



SOLAR field

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Executive Summary

- › Solarfield AG is a Company by Shares
- › Initial Investment of € 2,740,000
- › 7% return on investment
- › Revenue Secured by Federal Law
- › Future Projects Planned; Financed Appropriately



Our Company Goals

- › Initially construct a solar farm and finance it in a way that helps and promotes further projects of the company
- › Constructing solar farms in southern Germany
- › Product: Green Electricity
- › Size of project is accessible to small investors
- › Secure return on investment
- › Initial shareholder investment of € 2,740,000
- › Return on investment in 11 years
 - › Dividends average to 9% over the life of the plant
 - › (based on 20 year loan)

Our product: Green Electricity



- › Our electricity generation comes from a renewable source - "its green"
- › Competition from similar developments in solar energy
- › Our project is secure because renewable energy has guaranteed tariffs and it has a high public acceptance and support
- › Return on investment is high considering the security offered
- › The structure of the project finances are simple and predictable
 - › Ongoing costs and revenue are constant and independent



Company Structure

- › Company By Shares
 - › € 2,740,000 investment required
 - › (40% of initial capital expenditure)
 - › Raised through sale of shares
- › Board of Directors
- › Supervisory Board
- › Shareholder Meeting

Sector and Market (Electricity)



- › Estimate Revenue € 950,000 p.a
- › Target Market: German Electricity Market
 - › Market Description
 - › Total Value (500b kWh, 16% renewable)
 - › Growth (renewables ~ 12% p.a. (2000-10), growth of total market 0%)
 - › Demand (effectively unlimited due to EEG prioritising of renewable sources)
 - › Selling Strategy
 - › EEG regulations ensure purchase of renewable energy by grid operators
 - › Location close to major cities (Munich or Basel and Freiburg)
- › Unit cost: 18.8 € cents per kWh
 - › 7 cents below EEG tariff

Sector and Market (Solar PV)



- › Market potential
 - › Phase out of nuclear power stepwise till 2030
 - › 23% of Germany's and 60% of bavaria's electricity generation
 - › High market potential for solar power
- › German Solar Power Market
 - › Total installed capacity in 2009: 10,000 MW_p
 - › New installed capacity in 2010: 4,000 MW_p
 - › Growth rates of: 30-40% (45% worldwide)
- › Risks and Threats
 - › Lowering of EEG tariffs or cancelation, due to:
 - › over saturation of renewables,
 - › change of government
 - › economic downturn



Reasons for solar energy in Germany

- › Phase out of nuclear power stepwise till 2030
 - › 23% of Germany's and 60% of bavaria's electricity generation
 - › High market potential for solar power
- › High public acceptance for renewable energies
- › Price decrease of 45% for PV-panels since 2006
- › Feed in tariffs are decreased by 35% since 2006
 - › **Installation of PV-panels was more profitable in 2010 than in 2006!**



Favorable Economics in Germany

- › World Leading solar industry already established
 - › Secure supply of high-tech components
 - › Competitive prices for components
 - › Continuation of government support

- › Stable Economic Outlook
 - › Ensured future demand for product

- › Consumer electricity is relatively expensive
 - › In addition to guaranteed tariffs for wholesale; retail prices are comparatively high



Favorable Legislation in Germany

- › According to the EEG: 'In order to avoid wasting valuable area, only systems on areas which have been previously used are reimbursed' (Energy Sources Act (EEG))
 - › former land fill sites,
 - › industrial and military waste lands
 - › **farm-land which has been converted to grassland**

- › Feed in tariffs for 2011 on open spaces:
 - › 25,37Cent/kWh
 - › Guaranteed for 20 years

Renewable Energy Sources Act (EEG)



- › Obliges grid operators to give priority to purchase electricity from renewable energies
- › Investment security by guaranteed feed in tariffs
- › kfw-Bank loan for total investment costs
- › 3.99% interest rate for loan



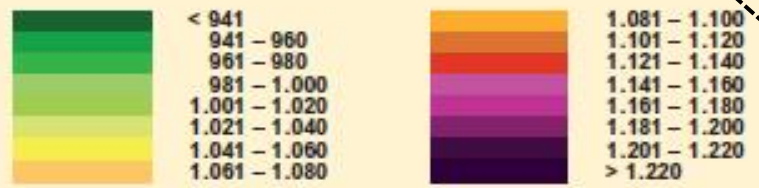
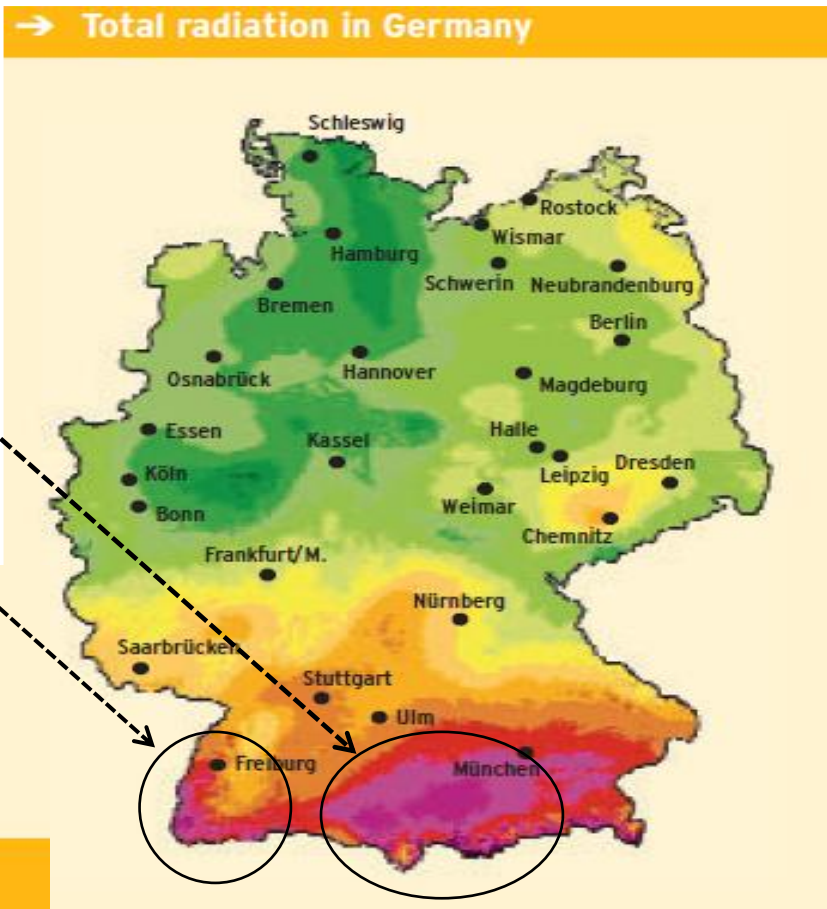
Project Description

- › Photovoltaic (PV) - power plant in Southern Germany
- › 80% coverage of 40 000 m²
 - › Collector area 32,000 m²
- › Area needed: 4 ha
(1 ha = 10,000 m² , football-field ca. 0.7ha)
- › Peak Capacity : 3600 kW

Where the Sun Shines

- 2 possible locations in Germany:
- › South-west of Munich
 - › South of Freiburg

Locations with highest annual irradiation



Annual average solar radiation in kWh/m²

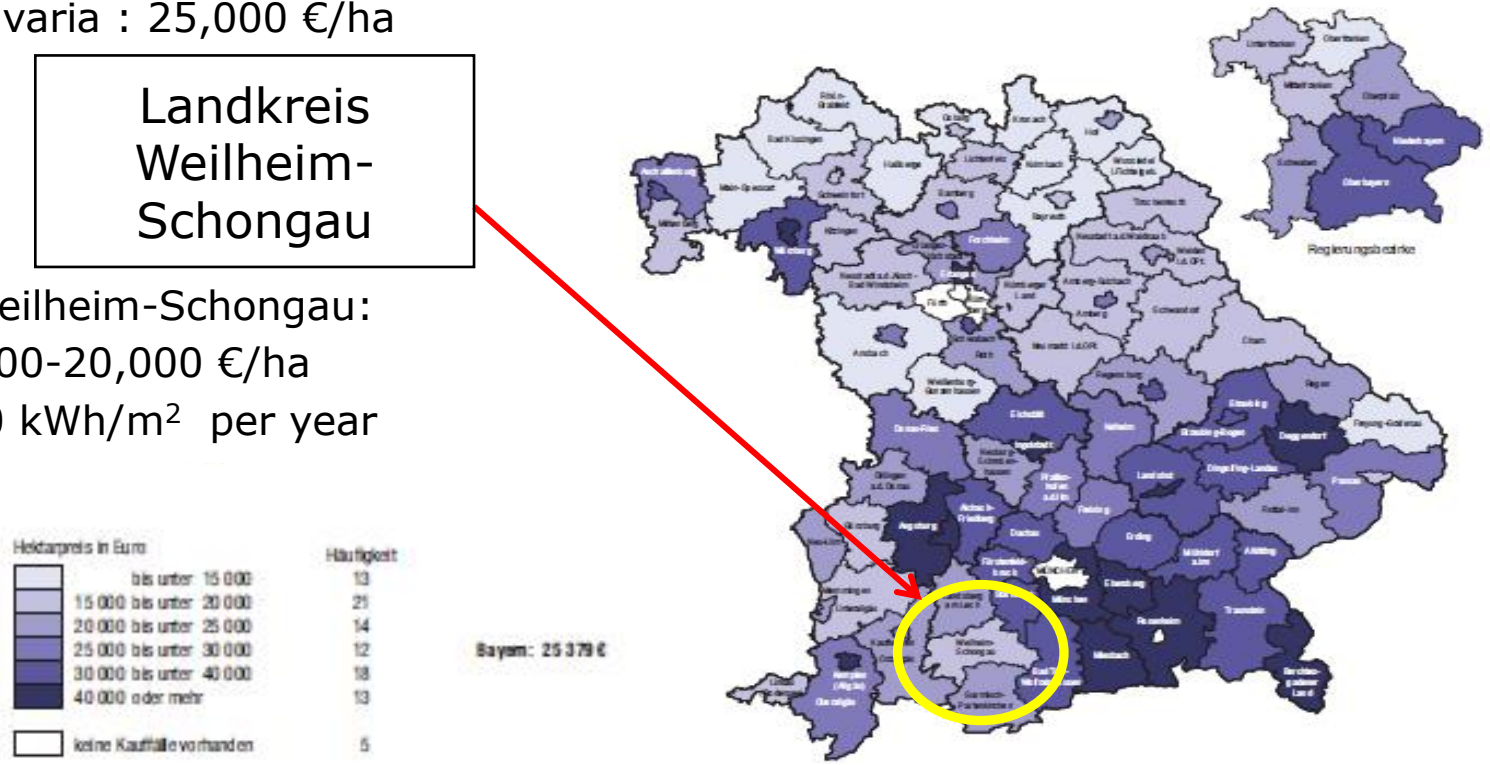
Bayern: Land Prices

Average price for farm land
in bavaria : 25,000 €/ha

Landkreis
Weilheim-
Schongau

In Weilheim-Schongau:
15,000-20,000 €/ha
1170 kWh/m² per year

1. Durchschnittliche Kaufwerte je Hektar Fläche der landwirtschaftlichen Nutzung (ohne Gebäude und ohne Inventar) in den kreisfreien Städten und Landkreisen Bayerns 2008



Baden Württemberg: Land Prices

Average price for farm land:
19,000 €/ha

Landkreis
Lörrach

In Lörrach:
<15,000 €/ha
1140 kWh/m² per year

Kaufwerte für landwirtschaftliche Grundstücke *)
in den Stadt- und Landkreisen Baden-Württembergs 2009

durchschnittlicher Kaufwert
in Tsd. EUR je ha

- unter 15
- 15 bis unter 30
- 30 bis unter 45
- 45 und mehr

Landeswert: 19,012



*) Grundstücke ohne Gebäude und ohne Inventar.



Capital Expenditure

- › Equipment
- › Installation/Construction
 - › Included in equipment prices
- › Civil Works
- › Land



Equipment and Civil Works

› Equipment

› PV panels	3,500,000
› Frames and Tracking system	1,000,000
› Inverters, Transmission and Wiring	1,000,000

› Civil Works

› Inverter Housing (Building)	25,000
› Clearing and Foundations	250,000
› Drainage	50,000
› Access Road	50,000
› Fence	25,000
› Security and Lighting	100,000

› Total (including circulating capital)	6,800,000
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PV-panels

› Photovoltaic (PV)

area	irradiance	efficiency	price	yearly revenue
32,000	1170 kWh/a	0.1	€ 0.2571	€ 962,582.40

› Efficiency

- › 10 percent

› Degradation

- › On average up to 10% of efficiency over 20 years
- › compensated by the replacement of significantly degraded cells and other module components
- › Compensated by "attrition" ongoing expense

Ongoing Expenditure (€ p.a.)



- › On going costs are constant for the life of the plant, and independent of production/revenue
- › Maintenance (labour)
 - › €40/hr x 10hr/wk x 52 21,000
- › Replacement/Attrition
 - › 2% per year 110,000
- › Security Surveillance
 - › €20/hr x 84hr/wk x 52 85,000
- › Insurance 100,000



Finances and Cashflow

15 Year Loan Financing: levelized yearly interest payments

Cash Flow Calculation

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	962,582	962,582	962,582	962,582	962,582	962,582	962,582	962,582	962,582	962,582
Depreciation Costs	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
Ongoing Costs	316,000	316,000	316,000	316,000	316,000	316,000	316,000	316,000	316,000	316,000
Financing Costs	87,374	87,374	87,374	87,374	87,374	87,374	87,374	87,374	87,374	87,374
Loss carried forward	0	0	0	0	0	0	0	0	0	0
Profit before tax	259,208	259,208	259,208	259,208	259,208	259,208	259,208	259,208	259,208	259,208
Tax 40%	103,683	103,683	103,683	103,683	103,683	103,683	103,683	103,683	103,683	103,683
Net Profit	155,525	155,525	155,525	155,525	155,525	155,525	155,525	155,525	155,525	155,525
Cash-flow	455,525	455,525	455,525	455,525	455,525	455,525	455,525	455,525	455,525	455,525
Loan Repayment	273,728	273,728	273,728	273,728	273,728	273,728	273,728	273,728	273,728	273,728
Dividend	181,797	181,797	181,797	181,797	181,797	181,797	181,797	181,797	181,797	181,797
Total Dividend	5,266,698		15year dividend	2,726,952						
Depreciation Costs	300,000									
Loan Repayment	273,728	First 15 Years								
Interest Repayment	87,374	First 15 Years								
Ongoing Costs	316,000									



Cash Flow – 15 year loan

Cash Flow Calculation

	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
Revenue	962,582	962,582	962,582	962,582	962,582	962,582	962,582	962,582	962,582	962,582
Depreciation Costs	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
Ongoing Costs	316,000	316,000	316,000	316,000	316,000	316,000	316,000	316,000	316,000	316,000
Financing Costs	87,374	87,374	87,374	87,374	87,374	0	0	0	0	0
Loss carried forward	0	0	0	0	0	0	0	0	0	0
Profit before tax	259,208	259,208	259,208	259,208	259,208	346,582	346,582	346,582	346,582	346,582
Tax 40%	103,683	103,683	103,683	103,683	103,683	138,633	138,633	138,633	138,633	138,633
Net Profit	155,525	155,525	155,525	155,525	155,525	207,949	207,949	207,949	207,949	207,949
Cash-flow	455,525	455,525	455,525	455,525	455,525	507,949	507,949	507,949	507,949	507,949
Loan Repayment	273,728	273,728	273,728	273,728	273,728	0	0	0	0	0
Dividend	181,797	181,797	181,797	181,797	181,797	507,949	507,949	507,949	507,949	507,949



Cash Flow - 20 year loan

Cash Flow Calculation

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	962,582	962,582	962,582	962,582	962,582	962,582	962,582	962,582	962,582	962,582
Depreciation Costs	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
Ongoing Costs	316,000	316,000	316,000	316,000	316,000	316,000	316,000	316,000	316,000	316,000
Financing Costs	86,009	86,009	86,009	86,009	86,009	86,009	86,009	86,009	86,009	86,009
Loss carried forward	0	0	0	0	0	0	0	0	0	0
Profit before tax	260,573	260,573	260,573	260,573	260,573	260,573	260,573	260,573	260,573	260,573
Tax 40%	104,229	104,229	104,229	104,229	104,229	104,229	104,229	104,229	104,229	104,229
Net Profit	156,344	156,344	156,344	156,344	156,344	156,344	156,344	156,344	156,344	156,344
Cash-flow	456,344	456,344	456,344	456,344	456,344	456,344	456,344	456,344	456,344	456,344
Loan Repayment	205,296	205,296	205,296	205,296	205,296	205,296	205,296	205,296	205,296	205,296
Dividend	251,048	251,048	251,048	251,048	251,048	251,048	251,048	251,048	251,048	251,048
Total Dividend	5,020,959		15year dividend	3,765,719						
Depreciation Costs	300,000									
Loan Repayment	205,296	First 20 Years								
Interest Repayment	86,009	First 20 Years								
Ongoing Costs	316,000									



Cash Flow - 20 year loan

Cash Flow Calculation

	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
Revenue	962,582	962,582	962,582	962,582	962,582	962,582	962,582	962,582	962,582	962,582
Depreciation Costs	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
Ongoing Costs	316,000	316,000	316,000	316,000	316,000	316,000	316,000	316,000	316,000	316,000
Financing Costs	86,009	86,009	86,009	86,009	86,009	86,009	86,009	86,009	86,009	86,009
Loss carried forward	0	0	0	0	0	0	0	0	0	0
Profit before tax	260,573	260,573	260,573	260,573	260,573	260,573	260,573	260,573	260,573	260,573
Tax 40%	104,229	104,229	104,229	104,229	104,229	104,229	104,229	104,229	104,229	104,229
Net Profit	156,344	156,344	156,344	156,344	156,344	156,344	156,344	156,344	156,344	156,344
Cash-flow	456,344	456,344	456,344	456,344	456,344	456,344	456,344	456,344	456,344	456,344
Loan Repayment	205,296	205,296	205,296	205,296	205,296	205,296	205,296	205,296	205,296	205,296
Dividend	251,048	251,048	251,048	251,048	251,048	251,048	251,048	251,048	251,048	251,048