

TACNA SOLAR 20TS: 20 MW SOLAR PHOTOVOLTAIC POWER PLANT

INVESTMENT ANALYSIS FOR CDM

1. Indexation of the tariff: BLS Data Series
2. Energy Production Estimation
3. Electricity tariff determination
4. O&M Breakdown
5. Investment Details
6. Assumptions
7. Project IRR
8. Terminal Value
9. Sensitivity Analysis
10. Impact CDM

Producer Price Index-Commodities

Original Data Value

Series Id: WPUSOP3500
Not Seasonally Adjusted
Group: Stage of processing
Item: Finished goods less food and energy
Base Date: 198200
Years: 2001 to 2011
Source: <http://www.bls.gov/xg/shells/ro4xgppihi.htm>

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2001	149,8	149,4	149,6	149,9	150,0	149,9	150,0	149,9	149,9	150,5	150,6	150,7	150,0
2002	150,4	150,4	150,2	150,4	150,2	150,2	149,5	149,3	149,5	151,3	150,9	149,9	150,2
2003	150,3	150,2	151,0	150,0	150,0	149,8	149,8	149,9	149,7	152,0	151,7	151,4	150,5
2004	151,8	151,7	152,0	152,1	152,2	152,3	151,9	152,2	152,3	154,7	154,7	154,9	152,7
2005	155,8	155,7	155,9	156,1	156,4	155,9	156,2	156,1	156,3	157,5	157,3	157,1	156,4
2006	157,9	158,3	158,5	158,5	158,7	158,6	157,5	158,0	158,3	159,1	160,3	160,3	158,7
2007	160,6	161,2	161,0	161,0	161,3	161,3	161,4	161,5	161,5	163,2	163,6	163,5	161,7
2008	164,4	165,0	165,1	165,7	166,1	166,0	166,7	167,4	167,9	170,8	170,6	170,8	167,2
2009	171,3	171,3	171,4	171,4	171,1	171,4	170,8	171,2	170,8	172,0	172,6	172,4	171,5

2% CAGR %

ENERGY PRODUCTION ESTIMATION

1. GLOBAL HORIZONTAL RADIATION

The National Renewable Energy Laboratory (NREL) has developed a data base of Global Horizontal Radiation data called "csrsoamdata_232".

The "csrsoamdata_232.zip" file is available at SWERA, a unit of the United Nations Environment Program: <http://swera.unep.net/index.php?id=metainfo&rowid=232&metaid=337>

The csrsoamdata_232 consists on 37 maps (regions) each of which is divided in cells with code numbers. This number is input in the database file to obtain the GHR data for each specific cell Solarpack considered for this project the average of the GHI values set for cells 1287078 and 1287077 in the map 18 (soam_region_18):

Global Horizontal Radiation (Wh/m²/day)- NREL UNEP

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
	7.003	7.047	6.588	5.758	4.704	4.082	4.203	4.914	5.636	6.661	7.306	7.472	5.941
Days/month	31	28	31	30	31	30	31	31	30	31	30	31	365
kwh/m2	217	197	204	173	146	122	130	152	169	206	219	232	2.169

Solarpack used this data to calculate with the PVSIST software the production of the plant. The results were as follows(<http://www.pvsyst.com/>) the 10 minute estimated energy production.

The summary of the results were as follows:

Annual daily average GHR: 5941 Wh/m²/day

Yearly average GHR: 2169 KWh/m²/year

2. YEARLY ENERGY PRODUCTION ESTIMATION

Solarpack has used these data to estimate the yearly energy production of the PV plant:

Name plate power: 20 MW

Generation Units: 20 units (arrays + 2 inverters)

Inverters: 40 SUN 500 HE or similar

Adjudicated Yearly Energy under PPA 47.196 MWh

Overgeneration cushion 95% Chosen by Solarpack at the investment decision moment

Targeted Yearly Energy Generation: 49.680 MWh

Load Factor 28,4%

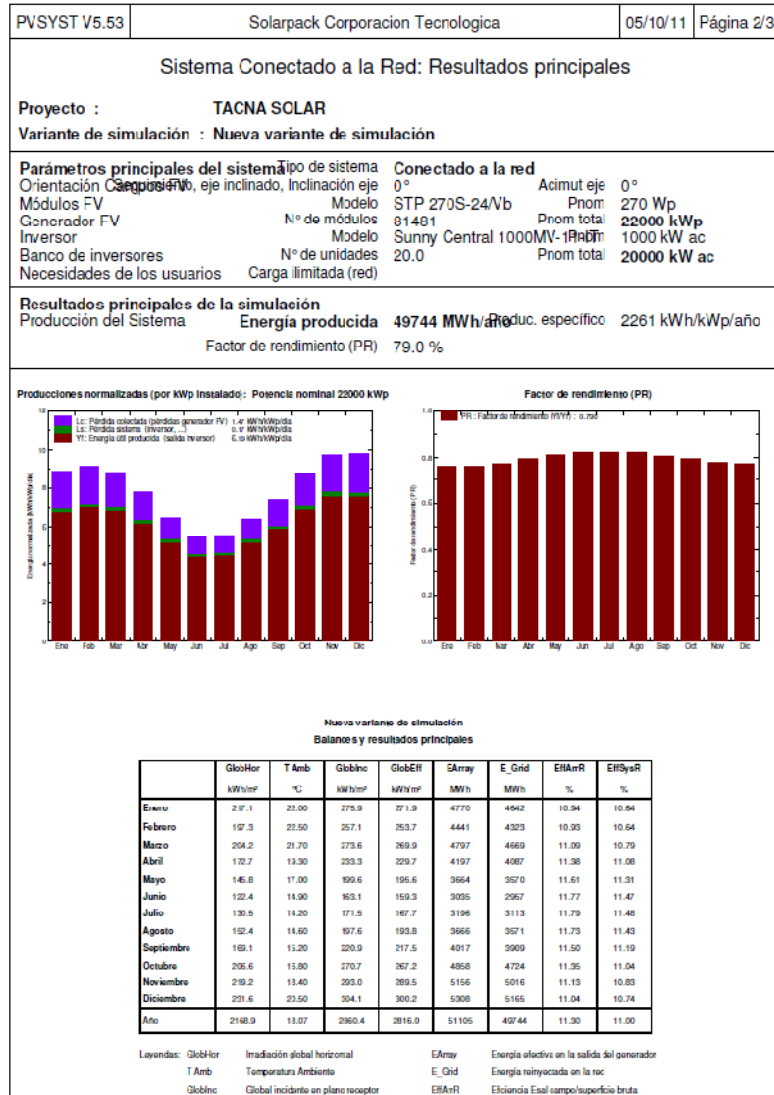
PVSYST Energy Production for 22 MWp⁽¹⁾ 49.744 MWh

Implied peak power 21.972 kWp

Peak Power/Name plate power ratio 1,10 x

ENERGY PRODUCTION ESTIMATION

(1) Source: PVSYST Software simulation: www.pvsyst.com redone on the 5th of October 2011



ELECTRICITY TARIFF DETERMINATION

Tariff Determination for energy and capacity

The project TACNA SOLAR 20TS was awarded a 20 year lasting concession contract with the Government of Peru in the first international auction for renewable energy generators conducted by OSINERGMIN. The contract grants the sale of the electricity at a fixed price in US\$ indexed to the US CPI (WPSOP3500 - Finished Goods Less Food and Energy; published by the Department of Labor of the USA). The tariff at which the energy production will be sold is 225 US\$/MWh. The excess production will be sold to the spot market.

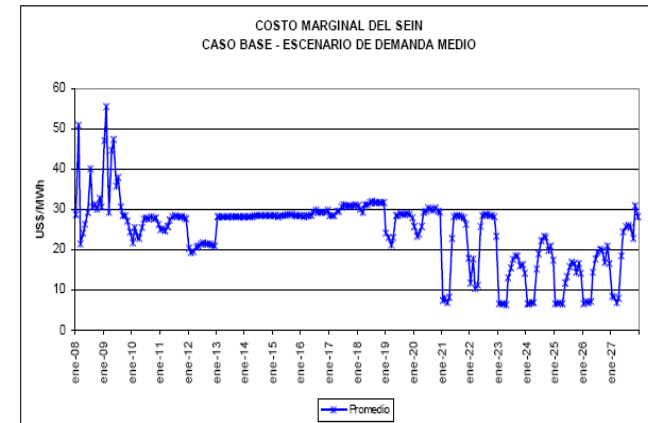
Name plate Power MW AC	20 ⁽¹⁾
Tariff for electricity from auction US\$/MWh	225 ⁽¹⁾
Indexation of the tariff Hypothesis	2% ⁽²⁾
Tariff update incremental trigger %	5% ⁽²⁾
Tariff for electricity from spot market US\$/MWh	30 ⁽³⁾
Yearly energy produced MWh/year	49,680 ⁽¹⁾
Energy under tariff granted by contract MWh/year	47,196 ⁽¹⁾
Energy spot market tariff MWh/year	2,484 ⁽⁴⁾
US\$/PEN	2,794 ⁽⁴⁾

Tariff awarded in the Auction:

(1) Source: Economic bid offer submitted on the 18th of January 2010. Annexure of the PPA

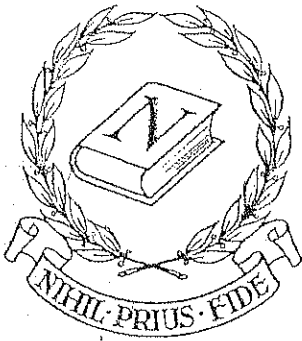
(3) Source: January 2010- Solarpack assumption based on PLAN REFERENCIAL DE ELECTRICIDAD 2008 - 2017". Page 167

Gráfico N° 3.24



<http://www.minem.gob.pe/descripcion.php?idSector=6&idIritular=1318>

(4) Source: <http://www.oanda.com/lang/es/currency/convert> as of January 14th 2010



SERIE B N° 0529132

TESTIMONIO



DIECISIETE MIL CIENTO TREINTA Y DOS

Anexo 5

t.solar

SOLAR
P A C K

OFERTA ECONÓMICA CONSORCIO TACNA SOLAR 20TS (GRUPO T-SOLAR GLOBAL, S.A SOLARPACK CORPORACION TECNOLOGICA, S.L.)

Lima, 18 de Enero de 2010

Señores
COMITÉ DE ADJUDICACIÓN

Proceso de Subasta para el suministro de Energía al SEIN.
Presente.

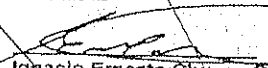
De nuestra consideración:

En cumplimiento a lo estipulado en las Bases aprobadas según Resolución Viceministerial N° 113-2009-MEMVME del 11 de Diciembre de 2009, presentamos nuestra Oferta, conforme a los siguientes términos:

Punto de Oferta	Precio de la Energía Ofertado	Potencia comprometida a instalar MW	Factor de Planta	Energía Anual Ofertada MWh	Fecha de Puesta en operación comercial
Barru Tacna (Los Heroes) 66KV	22,5 cts. US\$/kWh	20 MW	26,9%	47196 MWh	30/06/2012

Aceptación de eventual Adjudicación Parcial	Indicar si o no	Indicar porcentaje mínimo aceptado
	NO	

Atentamente


Ignacio Ernesto Chueca Santa María
Representante Legal del Participante

Notas:

- 1) Las cantidades de energía ofertada se entenderá referida a la Energía Comprometida para efectos de la aplicación del procedimiento descrito en el Anexo N° 2.
- 2) Se considerarán como ofertas válidas sólo aquellas que su Precio de Oferta no sea superior al correspondiente Precio Máximo de Adjudicación establecido por OSINERGMIN.

t.solar SOLAR

Página 1 de 1

EDUARDO LAOS DE LAMA
NOTARIO DE LIMA

Indexation:

(2) Source: RFO Documents (December 10th 2009) and Bureau of Labor Statistics

<http://www.bls.gov/xp/shells/r04xgppi.htm>

ANEXO 3: FÓRMULAS DE ACTUALIZACIÓN DE LA TARIFA DE ADJUDICACIÓN

La siguiente Fórmula de Actualización se aplicará anualmente cuando el Factor_a se incremente o disminuya en más de 5% respecto al valor del mismo factor empleado en la última actualización.

El factor de actualización será redondeado a cuatro (04) dígitos decimales.

Dichos precios deberán ser redondeados a dos decimales antes de su utilización.

A. Fórmula de Actualización para la Tarifa de Adjudicación

Tarifa = Tarifa Adjudicación * Factor_a


Donde:

$$\text{Factor}_a = \frac{IPP}{IPP_0}$$

Tarifa: Tarifa de Adjudicación.

IPP : Índice WPSSOP3500 (Finished Goods Less Food and Energy), publicado por el Departamento de Trabajo del Gobierno de los Estados Unidos de Norteamérica.

IPP₀ : IPP correspondiente a la fecha de inicio del Plazo de Vigencia. El índice inicial será el último valor disponible en el mes de la Puesta en Operación Comercial.



O&M PLAN DRAFT FOR TACNA SOLAR 20TS

Figures in yellow cells show hours per MW
Source: Solarpack O&M department- January 2010

Total yearly hours per MW 585,50
Emergency hours (backup) 546,00
Estimated cost (USD/MW) 15.000,00
Implied hourly cost (USD/h) 13,26

	Month		January				February				March				April				May				June				July				August				September				October				November				December				Hours																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	Week		1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
Prediction and modules works																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Scada data review			2,5	2,5	2,5		2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2,5	2

Month	January				February				March				April				May				June				July				August				September				October				November				December			
Week	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th								
Inverters works																																																
Alarms and communications				0,5			0,5				0,5				0,5				0,5				0,5			0,5			0,5			0,5			0,5			0,5			0,5			0,5	6,0			
Fans				0,5			0,5				0,5				0,5				0,5				0,5			0,5			0,5			0,5			0,5			0,5			0,5			0,5	6,0			
Power supply				0,5			0,5				0,5				0,5				0,5				0,5			0,5			0,5			0,5			0,5			0,5			0,5			0,5	6,0			
General review without current																																												0,7				
Inverter visual damage inspection				0,5			0,5				0,5				0,5				0,5				0,5			0,5			0,5			0,5			0,5			0,5			0,5			0,5	6,2			
General review with current (measurements)																																												0,7				
IN voltage				0,14																																							0,4					
IN frequency				0,14																																							0,4					
IN current				0,14																																							0,4					
OUT voltage				0,14																																							0,4					
OUT frequency				0,14																																							0,4					
OUT current				0,14																																							0,4					
Battery voltage				0,14																																							0,4					
Display measurements review				0,33			0,33				0,33				0,3				0,3				0,3			0,33			0,3			0,33			0,3			0,33			0,3			0,3	4,0			
Performance (voltage, current)				0,33			0,33				0,33				0,3				0,3				0,3			0,33			0,3			0,33			0,33			0,33			0,3			0,3	4,0			
Charge percentage				0,33			0,33				0,33				0,3				0,3				0,3			0,33			0,3			0,33			0,33			0,33			0,3			0,3	4,0			

Month	January				February				March				April				May				June				July				August				September				October				November				December			
Week	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th								
Monitoring works																																																
Monitoring system review																																												0,0				
Metheorological station review (including sensors)												2																																2,0				
																																												4,0				

Month	January				February				March				April				May				June				July				August				September				October				November				December			
Week	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th								
Structures and Electrical works																																																
General structures state review												3																															0,0					
General electrical panelboard review							0,67																																			1,3						
Electrical security review (electrical panelboards)							0,67																																			1,3						
Electrical connections review (electrical panelboards)							0,67																																			1,3						
Strings current inspection																																											8,0					
Fuse review				3			3			3				3					3				3				3			3			3				3				3		36,0					
Electrical panelboards thermography inspection		8																																									8,0					
Protections review																																											8,0					
Wiring review																																											4,0					
Voltage and current review and measurements												8																															16,0					
Sealing review							4																																				8,0					

Month	January				February				March				April	
-------	---------	--	--	--	----------	--	--	--	-------	--	--	--	-------	--

INVESTMENT DETAILS

Investment Cost Tacna Solar 20TS

Source: Solarpack's assumptions based on its knowledge of the PV market on January 2010. This level of investment is the one officially stated on the 18th of January in the bid documents (page 22 of "258 Estudio de prefactibilidad consorcio TACNA SOLAR 20TS_fdo.pdf") in front of OSINERGMIN⁽¹⁾. Email communication Email communication as of the 15th of January 2010 with the document "258 Estudio de prefactibilidad TACNA SOLAR 20TS.pdf" showing the level of investment has been provided

Investment Costs 91.000.000 USD

Civil Works	Machinery and Equipment	General Expenses- engineering	Logistics and Transport	TOTAL
9.100.000	71.435.000	9.100.000	1.365.000	91.000.000
10,0%	78,5%	10,0%	1,5%	100,0%

Costs breakdown ⁽¹⁾	%
Modules and trackers	66,0%
Inverters	7,5%
Electrical Equipment	5,0%
Civil and electrical works	10,0%
Logistics and transport	1,5%
General expenses- Engineering	10,0%
Total	100,0%

(1) 15th of January 2010. Email communication as of the 15th of January 2010 with the document "258 Estudio de prefactibilidad TACNA SOLAR 20TS.pdf" showing the level of investment has been provided.

18th of January 2010: Bid Submission documents: page 22 of "258 Estudio de prefactibilidad consorcio TACNA SOLAR 20TS_fdo.pdf"

M Presupuesto

Monto de la inversión: MM USD \$91,0

Desglose de la inversión

Concepto		%
Módulos y seguidores	:	66,0%
Inversores	:	7,5%
Materiales y equipos eléctricos	:	5,0%
Montaje civil y eléctrico	:	10,0%
Logística y transporte	:	1,5%
Gastos generales	:	10,0%

Firmado:


Ingeniero César Antonio Aguilar Galarreta.

Ingeniero Mecánico Electricista

Nº de colegiado es CIP 11563.

ASSUMPTIONS

				0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Item		US\$	Construction start	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Initial investment	Civil works	9.100.000																							
	Machinery and Equipment	71.435.000																							
	General Expenses- Engineering	9.100.000																							
	Logistics and transport	1.365.000																							
	TOTAL INITIAL INVESTMENT	91.000.000	22,50%	77,50%																					
			20.475.000	70.525.000																					
Revenue	Estimated total energy production (kWh)			24.840.000	49.680.000	49.680.000	49.680.000	49.680.000	49.680.000	49.680.000	49.680.000	49.680.000	49.680.000	49.680.000	49.680.000	49.680.000	49.680.000	49.680.000	49.680.000	49.680.000	49.680.000	49.680.000	49.680.000	49.680.000	49.680.000
	Energy Production under contract (kWh)			23.598.000	47.196.000	47.196.000	47.196.000	47.196.000	47.196.000	47.196.000	47.196.000	47.196.000	47.196.000	47.196.000	47.196.000	47.196.000	47.196.000	47.196.000	47.196.000	47.196.000	47.196.000	47.196.000	47.196.000	23.598.000	0
	Excess production sold at spot price (kWh)			1.242.000	2.484.000	2.484.000	2.484.000	2.484.000	2.484.000	2.484.000	2.484.000	2.484.000	2.484.000	2.484.000	2.484.000	2.484.000	2.484.000	2.484.000	2.484.000	2.484.000	2.484.000	2.484.000	2.484.000	26.082.000	49.680.000
	Applied Auction Tariff (US\$/kWh)			0,225	0,225	0,225	0,225	0,239	0,239	0,253	0,253	0,253	0,253	0,269	0,269	0,269	0,285	0,285	0,285	0,303	0,303	0,303	0,321	0,321	0,000
	Indexed Auction Tariff (US\$/kWh)			0,230	0,225	0,230	0,230	0,244	0,239	0,253	0,258	0,264	0,269	0,274	0,280	0,285	0,291	0,297	0,303	0,309	0,315	0,321	0,328	0,000	0,000
	Spot Market Tariff (US\$/kWh)			0,030	0,030	0,031	0,031	0,032	0,032	0,033	0,034	0,034	0,035	0,036	0,037	0,037	0,038	0,039	0,040	0,040	0,041	0,042	0,043	0,044	0,043
	Electricity sold at spot market price (US\$)			707.940	1.415.880	1.444.198	1.473.082	1.502.543	1.532.594	1.563.246	1.594.511	1.626.401	1.658.929	1.692.108	1.725.950	1.760.469	1.795.678	1.831.592	1.868.224	1.905.588	1.943.700	1.982.574	2.022.225	1.031.335	0
	Excess electricity sold at spot market price (US\$)			37.260	74.520	76.010	77.531	79.081	80.663	82.276	83.922	85.600	87.312	89.058	90.839	92.656	94.509	96.400	98.328	100.294	102.300	104.346	106.433	1.139.896	2.214.656
	Deferred Premium paid to get to "guaranteed income" (US\$)				4.601.610	3.067.740	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Financial income from deferred premium (12% by law)				276.097	184.064	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Actual year Premium paid to get to "guaranteed income" (US\$)			0	6.135.480	9.174.902	9.146.018	9.766.531	9.736.480	9.705.828	10.364.321	10.332.430	10.299.902	10.998.700	10.964.858	10.930.339	11.671.908	11.635.995	11.599.363	12.386.322	12.348.211	12.309.337	13.144.464	6.552.010	0
	TOTAL REVENUE			745.200	12.503.587	13.946.915	10.696.631	11.348.155	11.349.737	11.351.350	12.042.753	12.044.431	12.046.143	12.779.866	12.781.647	12.783.464	13.562.096	13.563.986	13.565.914	14.392.205	14.394.210	14.396.256	15.273.123	8.723.241	2.214.656
Running costs	Operation and maintenance			164.788	329.575	336.167	342.890	349.748	356.743	363.878	371.155	378.579	386.150	393.873	401.751	409.786	417.981	426.341	434.868	443.565	452.436	461.485	470.715	480.129	489.732
	Toll for conection			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Land Lease			30.000	60.000	61.200	62.424	63.672	64.946	66.245	67.570	68.921	70.300	71.706	73.140	74.602	76.095	77.616	79.169	80.752	82.367	84.014	85.695	87.409	89.157
	Insurance			41.424	82.848	82.848	82.848	82.848	82.848	82.848	82.848	82.848	82.848	82.848	82.848	82.848	82.848	82.848	82.848	82.848	82.848	82.848	82.848	82.848	82.848
	Payments to DGE/OSINERGMIN			7.452	125.036	139.469	106.966	113.482	113.497	113.513	120.428	120.444	120.461	127.799	127.816	127.835	135.621	135.640	135.659	143.922	143.942	143.963	152.731	87.232	22.147
	TOTAL RUNNING COST			243.664	597.459	619.684	595.128	609.750	618.034	626.484	642.000	650.792	659.759	676.225	685.554	695.070	712.545	722.445	732.543	751.087	761.593	772.310	791.989	737.618	683.883

Data for Revenues estimation		Comment
Generation capacity (kW)	20.000	Reference
load factor	28%	Reference
hours contained in 1 year	8760	Hours in 1 year
Total Energy Production (MWh)	49.680	Reference
Energy Production under contract (MWh)	47.196	Reference
Electricity tariff under contract (US\$/kWh)	0,225	Reference
Indexation of the Tariff %	2,0%	Reference
Tariff update incremental trigger %	5,0%	Reference
Average financial income from deferred premium	6,0%	(1)
Electricity Tariff in the spot market (US\$/kWh)	0,03	Reference
Months in the first year	6	(2)

Data for Running cost estimation		Comment
Operation and maintenance (US\$/MWp)	15.000	(3)
Operation and maintenance (US\$)	329.575	
Toll for conection (US\$/kWh)		No toll to "punto de suministro"
Land Lease (US\$)	60.000	(4)
Inflation	2,0%	
Insurance	82.848	Indicative input from AON- January 2010
Payments to DGE/OSINERGMIN (1% of the revenues)	1%	(5)

Data for depreciation and Income tax		Comment
Accelerated depreciation 5 years for RER generation assets	18.200.000	(6)
Accounting depreciation (20 years chosen by Solarpack- in line with PPA)	4.550.000	(7)
Income Tax	30%	(8)

Data for CDM evaluation		Comment
Price of CER (US\$)	20	(9)
Base line emission factor (tCO ₂ /MWh)	0,59	(10)
CERs per year	29.131	
Annual CERs income	582.627	
Annual CERs Income after income tax	407.839	

Data for Discount rate		Comment
Discount Rate	12%	(11)

Data For Debt Service Coverage Ratio Calculation		Comment
Interest Expense	7,00%	Indicative inputs from banks January 2010
Investmet financed by Loan	72,00%	Indicative inputs from banks January 2010
Maturity post construction (years)	16	Indicative inputs from banks January 2010

ASSUMPTIONS

- (1)

Source for deferred premium rate- January 15th 2010:
<http://www2.osinerg.gob.pe/MarcoLegal/NrmasAprdasOSIApblelesRelcionTrfnia/GeneracionElectrica/EnergiasRenovables/OSINERGMIN%20No.001-2010-OS-CD.pdf>
12% stated on Clause 7.4.4 of the Bid Documents (Bases Consolidadas) & Article 79° of the LCE:
<http://intranet2.minem.gob.pe/web/archivos/dge/publicaciones/compendio/d25844.pdf>
Average financial income from deferred premium calculation- Solarpack Approximation:
Deferred premium rate

	12	11	10	9	8	7	6	5	4	3	2	1	0
	May	June	July	April	August	September	October	November	December	January	February	March	April
Accrued interest	12,0%	11,0%	10,0%	9,0%	8,0%	7,0%	6,0%	5,0%	4,0%	3,0%	2,0%	1,0%	0,0%
Deferred premium average rate	6,0%												
- (2)

The initial date of operation entered in the bid was June 30th 2012 as shown in the bid offer and the LTA. Therefore, as of January 2010, 6 months of operation in the first year were considered. This date was amended to become the 31st of October 2012
- (3)

The O&M cost represents c. 15,000 USD/MWp/year and it has been estimated by Solarpack on January 2010. This cost is considered as reasonable in a report produced by a technical independent advisor appointed by a bank for a PV project in a similar location. This report, which is confidential, was shown to TÜV SÜD in Tacna on the 23rd of August 2011. Also please see the O&M breakdown for further information
- (4)

Indication of the price per hectare given by the Superintendencia de Bienes Nacionales on the meeting held with them on 17th of November 2009

Price	500,00	USD/year/ha
Ha	120,00	ha
- (5)

Payments to DGE/OSINERG. The contribution to governmental institutions is focused on the contribution to the electric regulator, called OSINERG. This contribution is established in the Supreme Decree No. 136-2002-PCM Article 1 which stipulates that the contribution will be 0.65% of sales for OSINERG and 0.35% to Ministry of Energy and Mines:
<http://www.osinerg.gob.pe/newweb/uploads/JARU/CD/008fiscalizacion/ds136-2002-pcm.pdf>
- (6)

Sources for depreciation and income tax- January 2010
Accelerated depreciation: for renewable energy generators. In article 1 of the Legislative Decree N° 1058 (June 28th 2008), the renewable energy generators are allowed to depreciate its assets at the rate of 20%/year:
<http://intranet2.minem.gob.pe/web/archivos/dge/publicaciones/compendio/d1058.pdf>
- (7)

Income Tax. The 30% income tax is established in Chapter VII Article 55 of the Unique Ordered text of the Law of the Income tax. ()
<http://www.sunat.gob.pe/legislacion/renta/ley/capvii.htm>
- (8)

Depreciation: Article 22nd of Law of the Income Tax sets a maximum yearly depreciation rate of 10% for "Other Assets". The article is not in contradiction with the special right of renewable assets to depreciate their value in an accelerated way as said above. The rate chosen by Solarpack for accounting purposes is 5%. (<http://www.sunat.gob.pe/legislacion/renta/recla/cap6.htm>)
- (9)

The price of the Future December 2012 CER (BNF CER DEC12) was 13.61 €as of the 7th of December 2009
<http://www.bluenext.eu/statistics/downloads.php>
Applying the exchange USD/EUR rate of the 7th of December of 2009 (0.6729), the CER price considered was 20.23 USD/CER (20 USD rounding the price)
<http://www.oanda.com/lang/es/currency/historical-rates/>
- (10)

Source for Emission Factor
This Emission Factor was the one considered when the investment decision was made. It corresponds to the one calculated in the Santa Cruz I Hydroelectric Power Plant, registered in the 14th of September
<http://edmunfccc.int/Projects/DB/DNV-DUK1234847096.6/view>
- (11)

Source for Discount rate: MARCH 2009
A specific discount rate of 12% for the electric sector has been determined by the Peruvian Ministry of Energy and Mines within the Electric Concession Law, and is used principally by the electric sector regulator to determine electricity tariffs, as well as by the private sector to evaluate investments.
<http://intranet2.minem.gob.pe/web/archivos/dge/publicaciones/compendio/d25844.pdf>

PROJECT IRR

		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21		
Year		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	
Operational Income	Revenue		745.200	12.503.587	13.946.915	10.696.631	11.348.155	11.349.737	11.351.350	12.042.753	12.044.431	12.046.143	12.779.866	12.781.647	12.783.464	13.562.096	13.563.986	13.565.914	14.392.205	14.394.210	14.396.256	15.273.123	8.723.241	2.214.656	
	Running Cost		-243.664	-597.459	-619.684	-595.128	-609.750	-618.034	-626.484	-642.000	-650.792	-659.759	-676.225	-685.554	-695.070	-712.545	-722.445	-732.543	-751.087	-761.593	-772.310	-791.989	-737.618	-683.883	
	Total		501.536	11.906.128	13.327.231	10.101.502	10.738.405	10.731.703	10.724.866	11.400.753	11.393.640	11.386.385	12.103.641	12.096.093	12.088.393	12.849.551	12.841.541	12.833.371	13.641.118	13.632.617	13.623.947	14.481.134	7.985.623	1.530.773	
	Accumulated profit before depreciation		501.536	1.003.073	12.909.200	26.236.431	36.337.934	47.076.339	57.808.042	68.532.908	79.933.660	91.327.300	102.713.685	114.817.325	126.913.418	139.001.811	151.851.362	164.692.904	177.526.274	191.167.392	204.800.009	218.423.955	232.905.089	240.890.713	
Payback		-20.475.000	-90.498.464	-89.495.391	-76.586.190	-50.349.759	-14.011.825	33.064.514	90.872.556	159.405.464	239.339.124	330.666.424	433.380.109	548.197.434	106.438.418	118.526.811	131.376.362	144.217.904	157.051.274	170.692.392	184.325.009	197.948.955	212.430.089	220.415.713	
Accelerated Depreciation			-9.100.000	-18.200.000	-18.200.000	-18.200.000	-18.200.000	-9.100.000																	
Accounting Depreciation			-2.275.000	-4.550.000	-4.550.000	-4.550.000	-4.550.000	-4.550.000	-4.550.000	-4.550.000	-4.550.000	-4.550.000	-4.550.000	-4.550.000	-4.550.000	-4.550.000	-4.550.000	-4.550.000	-4.550.000	-4.550.000	-4.550.000	-4.550.000	-2.275.000		
Earnings before Interest and taxes (accelerated depreciation)			-8.598.464	-6.293.872	-4.872.769	-8.098.498	-7.461.595	1.631.703	10.724.866	11.400.753	11.393.640	11.386.385	12.103.641	12.096.093	12.088.393	12.849.551	12.841.541	12.833.371	13.641.118	13.632.617	13.623.947	14.481.134	7.985.623	1.530.773	
Interests			0	-4.561.123	-4.397.571	-4.222.572	-4.035.322	-3.834.965	-3.620.583	-3.391.194	-3.145.748	-2.883.120	-2.602.109	-2.301.427	-1.979.697	-1.635.446	-1.267.098	-872.965	-451.243	0	0	0	0	0	
Negative accumulated tax base			8.598.464	19.453.459	28.723.799	41.044.868	52.541.785	54.745.047	47.640.764	39.631.205	31.383.313	22.880.049	13.378.517	3.583.852	0	0	0	0	0	0	0	0	0	0	
Taxable base			0	0	0	0	0	0	0	0	0	0	0	0	8.504.542	12.849.551	12.841.541	12.833.371	13.641.118	13.632.617	13.623.947	14.481.134	7.985.623	1.530.773	
Paid Income Tax			0	0	0	0	0	0	0	0	0	0	0	0	-2.551.362	-3.854.865	-3.852.462	-3.850.011	-4.092.335	-4.089.785	-4.087.184	-4.344.340	-2.395.687	-459.232	
Net income after taxes (accelerated depreciation)			-8.598.464	-10.854.995	-9.270.340	-12.321.069	-11.496.917	-2.203.262	7.104.283	8.009.559	8.247.892	8.503.264	9.501.532	9.794.666	7.557.334	7.359.240	7.721.981	8.110.395	9.097.540	9.542.832	9.536.763	10.136.794	5.589.936	1.071.541	
Depreciation			9.100.000	18.200.000	18.200.000	18.200.000	18.200.000	9.100.000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Added back interest for Project IRR Calculation			0	4.561.123	4.397.571	4.222.572	4.035.322	3.834.965	3.620.583	3.391.194	3.145.748	2.883.120	2.602.109	2.301.427	1.979.697	1.635.446	1.267.098	872.965	451.243	0	0	0	0	0	
Terminal Value																								6.247.023	
UNLEVERED CASH FLOW			-20.475.000	-70.023.464	11.906.128	13.327.231	10.101.502	10.738.405	10.731.703	10.724.866	11.400.753	11.393.640	11.386.385	12.103.641	12.096.093	9.537.031	8.994.686	8.989.079	8.983.359	9.548.782	9.542.832	9.536.763	10.136.794	5.589.936	7.318.564
UNLEVERED CASH FLOW with CER income			-20.475.000	-69.819.544	12.313.967	13.735.070	10.509.341	11.146.244	11.139.542	11.132.705	11.808.592	11.801.479	11.794.224	12.511.480	12.503.932	9.944.870	9.402.525	9.396.918	9.391.198	9.956.621	9.950.671	9.944.602	10.544.633	5.997.775	7.522.484
PROJECT IRR (20 years)		10,184%	POST TAX UNLEVERED IRR																						
NPV		-8.761.111																							
Project IRR with CER income		10,767%	POST TAX UNLEVERED IRR																						
NPV with CERs		-6.170.032																							

Debt Schedule		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Beginning of Period		65.158.894	62.822.449	60.322.453	57.647.458	54.785.213	51.722.610	48.445.626	44.939.252	41.187.433	37.172.986	32.877.528	28.281.387	23.363.517	18.101.396	12.470.927	6.446.325	-0	-0	-0	-0	-0
-Debt Amortization		-2.336.445	-2.499.996	-2.674.995	-2.862.245	-3.062.602	-3.276.985	-3.506.373	-3.751.820	-4.014.447	-4.295.458	-4.596.140	-4.917.870	-5.262.121	-5.630.469	-6.024.602	-6.446.325	0	0	0	0	0
End of Period		65.158.894	62.822.449	60.322.453	57.647.458	54.785.213	51.722.610	48.445.626	44.939.252	41.187.433	37.172.986	32.877.528	28.281.387	23.363.517	18.101.396	12.470.927	6.446.325	-0	-0	-0	-0	-0
DEBT SERVICE		-6.897.567	-6.897.567	-6.897.567	-6.897.567	-6.897.567	-6.897.567	-6.897.567	-6.897.567	-6.897.567	-6.897.567	-6.897.567	-6.897.567	-6.897.567	-6.897.567	-6.897.567	-6.897.567	-6.897.567	-6.897.567	-6.897.567	-6.897.567	-6.897.567
Interests		-4.561.123	-4.397.571	-4.222.572	-4.035.322	-3.834.965	-3.620.583	-3.391.194	-3.145.748	-2.883.120	-2.602.109	-2.301.427	-1.979.697	-1.635.446	-1.267.098	-872.965	-451.243					
Leverage		72,00%																				
Interest rate		7,00%																				
Maturity post construction (16																				
Yearly DEBT SERVICE (pr		-6.897.567																				

TERMINAL VALUE

For the terminal value calculation we are assuming that the plant continues to sell electricity to the grid after the PPA until year 30. This assumption is based on the typical life duration of PV plants (which can go up to 35 years) and the fact that electricity will still have a price after the PPA

			22	23	24	25	26	27	28	29	30
Item		US\$	2034	2035	2036	2037	2038	2039	2040	2041	2042
Revenue	Estimated total energy production (kWh)		49.680.000	49.680.000	49.680.000	49.680.000	49.680.000	49.680.000	49.680.000	49.680.000	49.680.000
	Energy Production under contract (kWh)		0	0	0	0	0	0	0	0	0
	Excess production sold at spot price (kWh)		49.680.000	49.680.000	49.680.000	49.680.000	49.680.000	49.680.000	49.680.000	49.680.000	49.680.000
	Applied Auction Tariff (US\$/kWh)		0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
	Indexed Auction Tariff (US\$/kWh)		0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
	Spot Market Tariff (US\$/kWh)		0,045	0,046	0,047	0,048	0,049	0,050	0,051	0,052	0,053
	Electricity sold at spot market price (US\$)		0	0	0	0	0	0	0	0	0
	Excess electricity sold at spot market price (US\$)		2.258.949	2.304.128	2.350.211	2.397.215	2.445.159	2.494.062	2.543.944	2.594.822	2.646.719
	Deferred Premium paid to get to "guaranteed income" (US\$)		0	0	0	0	0	0	0	0	0
	Financial income from deferred premium (12% by law)		0	0	0	0	0	0	0	0	0
	Actual year Premium paid to get to "guaranteed income" (US\$)		0	0	0	0	0	0	0	0	0
	TOTAL REVENUE		2.258.949	2.304.128	2.350.211	2.397.215	2.445.159	2.494.062	2.543.944	2.594.822	2.646.719
Running costs	Operation and maintenance		499.526	509.517	519.707	530.101	540.703	551.517	562.548	573.799	585.275
	Toll for connection		0	0	0	0	0	0	0	0	0
	Land Lease		90.940	92.759	94.614	96.506	98.436	100.405	102.413	104.461	106.551
	Insurance		82.848	82.848	82.848	82.848	82.848	82.848	82.848	82.848	82.848
	Payments to DGE/OSINERGMIN		22.589	23.041	23.502	23.972	24.452	24.941	25.439	25.948	26.467
	TOTAL RUNNING COST		695.904	708.165	720.671	733.427	746.439	759.711	773.248	787.056	801.140

		Year	2034	2035	2036	2037	2038	2039	2040	2041	2042
Item											
Operational Income	Revenue		2.258.949	2.304.128	2.350.211	2.397.215	2.445.159	2.494.062	2.543.944	2.594.822	2.646.719
	Running Cost		-695.904	-708.165	-720.671	-733.427	-746.439	-759.711	-773.248	-787.056	-801.140
	Total		1.563.046	1.595.963	1.629.540	1.663.787	1.698.720	1.734.351	1.770.695	1.807.766	1.845.579
Payback	Accumulated profit before depreciation		242.421.486	243.984.532	245.580.495	247.210.035	248.873.822	250.572.542	252.306.894	254.077.589	255.885.355
			221.946.486	223.509.532	225.105.495	226.735.035	228.398.822	230.097.542	231.831.894	233.602.589	235.410.355
Accelerated Depreciation											
Earnings before Interest and taxes (accelerated depreciation)			1.563.046	1.595.963	1.629.540	1.663.787	1.698.720	1.734.351	1.770.695	1.807.766	1.845.579
Interests											
Negative accumulated tax base											
Taxable base			1.563.046	1.595.963	1.629.540	1.663.787	1.698.720	1.734.351	1.770.695	1.807.766	1.845.579
Paid Income Tax			-468.914	-478.789	-488.862	-499.136	-509.616	-520.305	-531.209	-542.330	-553.674
Net income after taxes (accelerated depreciation)			1.094.132	1.117.174	1.140.678	1.164.651	1.189.104	1.214.046	1.239.487	1.265.436	1.291.905
Depreciation											
Added back interest for Project IRR Calculation											
UNLEVERED CASH FLOW			1.094.132	1.117.174	1.140.678	1.164.651	1.189.104	1.214.046	1.239.487	1.265.436	1.291.905
NPV AT YEAR 2033		6.247.023									

SENSITIVITY ANALYSIS

Project IRR

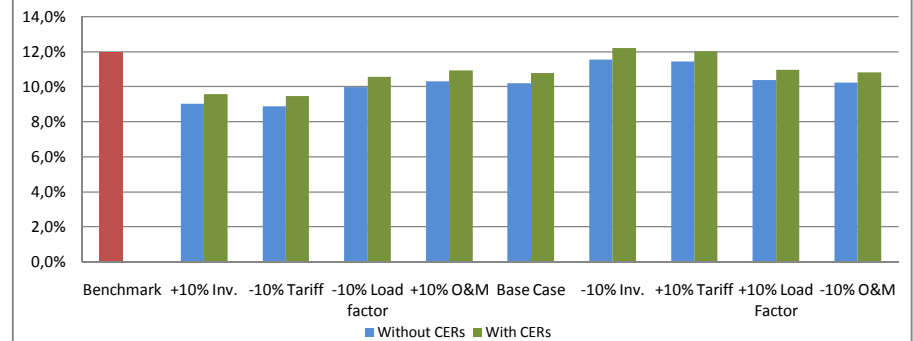
Turning point condition to overpass the benchmark of 12%

Investment	~13,0%
Tariff	~14,59%
Load Factor	> +92,5%
None value in O&M	>-100%

Investment Sensitivity	1	
Tariff Sensitivity	1	
Load Factor Sensitivity	1	
Operation and maintenance (O & M)	1	
IRR Effect	Without CERs	With CERs
	10,18%	10,77%

	Sensitivity Analysis									
	Resulting Project IRR									
	Benchmark	Pesimistic scenario				Base Case	Optimistic scenario			
		+10% Inv.	-10% Tariff	-10% Load	+10% O&M		-10% Inv.	+10% Tariff	+10% Load	-10% O&M
Without CERs	12,0%	9,02%	8,87%	9,97%	10,30%	10,18%	11,56%	11,46%	10,40%	10,23%
With CERs		9,56%	9,46%	10,56%	10,91%	10,77%	12,20%	12,03%	10,98%	10,81%

IRR sensibility in respect to the Benchmark of 12%



IMPACT CDM

Assumptions	
Operating Life	30 years ⁽¹⁾
Interest rate	7%
Power	20 MW
Load factor	28%
CERs Price	20,00 USD
CERs payment period	21

Impact of the CDM Registration	
Change %	
Annual Revenues US\$ (for the next 20 years)	Growth in 4.8%
Debt Service Coverage Ratio (EBIT/ Interest Expense)	Growth in 10.49%
IRR	Add 0.58% to IRR
Turnkey cost US\$/MW	Reduction in 5%

Annual Revenues US\$ (for the next 21 years)	4,8%
EBIT/ Interest Expense*	1,31
EBIT/ Interest Expense with CER*	1,45
Debt Service Coverage Ratio	10.49%
Growth in IRR	0.58%
Turnkey cost US\$/MW	5%

Turnkey Cost Reduction

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
582.627	582.627	582.627	582.627	582.627	582.627	582.627	582.627	582.627	582.627	582.627	582.627	582.627	582.627	582.627	582.627	582.627	582.627	582.627	582.627	582.627
520.203	464467	414703	370270	330598	295177	263551	235313	210101	187590	167491	149546	133523	119217	106444	95039	84856	75765	67647	60399	53928
4.405.829	91.000.000	5%																		

* 2015 considered as the first normalized year for EBIT/Interest Expense ratio calculation purposes.

(1) Length of the maximum Usufruct right Contract indicated by the SBN on the 17th of November 2009. Terminal value is applied at the end of year 21 for valuation purposes