the health and safety of our teams.

A new head office -La Street- which promotes exchanges and well-being in the workplace (sports facilities, ergonomic offices, etc.).

Stepping up anti-corruption measures to raise awareness among our teams and preserve our integrity

Implementation of a code of conduct, an ethics charter and whistleblower protection, which form an integral part of our rules of conduct.

The introduction of compliance training for all employees.

Supporting local businesses

As a committed member of our community, we are passionate about supporting local job opportunities. We also work with a number of local schools, which allowed us to take on around twenty interns and work-study students in 2022.

Supporting short distribution channels and responsible purchasing

By choosing producers and manufacturers close to our site, we reduce journey times and simplify trade

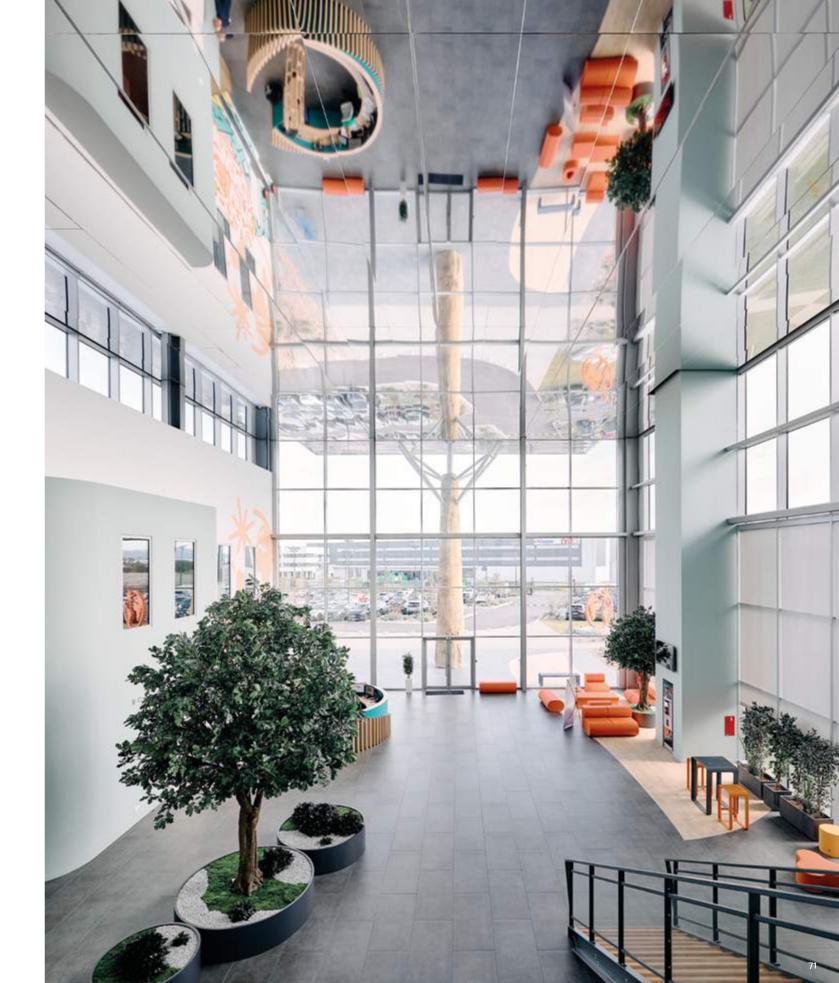
Since March 2022, 99% of our suppliers have been ISO 9001 certified and 56% are ISO 14001 certified.

Reducing greenhouse gas emissions:

Our new head office meets the latest safety and environmental management standards, with a 100% solar-powered exterior, reinforced insulation and a photovoltaic roof that covers 70% of our electricity needs.

Our sustainability goals

Fonroche Lighting meets 11 of the 17 Sustainable Development Goals (SDG) adopted by the United Nations. (further details can be found on our website www.fonroche-lighting.com)



MORE INFORMATION CAN BE FOUND AT

www.fonroche-lighting.com











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