

**FRD Center
Market Entry Services**

The Photovoltaic Market in Romania - 2012

Window of opportunity

- The PV energy sector in Romania has one of the strongest growth potential and ROI in Europe
- Analysts currently see Romania as the most interesting target for new PV projects
- Approved legislation currently ensure a number of 6 green certificates / MWh for the solar energy at 27-55 EUR/ GC certificate on top of energy sold
- To foreign investors, FRD Center provides local advisory, facilitating their access to local PV projects to be financed / bought
- To local developers, FRD Center facilitates liaison with international investors in PV and solar power projects
- To foreign exporters, FRD Center offers tailor-made market entry services and direct access to importers and developers



The Photovoltaic Market in Romania - 2012

- Current PV projects in Romania
- Legislation and facilities
- Players
- Imports



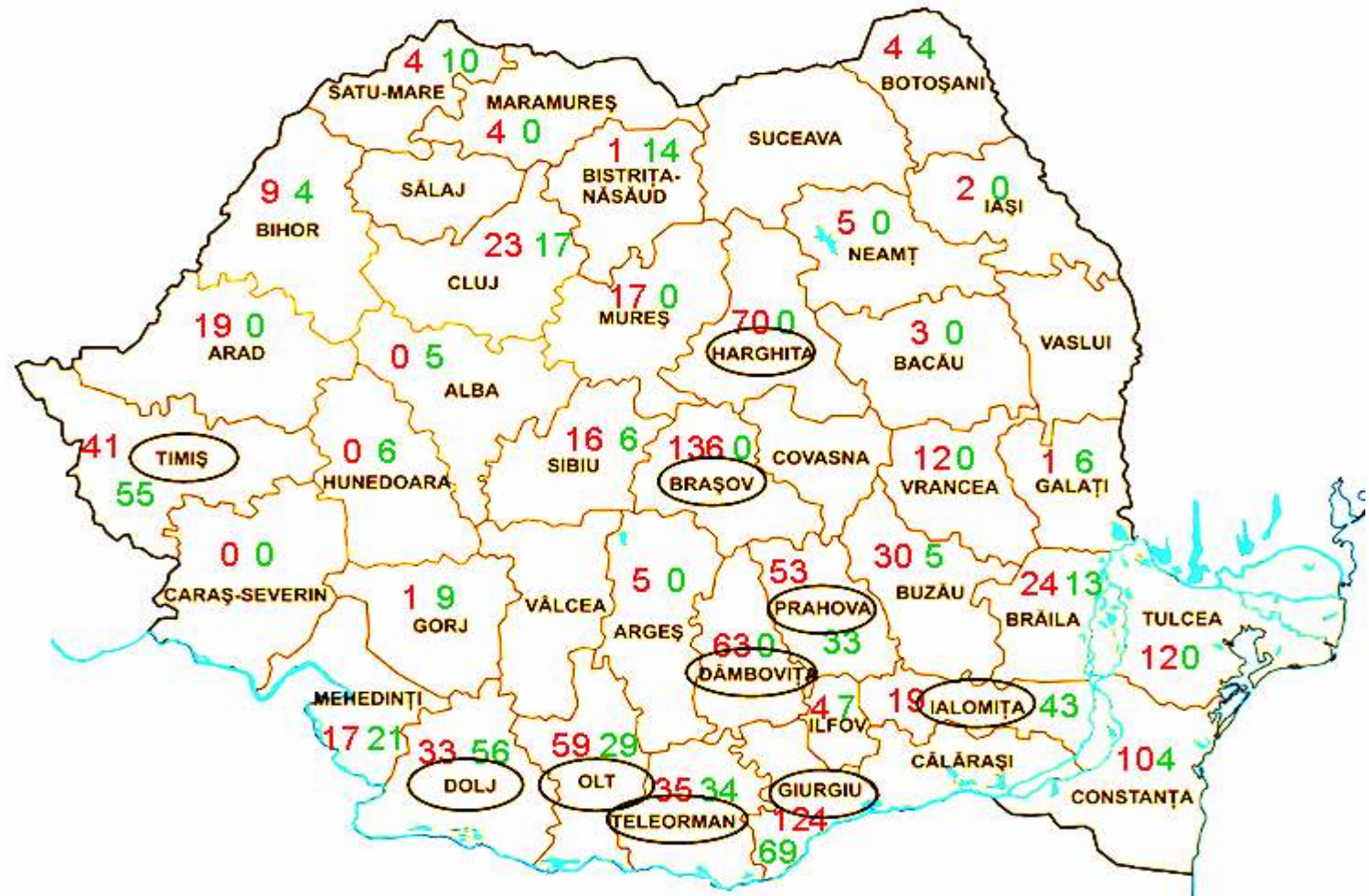
Current PV projects in Romania - 2012

- Photovoltaic park to be constructed in Cluj
- Caransebes local authority expects future photovoltaic investments
- Solar park in construction in Targu Frumos
- Photovoltaic park to be constructed in Vladimirescu
- Zalau local authority approved solar project
- Solar park to be constructed in Tarnaveni
- Gigawatt Global invests in solar park in Giurgeni



Current PV projects in Romania

Map of the Romanian photovoltaic (PV) fully permitted (ready to build) projects (summer 2012)



source: Transelectrica SA via Photovoltaic Romania

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www.market-entry.ro; www.frdcenter.ro

fppt.com



Current PV projects in Romania

Photovoltaic park to be constructed in Cluj

The photovoltaic park will be constructed through a partnership between private investors from Green Energy Napoca (GEN) and the Cluj public authority.

The park will cover the surface of 190 hectares. The park will have the power of 66 MW through solar panels with the sizes of 90x60 cm.

The investment is estimated at 130 million EUR.



Current PV projects in Romania

Photovoltaic park launched in Buzias

The biggest photovoltaic park in the western area of the country was launched in August 2012 in Buzias, following an investment of some two million EUR. The park covers some two hectares.

The park includes 3,800 Siliken solar panels with the total installed power of 1 MW. The energy produced by the park reached to the final consumers based on a contract signed with Repower Furnizare Energie Romania.

The solar panels used for this park are produced by the Spanish company Siliken in its plant in Timisoara. The park in Buzias represents the first big Romanian photovoltaic project that uses the Siliken products manufactured locally.

The photovoltaic park in Buzias was constructed by the company Constructim.



Current PV projects in Romania

Photovoltaic park in construction in Giulvaz

A photovoltaic park with the power of 7.3 MW is in construction in Giulvaz, Timis county. The investments for this project are estimated at 15 million EUR.

The park will cover the surface of some 165,000 sqm. The photovoltaic park will include some 30,000 photovoltaic panels with mono-crystalline cells.

The beneficiary of the project is the company VIM Energy.



Current PV projects in Romania

Gigawatt Global invests in solar park in Giurgeni

In May 2012, the company Gigawatt Global Romania started the investment in a solar park for the production of renewable energy in Giurgeni, Ialomita county.

The investment for this project is estimated at 15 million EUR.

The park will have some 32,000 solar panels, of 250 W / panel and 16 invertors units of 500 KW. The total power will be of 8 MW. The park will cover 24 hectares.

The project is expected to be finalised at the end of 2012.



Current PV projects in Romania

Solar park in construction in Targu Frumos

In May 2012, Montana Energy started the construction works at a solar park in Targu Frumos, Iasi county, on the surface of some two hectares.

The investment is estimated at five million EUR. In the first phase, the park will have the power of 1 MW.

Montana Energy has in construction also wind parks, in the Iasi and Botosani counties. The company's partner is the Technical University Gheorghe Asachi.



Current PV projects in Romania

Photovoltaic park to be constructed in Vladimirescu

A photovoltaic park will be constructed in Vladimirescu commune (the Arad area), with an investment of four million EUR.

The park will have 10,000 solar panels and will produce 2.5 MW/h. The park in Vladimirescu will cover 3 - 4 hectares.

The park will be constructed by the German company Möhring Energie GmbH. At present, the German company is interested to expand its activities, targeting the Romanian and Bulgarian markets.



Current PV projects in Romania

Zalau local authority approved solar project

At the beginning of 2011, the local authority in Zalau approved the technical - economical documentation for the project “Installation for the production of electric energy using solar renewable sources - SoArE Zalau”, with the total value of five million RON. The project is expected to be constructed on a surface of 3.5 hectares.

The project will be submitted within the Operational Programme “Increase of Economic Competitiveness”, Axis 4 – “Increasing energy efficiency and security of supply, in the context of combating climate change”, in order to receive EU funds.



Current PV projects in Romania

Solar park to be constructed in Tarnaveni

Tarnaveni will become one of the most important production centres of solar energy in Romania, after the finalising of the construction works at its photovoltaic park.

The total investment for the construction of the solar park in Tarnaveni is estimated at some 72 million EUR.

The company that won the tender for this project is Sol Stark Power in Timisoara.

The park will include over 150,000 photovoltaic panels. The mounting structure of the solar panels will be environmentally friendly, without concrete foundations and the vegetable area will not be affected.



Current PV projects in Romania

Caransebes local authority expects future photovoltaic investments

The local authority in Caransebes has a partnership with an investor that intends to develop a photovoltaic park on the surface of ten hectares. The project is financed with EU funds. The project is expected to start in the next period.

Also, the representatives of the local authority are in talks with a group of investors that aim to develop a photovoltaic park on the surface of three hectares in Caransebes, with the investment of some three million EUR.



Current PV projects in Romania

Photovoltaic park to be constructed in Targu Jiu

The photovoltaic park in Targu Jiu will be constructed on the surface of 20 hectares. The park will ensure the electric energy for the public lightning.

The value of the project is estimated at 20 million EUR. The park is expected to produce 4.5 MW / hour.



Current PV projects in Romania

Photovoltaic park to be constructed in Cluj

The photovoltaic park will be constructed through a partnership between private investors from Green Energy Napoca (GEN) and the Cluj public authority.

The park will cover the surface of 190 hectares. The park will have the power of 66 MW through solar panels with the sizes of 90x60 cm.

The investment is estimated at 130 million EUR.

Legislation and facilities - 2012

- Law 139/2010
- Emergency Ordinance 88/2011
- Law no. 220/2008
- Solar Power Investment Subsidy remains unchanged till 2014 - the scheme granting six green certificates per each megawatt of solar power generated remains valid for the projects done by early 2014.



Players - 2012

- Martifer Solar
- Constructim
- Alukönigstahl Romania
- IST GRUN
- Maximus General Services
- Habitat Energy
- Rominstal Solar
- Solar Expert
- Iuco Top
- Colourlife
- Delphi Electric
- Luky Clean
- Suninstal
- Philro Industrial
- Electra Import Export
- Devon Energy
- Pomarione Comp
- Tehnosat
- IST GRUN
- Maximus General Services





Players - Martifer Solar

Martifer Solar opened office in Bucharest

At the beginning of 2012, Martifer Solar opened its official office in Bucharest, after signing an agreement for a large-scale photovoltaic installation in Romania.

Martifer has been active in Romania since 2004, with activities in various fields, employing some 500 people in the country.



Players - Constructim

Constructim to continue investments in renewable energy

The company Constructim intends to continue its investments in the field of the renewable energies.

After the launching of the photovoltaic park in Buzias, the company has in the development stage some projects of solar energy in the Timis county and also projects of micro hydropower plants in the Caras Severin county.

After it launched in 2011 a park of 9 MW in Oravita, the company intends to develop a new wind project, located in the same area, with the total power of 12.5 MW, using also the EU funds.

The company Constructim was set up in 1991 in Timisoara



Players - Alukönigstahl Romania

The company is the local representative of the Alukönigstahl Group Austria. Alukönigstahl Romania was set up in 1995. At present, the company has some 60 employees.

The company sells solar energy systems, integrated control technique for windows and facades, steel tubular profiles.

The company's portfolio includes the following brands: Schüco Germany, Jansen Switzerland, König Austria.

Alukönigstahl Romania covers the entire country. Some of the company's clients are: Crystal Tower in Bucharest, Nusco Tower in Bucharest, Swan Office & Technology Park in Bucharest, Business City Center in Timisoara, Ramada Hotel in Sibiu, Iulius Mall in Cluj Napoca, River Plaza in Ramnicu Valcea, ARO Hotel in Brasov.

In 2011, the company recorded a net turnover of 9.3 million EUR



Players - IST GRUN

The company is the representative of IST GRUN Company LTD Australia.

The company's offer includes compact solar panels, flat solar panels, pressurised solar installations, solar boilers and accessories. The firm's products are used in residential or commercial spaces.

In case of solar panels, the company acquires components and assembles them in Romania, manufacturing products that are sold under its own brand.

The company distributes its products all over the country.



Players - Maximus General Services

The company performs various construction works

Also, the firm sells solar systems for hot water and heat input (compact solar systems, complex solar systems and solar panels), heat pumps, under floor heating and cooling systems, wind energy systems, photovoltaic panels and electric boilers.

The company offers services of design, sizing and turnkey execution of the solar systems, service and technical support during the warranty and post warranty period.

Some of the brands sold by Maximus General Services are: AMK Switzerland, Koblen Italy, Dimplex Germany, Rehau Germany, Giacomini Italy, Bergey USA, Whisper USA, Protherm Slovakia.



Players - Habitat Energy

The company was established in 2008. Habitat Energy offers consulting, solutions and complete systems in the field of solar and wind energy.

The company sells thermal and photovoltaic solar panels, wind turbines, solar and wind power applications, pool heating systems, pumping systems, lighting systems. Also, the company provides computerised calculation and simulation programs for the installation of the heating solar systems.

Habitat Energy sells the following brands: Sunerg Italy, Ropatec Italy, ZeYu China.

The company's clients include residential spaces, agricultural farms and industrial units.

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Players - Rominstal Solar

The company sells photovoltaic panels, regulators of solar battery charging (controllers), solar invertors, solar batteries, flat solar panels, radiant panels, solar vacuum tube panels, boilers.

Rominstal Solar sells the following brands: Thermomax - Kingspan Solar UK, Nobel Xilinakis Greece, Sharp.

The company has various partners in Romania: stores, construction and installation companies, design firms



Players - Solar Expert

Solar Expert was established in 2007. The company is specialised in the selling of solar panels.

The company's partners are: SMA Germany, SolarWorld Germany, Zewotherm Germany, Sunsystem Bulgaria and ICMA Italy.

Solar Expert collaborates with Romanian distributors of solar panels and companies that perform installation works.

One of the company's significant clients is GDF SUEZ Romania.



Players - Iuco Top

The company was set up in 2007 and has the headquarters in Focsani, Vrancea county. Iuco Top sells solar systems, photovoltaic systems, wind turbines, hydro-turbines, heat pumps, lighting systems and infrared radiant panels.

Some of the brands sold by Iuco Top are: Sinosol Germany, Senteco China, Canadian Solar Canada, Kyriazis Greece.

The company has a distribution network that covers the entire country.

Some of the company's projects are: a solar - wind hybrid system with an installed power of 3 kW near Bucharest, a hybrid system comprising a wind turbine of 1 kW and a photovoltaic system with two panels (360 W) near Focsani, a wind turbine of 1 kW in the Braila county or a solar installation near Focsani.



Players - Colourlife

The company distributes photovoltaic solar panels, wind turbines, hybrid systems, invertors, solar charge controllers, solar pumps, batteries.

The company distributes the following brands: Luxor Solar Germany, Odersun Germany, IVT Germany, Bernt Lorentz Germany, Flexcell Switzerland, SHURflo USA etc.

The firm distributes its products all over the country.

One of the most significant projects of the company is a hybrid system made for the company Larcom in Calarasi that includes photovoltaic panels - thin film 85Wp that produces 15,000Wh per day and a wind generator of 2 kW.



Players - Delphi Electric

Delphi Electric is a Romanian - Belgian joint venture set up in 2005. The company has the headquarters in Alba Iulia.

Delphi Electric is specialised in the distribution of electrical heating systems (radiant panels, under floor heating systems, heating foils, electric and radiant convectors, electric boilers, thermostats etc), photovoltaic panels and inverters.

The company distributes the following brands: Flexel UK, Fenix Czech Republic, Eberle Germany, Airfel Turkey, REC (Renewable Energy Corporation) Norway, SMA Germany. Delphi Electric has a national network of resellers and installers.



Players - Luky Clean

The company was established in 2007 and has the headquarters in Deva, Hunedoara county.

Luky Clean is the importer in Romania of the solar panels and photovoltaic solar panels produced by Himin China.

The company's partners include Romanian installation companies and distributors that cover the entire country.

Some of the company's executed works are: a heating system of pool and hot water with 20 collectors in the Mediteraneo Club in Neptun Constanta; a complete system with collectors in a villa in Galati; solar panels in the Decebal Hotel in Orsova.



Players - Suninstal

The company sells a wide range of selective solar panels and complete solar systems for the production of the alternative energy. The company's offer includes: flat solar panels, heat-pipe solar panels, U-pipe solar panels, panels for swimming pool heating, boilers, heat pumps, accessories etc.

Suninstal offers services of consulting, equipment cost evaluation, transport, installing, service and warranty.

Suninstal distributes the brands: Unicsun China, Kyriazis Greece, Westech Solar Germany, Steca Germany, Austria Email (AE) Austria, Tesy Bulgaria, Grun Australia.

Suninstal collaborates with Romanian distributors that cover the entire country.



Players - Philro Industrial

The company delivers and installs turnkey photovoltaic systems. Philro Industrial offers complete solutions for photovoltaic systems in residential spaces, industrial units or parks.

The company offers assistance on choosing the type of the photovoltaic systems, services of installation, putting into operation, connection to the national power network using fully equipped transforming stations.

Philro Industrial sells the following brands: Sanyo Japan, Kyocera Japan, BYD Hong Kong, S-Energy Korea. The firm has local representatives that cover the entire country.

Philro Industrial recorded in 2011 a net turnover of 3.1 million EUR, up by 26% compared to 2010.



Players - Electra Import Export and Devon Energy

The company was set up in 1991 in Cluj Napoca. Electra Import Export sells photovoltaic panels, wind generators, battery chargers and accessories. The company's partners are: Accusealed Hungary, Helios Technology Italy or Conrad Austria.

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The company was set up in 2010 in Iasi. Devon Energy sells solar panels, photovoltaic panels, wind turbines, road signs, playground equipment for children etc. Some of the brands distributed by the company are: Oventrop Germany, Canadial Solar Canada, Ariston Thermo Italy, Bosch Germany, Bramac Solar Austria

In 2011, Devon Energy registered a net turnover increase of some 37% compared to the previous year.



Players - Pomarione Comp

The company was set up in 2009 following the participation at the International Programme for entrepreneurial development and business networking EMPRETEC. The company has the headquarters in Oradea, Bihor county.

Pomarione Comp sells hybrid solar panels, thermal solar system, photovoltaic systems and heating systems.

The company's partners are: WS Energia Portugal, Wiosun Germany, Roth Werke Germany, Ritter Solar Germany, AS Solar Germany, Solarzentrum Allgäu Germany, Thermosolar Czech Republic, Kospel Poland, Galmet Poland, Hemo Italy.



Players - Tehnosat

The company was established in 1999. Tehnosat sells equipment and systems for renewable energies applications, designed for both domestic and industrial customers.

The company's products portfolio includes: photovoltaic systems and panels, solar chargers, inverters, solar batteries, wind turbines, regulated power supplies, electrical equipment.

The company's partners are: ISTAR Solar Italy, Bernt Lorentz Germany, Steca Elektronik Germany, BSB Power Hong Kong.

Tehnosat provides design, consultancy, installation and maintenance services for renewable energies systems.

Imports

The imports of photosensitive semiconductor devices, including photovoltaic cells in Romania recorded a **y-t-y growth of approx. 102%** in 2011 compared to 2010.

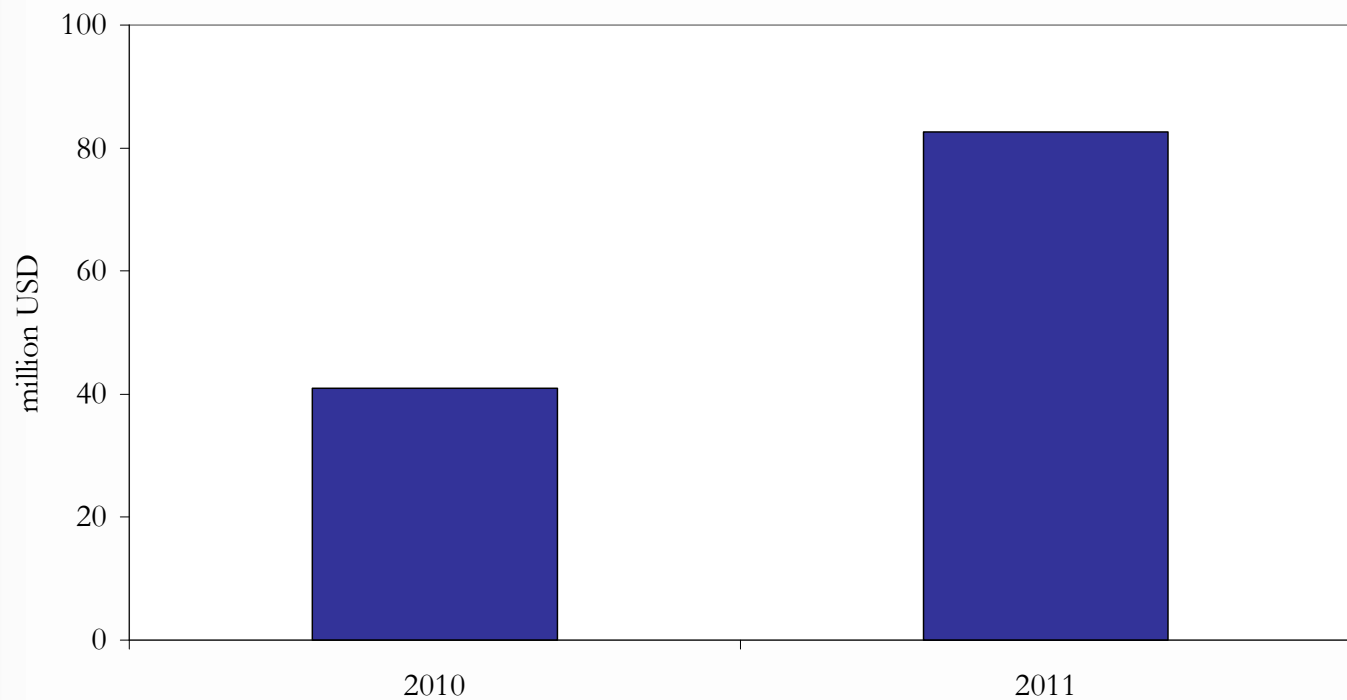
Are you looking to connect with specialised importers of solar power equipment and with developers of PV parks in Romania and the region?

FRD Center can assist you with the product introduction and assessment of interest from direct buyers and importer-distributors.



Imports into Romania

Imports of photosensitive semiconductor devices, incl. photovoltaic cells whether or not assembled in modules or made up into panels and light-emitting diodes in Romania



Source: Romanian Center for Trade and Investment

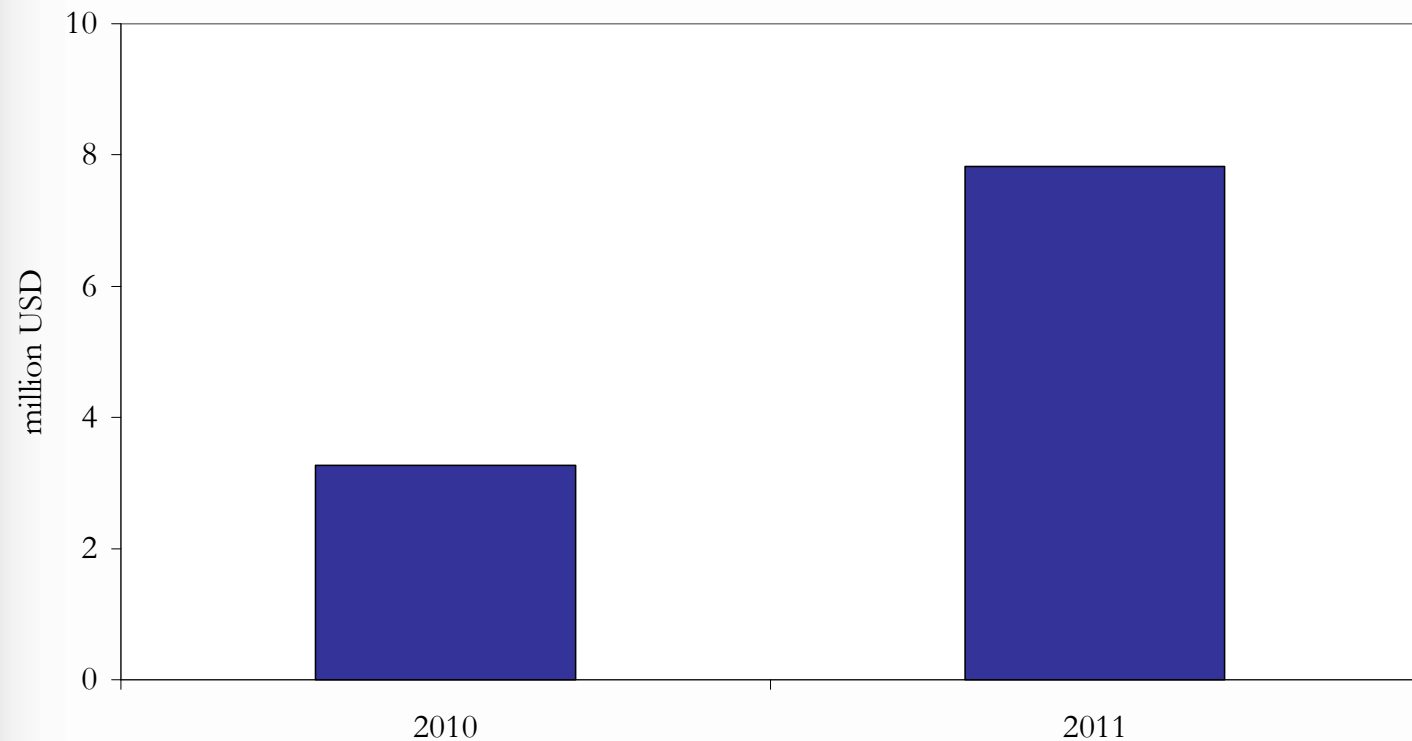
Imports

The Romanian imports of photosensitive semiconductor devices, including photovoltaic cells whether or not assembled in modules or made up into panels and light-emitting diodes from **China** recorded some 7.8 million USD in 2011, **up by some 140%** compared to the previous year.



Imports into Romania from China

Imports of photosensitive semiconductor devices, including photovoltaic cells whether or not assembled in modules or made up into panels and light-emitting diodes in Romania from China



Source: Romanian Center for Trade and Investment

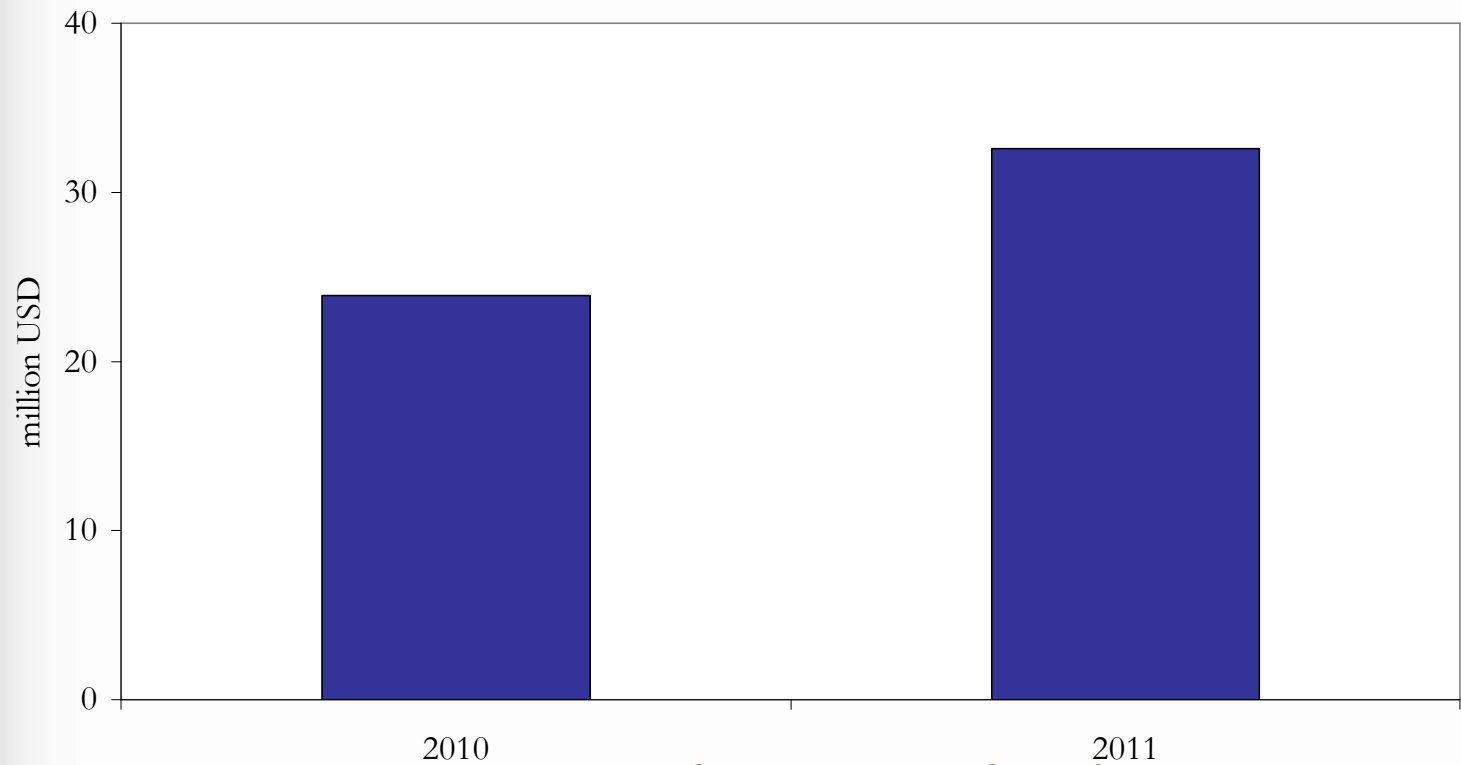
Imports

The imports of photosensitive semiconductor devices, including photovoltaic cells whether or not assembled in modules or made up into panels and light-emitting diodes in Romania **from Germany** registered some 32.6 million USD in 2011, this representing an **increase of some 36%** compared to 2010.



Imports into Romania from Germany

Imports of photosensitive semiconductor devices, including photovoltaic cells whether or not assembled in modules or made up into panels and light-emitting diodes in Romania from Germany



Source: Romanian Center for Trade and Investment

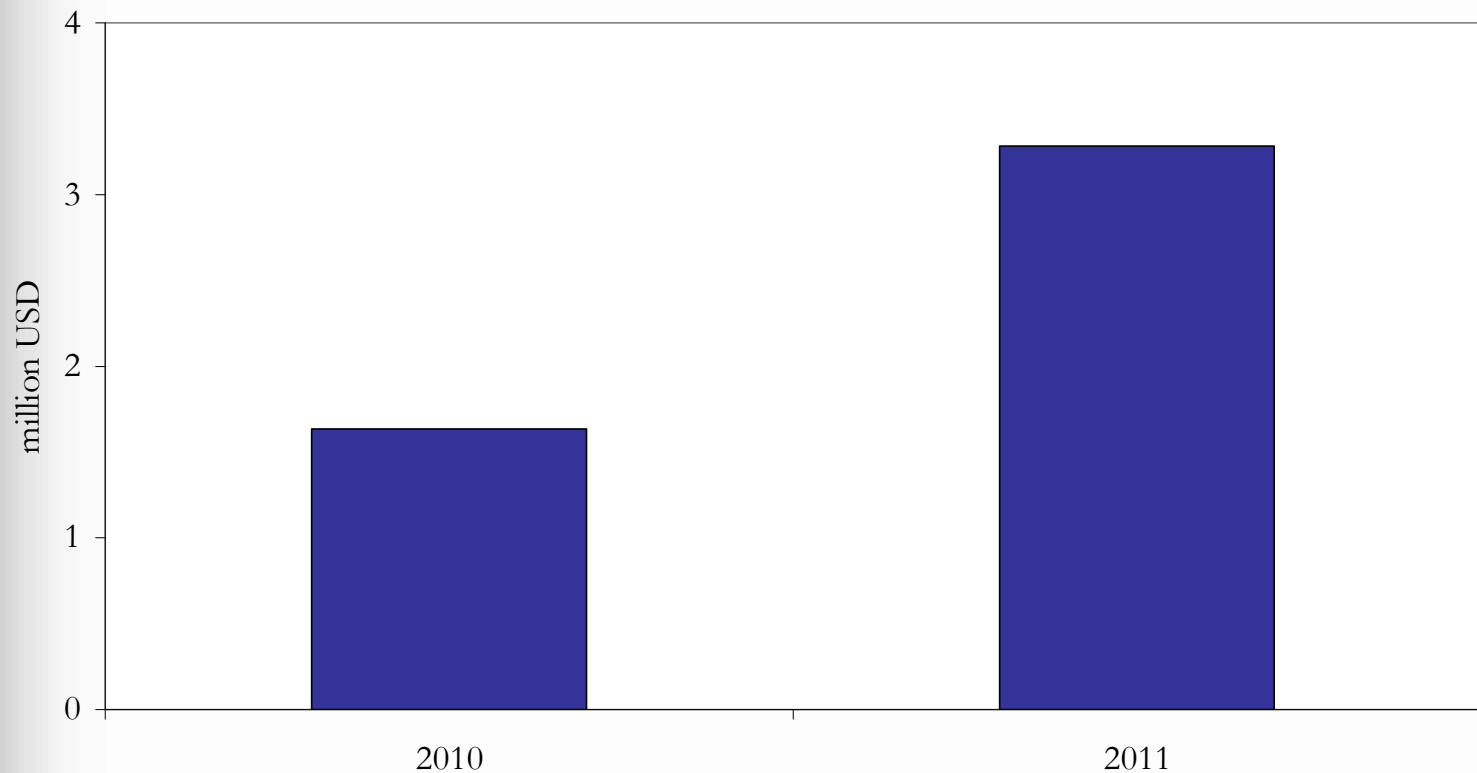
Imports

The Romanian imports of photosensitive semiconductor devices, including photovoltaic cells whether or not assembled in modules or made up into panels and light-emitting diodes **from Italy** recorded some 3.3 million USD in 2011, this representing **a value two times the one registered in 2010.**



Imports into Romania from Italy

Imports of photosensitive semiconductor devices, including photovoltaic cells whether or not assembled in modules or made up into panels and light-emitting diodes in Romania from Italy



Source: Romanian Center for Trade and Investment

About FRD Center

FRD Center Market Entry Services – www.frdcenter.ro – is a privately owned market entry and investment advisory boutique-type consulting firm based in Romania.

FRD Center offers tailor-made market access consulting services to foreign companies interested to enter the emerging markets in Europe as investors or joint-ventures, to export, to relocate their operations in CE, SE and Eastern Europe.

Our services include:

- business partners search and selection etc.
- investment assistance, pre-M&A business support and research
- product presentation and assessment of interest from clients / partners
- market research, investment opportunities assessment, sector studies, market briefs
- identification of market opportunities: exports, sourcing, B2B sales etc

Disclaimer

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**If interested in PV projects in
Romania, please do not hesitate to
contact us**

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**Your local trusted advisor in
Romania and the region**