Rengy Development

Renewable Energy for Sustainable Growth

May 2013

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COMPANY

History and Strategy

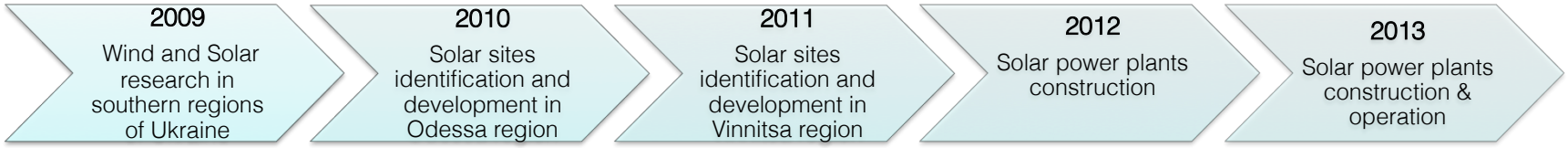
The Company was established in 2009 with the purpose to invest in and develop renewable energy projects. Operations in Ukraine are currently primarily concentrated on solar energy.

In-house development and management team (legal, engineering, finance)

Outsourced planning and construction (EPC, grid-connection)

We focus on selective development of small to medium size projects. These range between 4-7 MWp. Strategically choose locations where:

- sufficient solar irradiation is available
- the land plots are not cultivated or used for other important purposes (community support)
- grid infrastructure is nearby and has reserve capacity (minimize connection/upgrade costs)
- there is no local electricity production (reduce grid-transport losses)



SOLAR MARKET

Solar Market

Market attractiveness and Green tariff

- Solar in Ukraine at early stage of development – growth potential
- Irradiation levels materially higher than in Germany – largest PV market
- First solar plant of 2.5 MWp built in Ukraine in autumn 2010
- Market grew by approximately 68% in 2012 adding 130 MWp and reaching almost 320 MWp capacity

- GT first payments made in mid-2009 to small hydro plants
- Solar GT 46 eurocents (net of VAT) since 2009 until 1.04.2013, and 34 euro cents currently
- Green tariffs are effective until 2030

Entry barriers?

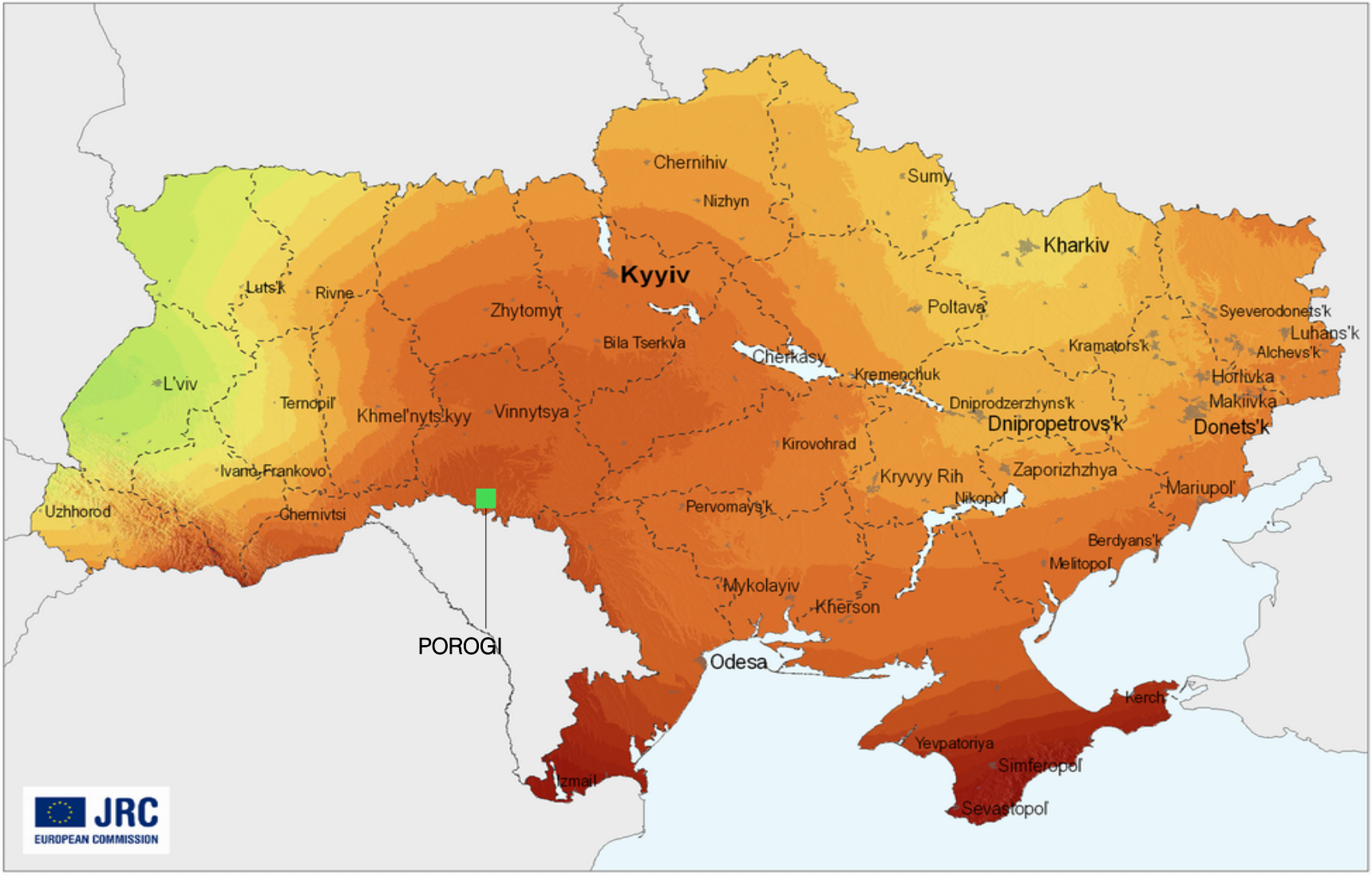
- Consistently changing legislation
- Uncertainty period – risk&return
- “Local content”
- Absence of institutional foreign investors

CASE STUDY

POROGI 4.5 MWp

Global irradiation and solar electricity potential
Optimally-inclined photovoltaic modules

Ukraine



Yearly sum of global irradiation [kWh/m^2]

<1150	1200	1250	1300	1350	1400	1450	1500	1550>
<863	*900*	*938*	*975*	*1013*	*1050*	*1088*	*1125*	*1163>*

Yearly electricity generated by 1kW$_{peak}$ system with performance ratio 0.75 [kWh/kW$_{peak}$]

Authors: M. Šúri, T. Cebecauer, T. Huld, E. D. Dunlop

http://re.jrc.ec.europa.eu/pvgis/

0 50 100 200 km

Case Study

Case Study

Stages:	Development (identification/allocation/planning)
	Construction (site preparation, EPC, grid connection)
	pre-Operation (license, energy market, green tariff, PPA)
Time per stage:	12 months
	4 months
	2 months
Issues per stage:	site choice multi-layer matrix, public awareness, bureaucracy
	scarce labor, weather conditions, supplier dependability
	significant paperwork, legislation changes, timing is important

Case Study

Financing:	EBRD (USELF)
	other sources? (banks, EPC bridging, supplier credits, IFIs)
	equity (own, PE funds, strategic investors)
Issues with banks:	Lack of expertise (hence longer time for analysis)
	Lack of collateral (project finance)
	Often requirement of personal guarantees
	Currency loan may require currency income for Borrower
	Releasing loan only after income generation?
	Cost of the loan significantly impacts economics of the project

Case Study

Social impact

Jobs created:	10 full time jobs (security, operations, admin)
	75 part time jobs (during 3-4 months of construction)
Village & community:	social partnership programme
	assistance with snow hazard, school renovation and presents, etc
	water supply infrastructure upgrade planned
	taxes and lease payments monthly
CO2 reduction:	approximately 5,000 tons equivalent

THANK YOU