GFF
COOP.P.A.



INDUSTRIAL PROJECT UPDATE – JULY 2025

FOR THE FIRST SOCIALLY INTEGRATED FACTORY IN ITALY



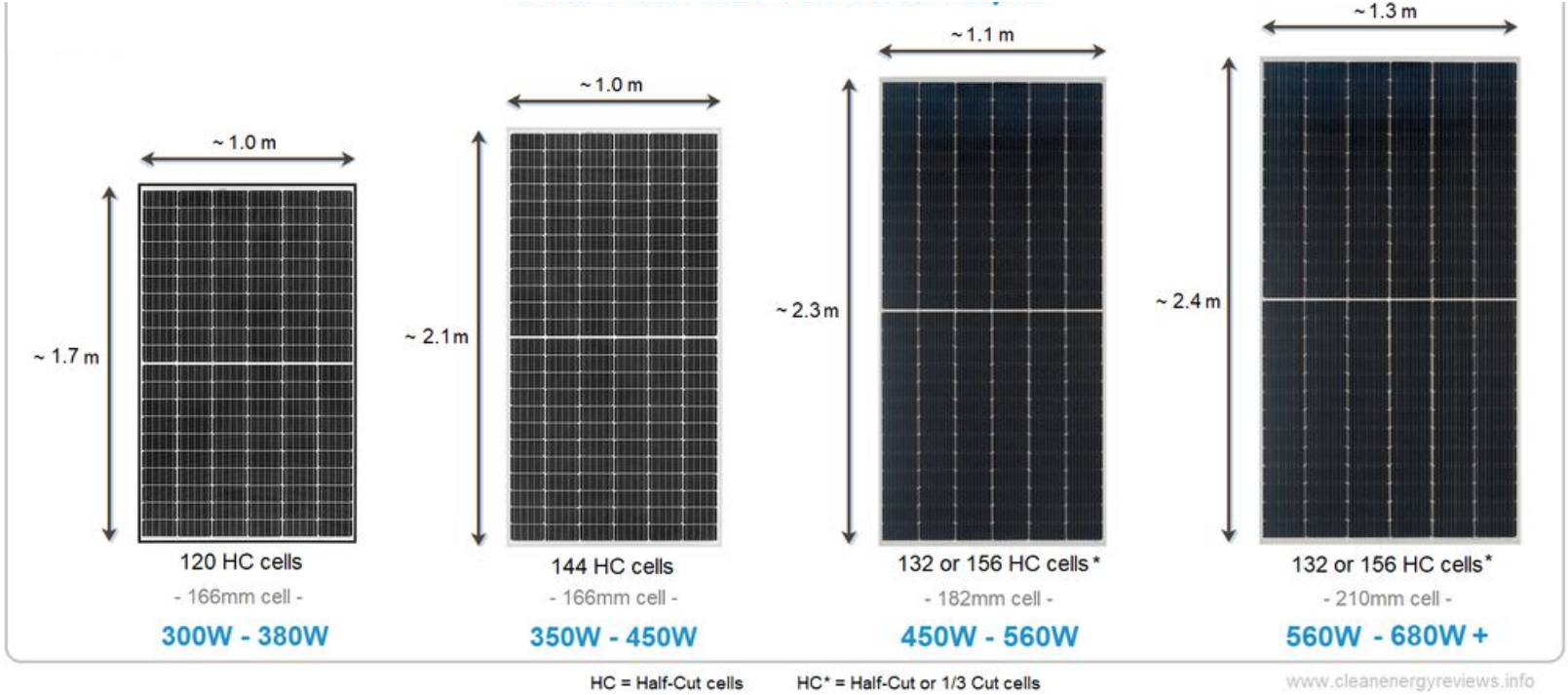
1. The Guidelines of the New Industrial Project

1. **Production** of standard, customized and Building Integrated Photovoltaics [BIPV] panels
2. **PV Panels installation**
3. **PV Panels disposal:** towards a circular economy hub for the treatment of Waste from Electrical and Electronic Equipment (WEEE)
4. **Cargo bikes**
5. Management of the **Industrial Consortium**

Each project area has designated commercial and production managers selected among former GKN workers and professionals with decades of experience in the photovoltaic sector, now part of GFF's **organizational structure.**

Customization options - Sizes of the market

Dimensions (HxWxD range: 2500-1600mm x 1400-950mm x 25-45mm)



Fonte: https://www.cleanenergyreviews.info/blog/most-powerful-solar-panels

Customization options - Three markets of manufacturing designs

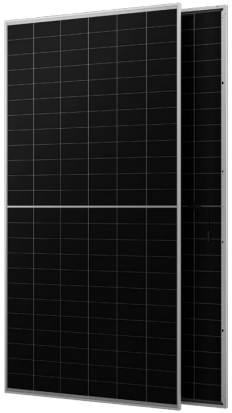


390 - 480 Wp
108 HC cells

H: 1722-1924 mm
L: 1040-1134 mm
D: 30-35 mm

W: <25 kg

Single or Double glass



450 - 580 Wp
120 - 132 HC cells

H: 1924-2278 mm
L: 1134 mm
D: 30-35 mm

W: 25-31 kg

Single or Double glass



600 - 680 Wp
144 - 156 HC cells

H: 2278-2465 mm
L: 1134 mm
D: 30-35 mm

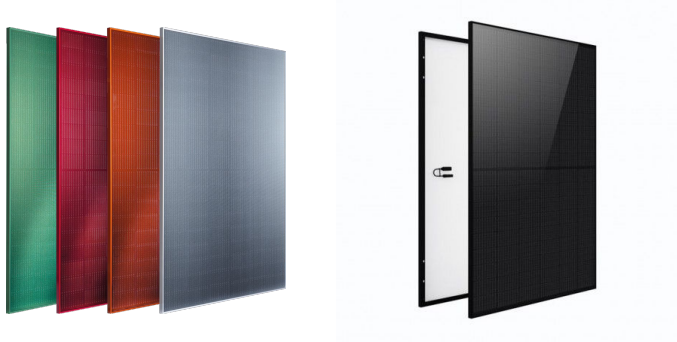
W: 28-35 kg

Single or Double glass

Fonte: Ricerca di mercato ed elaborazioni di GFF con referenze dei produttori del settore e riviste come clean energy reviews, PVEL e Solar Quotes

1.1 Customization options

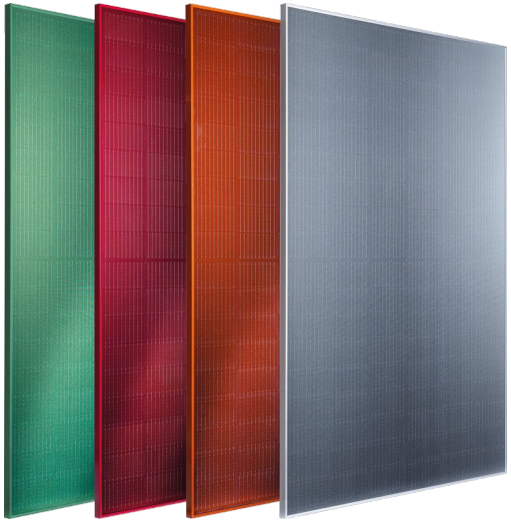
- **Glass** (*simple*, double or colored)
- **Colors** (orange, red “coppo”/roof tile red, green, others)
- **Dimensions** (HxWxD range: 2500-1600mm x 1400-950mm x 25-45mm)
- **Shapes, transparency** and **cells spacing** on request
- **Backsheet:** transparent (shelter panels), black (indicated for colored panels), white
- **Building Integrated Photovoltaic** for architectural projects



Customization options

Glass (*simple*, double or colored)

Colors (orange, red “coppo”/roof tile red, green, others)









Customization options

Shapes, transparency and **cells spacing** on request

Backsheet: *transparent* (shelter panels), *black* (indicated for colored panels), *white*



SOCIALLY INTEGRATED FACTORY IN ITALY



Customization options

Building Integrated Panels for architectural projects







1.2 RECOVERY AND RECYCLING OF PHOTOVOLTAIC PANELS

Beyond production and installation, the factory will also be equipped to:

- Recover end-of-life photovoltaic panels
- Treat them in-house
- Recycle panel materials and resell them
- Reuse recovered materials in new products — “closing the loop”

The supply chain will be certified according to Environmental Social Governance (ESG) standards.

Facility Description

Area

- **Covered area:** 2,200 m² (enabling production line doubling)
- **Outdoor area:** 2,000 m²

Production capacity:

- **Automated production line:** —— tons/year/shift
- **Number of modules:** —— modules/year/shift
- **Maximum capacity:** —— tons/year over 3 shifts

Safety & Energy:

- **Sprinkler fire protection system**
- **Rooftop photovoltaic system:** —— kW with storage
- **Energy self-sufficiency: 90%**

ADVANTAGES:

- Few treatment plants exist in Italy. The quantity of waste to be treated is expected to grow significantly, exceeding current and projected capacities.

- GFF may collect the waste directly (logistics required: ——), or receive deliveries directly at the former GKN plant (dedicated exclusively to photovoltaic panel treatment, with floor —— — higher than the fee paid by end customers at purchase).

1.3 THE AMBITIOUS CARGO PRODUCT LINE

The Factory Collective has developed three **cargo bike prototypes**:

- One muscle-powered
- Two electric pedal-assist bikes (one for freight, one for domestic/family use)

The freight prototype is currently being used on Florence's streets by the ethical delivery cooperative Robin Food, enabling dialogue with the European federation of ethical delivery initiatives.

THE AMBITION OF OUR CARGO PRODUCTS

The GFF cargo bike project aims to become a hub for:

- Small cargo bike manufacturers
- Solidarity and self-managed bike shops
- Sustainable mobility networks
- Movements against algorithm-driven exploitation in delivery platforms



GFF
COOP.P.A.



2. WHERE WE ARE: INVESTMENTS, EMPLOYMENT, TOTAL FUNDING

2.1 Investments & Employment

INVESTMENTS	Activity	Value
Production equipment and machinery	PV Production	5.985.000
Additional installation costs of Rooftop PV	Energy self production	693.877
Production equipment and machinery	Cargo bike	42.450
Production equipment and machinery	PV Disposal	2.032.548
Initial setup costs	PV Production and Installation, PV Disposal, Cargo bike	200.000
TOTAL		**8.953.875**

Uses (Applications of Funds)	Activity	Value
Investments		€ 8.953.875
Operating costs – first year	PV Production and installation, PV Disposal, Cargo bike	€ 1.650.000
Operating costs – year zero	PV Production and Installation	€ 1.230.000
Operating costs – year zero	PV Disposal	€ 625.000
Operating costs – year zero	Cargo bike	€ 73.000
TOTAL		**€ 12.531.875**

2.2 Funding Sources

Sources of Financing				% of total financial requirement
Debt Capital			**€ 7.631.875**	**60%**
Equity Capital	Workers Members	**conservatively estimated**	€ 600.000	18,35%
	Popular Shareholding		€ 1.700.000	
	Private Investor	**€1 million in equity, the other €1 million in semi-equity**	€ 2.000.000	15,96%
	Regional Public Investor	**€300k in equity, the other €300k in semi-equity**	€ 600.000	4,79%
Total Equity Capital			**€ 4.900.000**	**40%**
Total			**€ 12.531.875**	

Debt Capital								€ 7.631.875
Bank 1	€ 2.500.000	**Bank 2**	€ 1.500.000	**Bank 3**	€ 1.000.000	**Financier 4**	€ 2.631.875	

GFF
COOP.P.A.



3. HOW WE GOT HERE

3.1 A Brief History of Bottom-Up Reindustrialization

- **2022:** Proposal for **public-mobility-centered re-industrialization** goes unheard
- **Late 2022-early 2023:** Development of the **industrial plan** (panels + cargo)
- **Spring 2023:** €156,300 raised via **reward crowdfunding**
- **July 2023:** **GFF cooperative founded**
- **September 2023:** Launch of **popular shareholding campaign**, **internal due diligence of second plan; international scouting for third plan**
- **January 2024:** **New industrial project** (panel production, installation, disposal, cargo bikes)
- **March 2024:** **Soft financing** from Banca Etica for GFF clients
- **Spring 2024:** **Preliminary commercial agreements with RECs** and **Letters of Intent with companies and research centers**
- **May 2024:** Drafting of a **regional law for public intervention**
- **Summer 2024:** **Mapping of public funding opportunities**
- **October 2024:** **First popular shareholding assembly**
- **December 2024:** **Regional law approved**
- **Oct 2024–Jun 2025:** **Four technical due diligences**, before and after investor evaluation, and **start of industrial consortium**

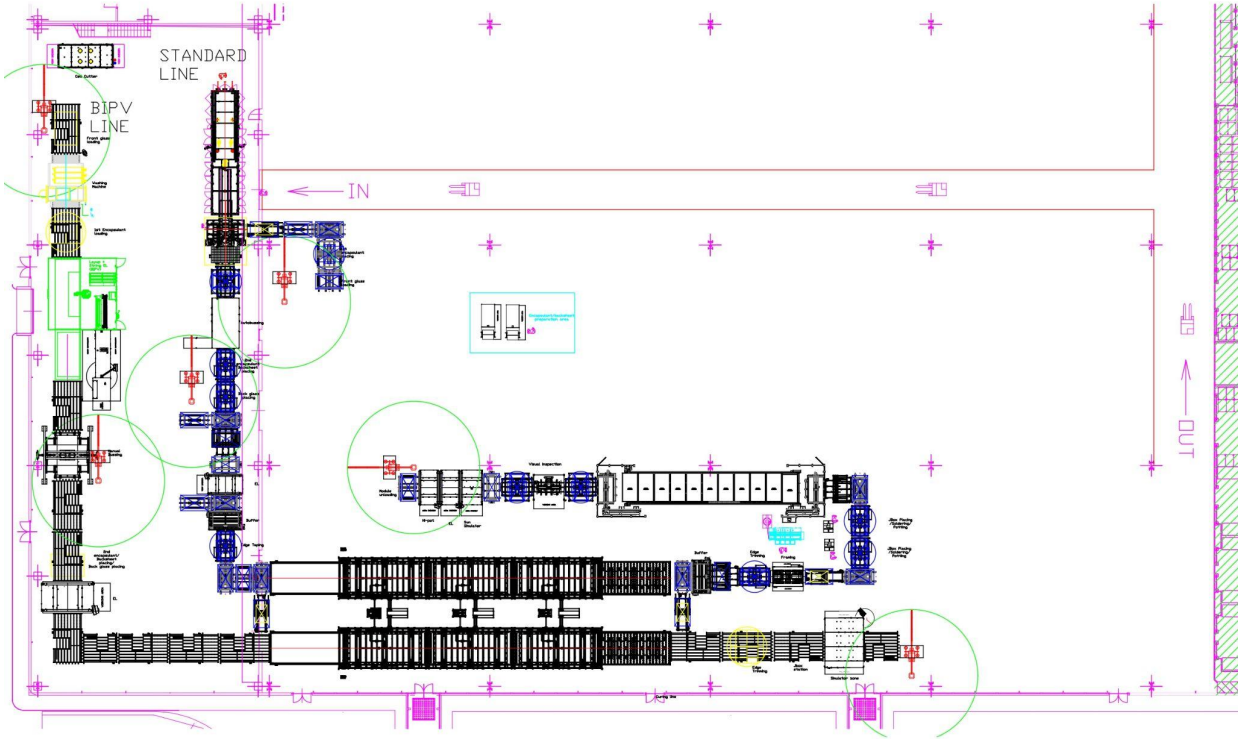


4. EIGHT MONTHS OF TECHNICAL DUE DILIGENCE

4.1 PUBLIC GUARANTEES AND INCENTIVES

MCC Guarantees						
Participation	**Institution**	**Investment / Financing**	**% Guarantee**		**Repayment**	**Incentive**
Semi Equity	Regional public investor	€ 300.000	50%	€ 150.000	7 years	no
	Private investor	€ 1.000.000		€ 500.000		no
Debit	Bank 1	€ 1.100.000	80%	€ 1.120.000	5 years	**SABATINI**
		€ 1.400.000			9 + 1 years pre-amortization	no
	Bank 2	€ 1.500.000		€ 1.200.000	9 + 1 years pre-amortization	no
	Bank 3	€ 1.000.000		€ 800.000	9 + 1 years pre-amortization	**BEI Fund – Tuscany Region**
Total Covered		**€ 6.300.000**	**Guaranteed**		**€ 3.770.000,00**	

4.2 NEW PRODUCTION LINE LAYOUT



4.3 PRODUCTION AND FINANCIAL CONTINGENCIES

As if GFF were equivalent to 4 autonomous and isolated companies in the market						
YEAR		**1**	**2**	**3**	**4**	**5**
PRODUCTION [15 SHIFTS/WEEK]	Utilized production capacity (%)	**50%**	**60%**	**60%**	**60%**	**60%**
	Maximum plant capacity (kWp)	115.677	113.922	112.318	110.714	110.295
	Used production (kWp)	57.838	68.353	67.391	66.429	66.177
INSTALLATION	Installed kWp	**50%**	**60%**	**70%**	**80%**	**100%**
		1.296	1.555	1.814	2.074	2.592
RECYCLING	Work shifts	**1**	**2**	**2**	**3**	**3**
	Mass disposed (tons/year)	2.598	5.196	5.196	7.793	7.793
	Number of modules processed/year	118.080	236.160	236.160	354.240	354.240
	Average power processed (MW)	27	53	53	80	80
CARGOBIKE	Sales percentage (%)	**60%**	**70%**	**80%**	**90%**	**100%**
	Number of cargo bikes	150	170	200	220	240

FINANCIAL CONTINGENCIES

Monthly BF	Revenues from public incentives have been **deliberately excluded** for all five years.

4.4 PANEL PRODUCTION CONTINGENCIES

Contingencies – PRODUCTION LINE	Across All Years	Year 1	Year 2
Production Volumes	**15% reduction in line uptime** in addition to the stress tests shown in this and the following table	-20% uptime in the first year	-10% uptime from the second to the fifth year
CAPEX		+3.5% (plus €200k for “initial plant setup costs”)	
			14.5% for the conservative absorption of new machinery on the line (additional €500k)
Direct Costs	1%		
	Two-month advance on the purchase of materials from Asia as planned in the business plan cash flow		
Administrative Costs	0,80%		
Personnel Costs	2%		

4.5 STRESS TEST ON PANEL TYPES

Stress test with increased annual production percentages of standard panel variants, despite GFF's commercial strategy being entirely focused on the BIPV and custom markets.					
Type of PV panels	year 1	year 2	year 3	year 4	year 5
% panels 144HC TopCon	25%	22%	20%	18%	17%
% panels 120HC TopCon	15%	12%	10%	8%	8%
% panels 108HC TopCon	33%	31%	28%	25%	23%
% panels 144HC TopCon GG	8%	11%	13%	15%	15%
% panels 108HC TopCon Red	6%	8%	10%	12%	13%
% panels 108HC TopCon Black	6%	8%	10%	12%	14%
% panels BIPV	7%	8%	9%	10%	10%

4.6 Break-even Analysis

YEAR	NET PROFIT							
	PRODUCTION		INSTALLATION		DISPOSAL		CARGO-BIKE	
BREAK-EVEN	52%		47%		2 SHIFTS = 5 t/year		80% = 200 cargo-bike	
1	50% = 57 MWp	-82.902 €	50% = 1,2 MWp	25.595 €	1 shift = 2,6 t/year	-327.439 €	60% = 150 cargo	-4.412 €
2	60% = 68 MWp	207.912 €	60% = 1,5 MWp	79.950 €	2 shifts = 5 t /year	57.632 €	70% = 170 cargo	-7.604 €
3	60% = 67 MWp	389.385 €	70% = 1,8 MWp	105.266 €		64.817 €	80% = 200 cargo	7.514 €
4	60% = 66 MWp	560.111 €	80% = 2 MWp	145.108 €	3 shifts = 7,8 t/year	659.245 €	90% = 220 cargo	2.957 €
5	60% =66 MWp	609.531 €	100% = 2,5 M Wp	233.610 €		665.315 €	100% = 240 cargo	10.739 €
TOTAL	1.684.038 €		589.530 €		1.119.570 €		9.195 €	

GFF
COOP.P.A.



5. SOCIO-ECONOMIC IMPACT OF THE INDUSTRIAL PROJECT

5.1 SOCIAL IMPACT

Ecological and social sustainability parameters:

- Uniform staff costs across business lines to maintain contract levels from before the July 9, 2021 layoff:
  - €40,500 gross/year for workers
  - €39,886.89 gross/year for employees (RAL €26,666.21)
- Continued focus on light and sustainable mobility through cargo bike production
- Strategic combination of monocrystalline silicon panel production with panel recovery and recycling, supported by installation-based revamping

5.2 ECONOMIC IMPACT

GFF Cooperative Business Plan – All Activities					
Economic Budget	Year 1	Year 2	Year 3	Year 4	Year 5
Total Revenues	**13.878.650**	**17.714.187**	**18.498.369**	**20.255.675**	**20.987.114**
Total Costs	**13.213.828**	**15.845.739**	**16.365.926**	**17.164.996**	**17.753.380**
EBITDA	**664.822**	**1.868.449**	**2.132.443**	**3.090.679**	**3.233.734**
Gross Profit	**-445.858**	**411.990**	**691.481**	**1.667.522**	**1.852.796**
Taxes	58.000	-74.200	-124.500	-300.200	-333.500
Net Profit	**-387.858**	**337.790**	**566.981**	**1.367.322**	**1.519.296**

5.3 Financial Budget and Cash Flow

Monthly Financial Budget	year 0	year 1	year 2	year 3	year 4	year 5
Total Sales	12.531.875	14.314.975	19.219.767	20.726.838	21.575.304	23.194.511
Total Outflows	9.275.717	17.426.202	18.197.446	19.152.307	20.890.321	23.519.598
Cash Flow	3.256.158	-3.111.228	1.022.321	1.574.530	684.983	-325.087
Cumulative Cash Flow	3.256.158	144.930	1.167.252	2.741.782	3.426.765	3.101.678

The entire economic plan for panel production has been conservatively based on the lowest price listed for wholesalers and installers of utility-scale systems (>5MW), without accounting for the higher margins that will be achieved through smaller volume orders from business and retail customers.

5.4 The Social Impact of the Industrial Project

Production Activity	Staff Employed	Industrial Entity
Production of monocrystalline silicon panels	46	**GFF**
Panel installation	17	
Recovery of monocrystalline silicon panels	26	
Cargo bike production	10	
Management of Industrial Condominium	10	**Consortium or Property**
TOTAL	**109**	

5.5 The Economic Impact of the Industrial Project on Public Finances

Below are the public revenues we expect to generate during the first ten years of GFF's operations, with the corresponding revenue category on the left (excluding INPS contributions):

IRES	1.879.625
IRAP	722.933
Personal income tax (IRPEF) for workers:	4.554.313
Additional IRPEF for workers:	455.431
VAT	23.610.245
TOTAL	**31.222.547**

GFF
COOP.P.A.



6. SIGNED AGREEMENTS TO TAKE OFF

6.1 Agreements Signed to Take Off

The following agreements have been signed with installers, companies, and research centers, which already certify the synergistic network between GFF and sector stakeholders that will ensure the achievement of the objectives defined in the business plan:

[redacted], an independent Italian consultancy company founded to capitalize on the experience and expertise of its Management Team in delivering technical, financial, and strategic services to the energy sector, operating both in Italy and abroad.	Letter of interest for the development of the industrial condominium in the covered spaces of the Campo Bisenzio hub and for the Project Management of the energy systems in the reindustrialization project
[redacted], A cooperative specialized in the development of software and AI technologies.	Letter of interest for the design and development of GFF's digital platform for online orders of custom panels by wholesalers, installers, and private customers, as well as for the development of the management application.
[redacted], A company specialized in energy efficiency solutions for businesses	Letter of interest for potential annual purchases of GFF panels (standard and custom) for a total annual capacity between 5 and 10 MW, possible assignments for the construction of photovoltaic systems, and the involvement of GFF as a development partner for energy efficiency initiatives.

[redacted]	Memorandum of Understanding signed with [redacted], as a technical partner, for: 1. The inclusion of GFF's products and services in the [redacted] network; 2. The exchange of information related to the European and international regulatory framework regarding: a) Photovoltaic production and market; b) Projects, market trends, suppliers, and clients from the international network of [redacted]; c) Research and development projects initiated or partnered by [redacted]; d) Information and contacts with companies interested in investing in innovative photovoltaic technologies, with particular focus on BIPV (Building-Integrated Photovoltaics).
[redacted]	Letter of interest for the development and implementation of innovative design ideas for each of GFF's production lines, leveraging the skills of its student classes to present proposals to companies already in contact with the institute, and to facilitate synergies with the companies [redacted] is connected to.
[redacted], a company specialized in panel installation for over 10 years	Letter of interest with a commitment from GFF to supply standard and custom panels under the best economic conditions to [redacted], and a reciprocal commitment from the latter to install GFF panels over the next five years, to train GFF members in panel installation, and to jointly develop a joint venture for the purchase of standard panels to be stored at the Campi Bisenzio facility and installed across Tuscany and Umbria.
[redacted]	Letter of interest for a mutual non-disclosure agreement to provide technical and scientific support in the development and refinement of GFF's industrial reconversion project for the production and recycling of photovoltaic panels.
[redacted]	Three-year letter of interest to develop a collaboration in research on technological development and other forms of strategic cooperation.

6.2 Preliminary agreements collected

Preliminary commercial agreements with increasing commitments have been signed with energy communities (CERs), cooperatives, and recovered Italian enterprises in support of the economic sustainability of the industrial project's business line:

- **26 MW of pre-orders already signed** with Italian and European Energy Communities (CERs), equivalent to **62% of the standard panel production forecast for the first year of operations**);
- **250 kW** of **pre-orders** from a **recovered Italian enterprise;**
- Commercial development agreement signed with the production line supplier;
- Expression of interest in collaborating with GFF from a **Spanish Energy Community (CER), which plans to install up to 47 MW**.

GFF
COOP.P.A.



7. WHAT'S NEXT? CONDITIONS FOR STARTUP

7.1 Conditions to Meet AFTER Summer Approvals and BEFORE New Line Orders

1. Achievement of the goal of **€1.7 million in popular shareholding and free registration of financial backers in the Wallet opened by Ener2Crowd**
2. Finalization of the **contract with the production line supplier** (valid for 6 months), which must incorporate the conditions set by the fourth technical consultant
3. Finalization of the contract with the **Temporary Managers and assessment of the investors**
4. **Confirmation of panel pre-orders covering 60% of the panels to be produced in the first year**
5. **Collection of pre-orders for 90 cargo bikes (equal to 60% of first-year production)**
6. **Initiation of the authorization process for disposal**
7. **Completion of ESG forms to measure GFF's social and ecological impact**
8. **Certified availability of the facility**
9. **Launch of the equity crowdfunding campaign (minimum target: €300k)**
10. **Verification of the availability of a fourth investor to support the plan**

7.2 Conditions After Investment Agreements

- **Identification of R&D, logistics, commercial, and maintenance leads**
- **Final pricing and agreements with European and international raw material producers**
- **Training of direct staff** per business line
- **Transfer of booked shares by supporting shareholders**
- **Signing of supplier contracts** for new production lines
- **Certifications for cells and new lines**
- Completion of the **GFF website**
- **Preparation of custom panel samples and agreements with architects**
- **Binding agreements on all business lines by the commercial team**
- **LAUNCH OF OPERATIONS**

EX GKN FOR FUTURE: WRITTEN “GFF”, READ “FUTURE”

They tried to steal the future of over 400 families with a single email.

Thanks to the support of those who stood with us, they’ve failed — so far.. **Thanks to you, we can win — together.**

Because no struggle wins alone.

If this struggle wins, a new story can begin.

GFF COOPERATIVA PER AZIONI

e-mail: gffcoop@gmail.com commerciale.gffcoop@gmail.com

Via Fornace Braccini, 8 – 56025, Pontedera (PI)

P.IVA – C.F. REGISTRO IMPRESE: 0248320509 | ALBO COOPERATIVE: C140628 | R.E.A. PI: - 256453