

BUSINESS PLAN

Lecturer: Prof. Daldrup



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Redesign of Thermoelectric Power Plant

Company

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☐ **Name**

- ☐ Matos & Makarchuk Ltd.

☐ **Partners**

- ☐ Helga Matos
- ☐ Yuliya Makarchuk

Business Motivation-Idea

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□ **Idea:**

Recover Industrial Area for recreative and cultural projects:
Transform Thermoelectric Power Plant into a Industrial
Museum and redesign its surroudings.

□ **Motivation:**

Mitigate industrial negative impacts of the power plant
(during its functioning and after its lifetime), creating
environment awareness and promoting tourism in the region.

Objectives

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Industrial
Museum



Restaurant



Roller
Coaster



Festivals
and
Concerts



Wedding
Photos



Climbing
Walls



Similar Projects in Germany

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- **1. Landschaftspark Nord, Duisburg:**

<http://en.landschaftspark.de>

- **2. Zeche Zollverein, Essen:**

<http://www.zollverein.de/>

- **3. Gasometer Oberhausen:**

<http://www.gasometer.de/en/>

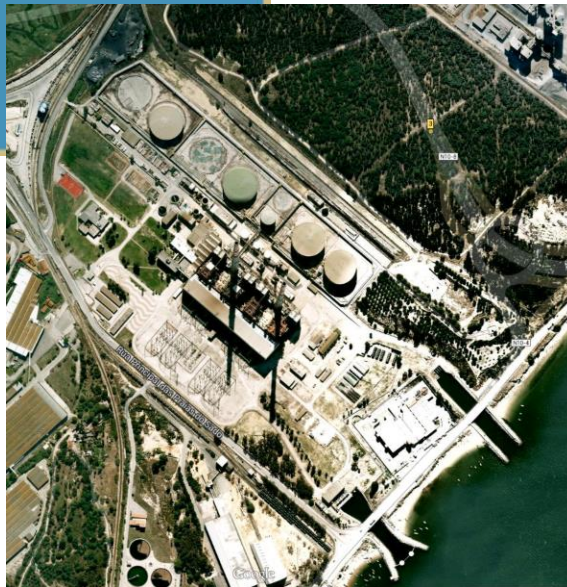


Innovative concept in Portugal



Project Location

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Herdade das Praias do
Sado, Setúbal, Portugal

Geographic Coordinates:

$38^{\circ} 30.529'$, $-8^{\circ} 50.693'$

Total area:

0,36 km²

Termoelectric Power Plant

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- Located in the industrial area of Setúbal, it is flanked by three poles of strong touristic and landscape attraction
- It's chimneys with 200m are one of the highest structures in Portugal

- 4 groups of 250 MW
- **Constructed in 1979:**
23 years functioning
- **Fuel:** Oil





EDP – Energias de Portugal

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- Ranks among Europe's major electricity operators, as well as being one of Portugal's largest business groups.
- EDP Group is an Energy Solutions Operator which operates in the business areas of generation, supply and distribution of electricity and supply and distribution of gas.
- EDP is present in Portugal, Spain, France, Belgium, Poland, Romania, United States and Brazil.
- **Holder and Operator of the Thermoelectric Power Plant in Setúbal**
- **Our Investor Partner**

“Group EDP closes one of the most polluting and expensive Power Plant”

source: <http://expresso.sapo.pt/edp-fecha-centrais-mais-poluentes-e-maiscaras=f792186#ixzz2l1xdefVE>

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Privileged location: *Arrábida Natural Park*

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Source: EDP – Energias de Portugal



Arrábida Natural Park

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- The Arrábida Natural Park is an area of high heritage value by the natural and cultural values
- Is one of the 30 areas which are officially under protection in the country



Privileged location: *Sado Estuary*

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Source: EDP – Energias de Portugal



Sado Estuary

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Wetland of international importance, with remarkable landscape and supported by some agro-pastoral and forestry activities, as assembled, pastures, rice fields and plantations diversity.



Privileged location: *Peninsula of Tróia*

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Source: EDP – Energias de Portugal



Tróia Peninsula

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Here you'll find a casino, several hotels, some restaurants and white sand beaches



Setúbal City



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- The city is located 32 km southeast of Lisbon
- County seat with 121,185 inhabitants*
- Setúbal is renowned for its gastronomy based on fish dishes
- Is the city of birth of the international soccer coach José Mourinho



*census 2011

Sitemap of the Project Plan

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Annual Visitors Expected

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□ Park opening time: 10am – 10pm

Assumptions:

Park has a total capacity of 800 cars; Car at half capacity - 3 passengers

Bus capacity - 49 passengers; 1 Bus/hour (during opening times)

20 Special events per year

Visitors expected						
Means of Transport	Weekends , 60%*		Weedays, 20%*		Special events, 90%*	
	daily	yealy	daily	yearly	daily	yearly
Own car	1440	135360	480	112800	2160	43200
Public transport	294	27636	98	23030	441	8820
Total	1734	162996	578	135830	2601	52020
Total/Year	350846					

*assume parking capacity at x%.

Cost Calculations

Depreciation rates in Portugal

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	Depr. rates %	Years
Industrial buildings	5	20
Comercial and administrative buildings	2	50
Computers	33	3
Furniture	13	8
Works paving	5	20
Water and Electricity installations	10	10
Mobile devices	20	5
Equipment and electronic machines	20	5
Equipment sound reproduction	20	5
Office Equipment	20	5
Fire instruments	25	4
Films, Discs	25	4
Advertisement in the public street	13	8
Computer software	33	3
Automobile (passenger/mixed)	25	4
Heavy passenger	14	7
Development projects	33	3

Upon consult in http://bdjur.almedina.net/citem.php?field=item_id&value=1453759

Depreciation costs

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Description	Investment sums [€]	Depr./year	Depr. costs/year [€]	Calc. depr. Costs [€]
Property				
Buildings	2 000 000,00*	20	0,00	100 000,00
Land	1 200 000,00*	0	0,00	0,00
SUM	3 200 000,00*			100 000,00
Reconstruction of Industrial Power Plant Area:				
Pavement of surrounding areas	200 000,00	20	10 000,00	10 000,00
Parking lot	50 000,00	20	2 500,00	
Climbing school & Other buildings	50 000,00	50	1 000,00	1 000,00
Industrial Museum	250 000,00	20	12 500,00	12 500,00
Restaurant	50 000,00	50	1 000,00	1 000,00
Photo Studio	20 000,00	50	400,00	400,00
SUM	620 000,00		27 400,00	24 900,00
Industrial Museum				
Furniture	20 000,00	8	2 500,00	2 500,00
Computers & Software	10 000,00	3	3 030,30	3 030,30
Mobile devices	500,00	5	100,00	100,00
Sound reproduction	22 500,00	5	4 500,00	4 500,00
Coffe & Snack machines	3 000,00	5	600,00	600,00
Fire Extinguisher	600,00	4	150,00	150,00
Films & Discs	1 500,00	4	375,00	375,00
SUM	58 100,00		11 255,30	11 255,30

*given by group EDP – no included in total investment

Depreciation costs (cont. 1)

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Description	Investment sums [€]	Depr./year	Depr. costs/year [€]	Calc. depr. Costs [€]
Information Office (tickets + info + advertisement)				
Furniture	15 000,00	8	1 875,00	1 875,00
Computers & Software	1 500,00	3	454,55	454,55
Video vigilance system	20 000,00	5	4 000,00	4 000,00
Mobile devices	400,00	5	80,00	80,00
Coffee & Snack machine	100,00	5	20,00	20,00
Fire Extinguisher	60,00	4	15,00	15,00
Advertisement in the public street	25 000,00	8	3 125,00	3 125,00
SUM	62 060,00		9 569,55	9 569,55
Climbing center				
Furniture	2 000,00	8	250,00	250,00
Office quipment	1 500,00	5	300,00	300,00
Climbing equipment	20 000,00	5	4 000,00	4 000,00
Climbing wall construction	30 000,00	8	3 750,00	3 750,00
SUM	53 500,00		8 300,00	8 300,00
Photo Studio				
Equipment	5 000,00	8	625,00	625,00
Furniture	4 000,00	8	500,00	500,00
Requisite (for shooting)	1 500,00	8	187,50	187,50
SUM	10 500,00		1 312,50	1 312,50
Roller Coaster				
Roller Coaster	750 000,00	8	93 750,00	93 750,00
Construction	300 000,00	8	37 500,00	37 500,00
SUM	1 050 000,00		131 250,00	131 250,00

Depreciation costs (cont. 2)

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Description	Investment sums [€]	Depr./year	Depr. costs/year [€]	Calc. depr. Costs [€]
Installations				
Supply lines	200 000,00	20	10 000,00	10 000,00
Water and Electricity installations	50 000,00	10	5 000,00	5 000,00
Transportation & Assembly	120 000,00	20	6 000,00	6 000,00
SUM	370 000,00		21 000,00	21 000,00
Engineering				
Expenditures/planning	250 000,00	3	83 333,33	83 333,33
Licenses	50 000,00	3	16 666,67	16 666,67
SUM	300 000,00		100 000,00	100 000,00
Vehicles				
2 Passengers cars	50 000,00	4	12 500,00	12 500,00
2 Buses	180 000,00	7	25 704,00	25 704,00
SUM	230 000,00		38 204,00	38 204,00

Total Investment and Depreciation costs

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Investment Goods	Expenditures [€]	Depr.costs/year [€]
Property	0	0
Reconstruction of Power Plant Area	620 000	27 400
Industrial Museum	58 100	11 255
Information Office	62 060	9 570
Climbing center	53 500	8 300
Photo Studio	10 500	1 313
Roller Coaster	1 050 000	131 250
Installations	370 000	21 000
Engineering	300 000	100 000
Vehicles	230 000	38 204
Unexpected*	275 416	0
Circulating capital**	127 080	0
Total	3 156 656 €	348 291 €
Own Capital Funds (5%)	157 833	
Seed Capital (35%)	1 104 829	
Bank Loan (60%)	1 893 993	

*estimated as 10% of total investment

**estimated as one a minimum of a month of all workers' salary plus 15% for other expenses

Finantial Costs

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Bank Loan

7,00% Interest

10 Years Running Time

Year	Balance of debt [€]	Interest rate (%)	Interest Costs Paid/Year [€]	Repayment
1	1 893 993	7	132 580	189 399
2	1 704 594	7	119 322	189 399
1	1 515 195	7	106 064	189 399
2	1 325 795	7	92 806	189 399
5	1 136 396	7	79 548	189 399
6	946 997	7	66 290	189 399
7	757 597	7	53 032	189 399
8	568 198	7	39 774	189 399
9	378 799	7	26 516	189 399
10	189 399	7	13 258	189 399
Total Interest paid			729 187,44 €	
Total repayment				1 893 993,36 €

Labour costs

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Personal type	Monthly Salary [€]	Number	Personal direct costs/year [€]
Accountant	2 500	2	70 000
Human Resources	2 100	2	58 800
Security guards	2 000	12	336 000
Receptionists	1 250	10	175 000
Assistants	800	10	112 000
Climbing professors	1 200	2	33 600
Technicians	1 500	6	126 000
Cleaners	700	6	58 800
Museum guides	900	8	100 800
Heads of departments	3 500	4	196 000
General Director	6 000	1	84 000
TOTAL			1 281 000,00 €

Yearly Revenue (Year 1-10)

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Total visitors/Year	Ticket Price	Revenue/Year
350846	8 €	2 806 768 €
Space rent number/Year	Space rented price	
20	3 000 €	60 000 €
Photo Studio mensal income		
4 800 €		57 600 €
Climbing School mensal income		
3 360 €		40 320 €
Restaurant mensal rent		
3 000 €		36 000 €
Total		3 000 688 €

Cash Flow Calculation

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	year 1	year 2	year 3	year 4	year 5
Working capacity	20%	40%	60%	80%	100%
Revenue	600 138 €	1 200 275 €	1 800 413 €	2 400 550 €	3 000 688 €
SELF COSTS Depreciation costs	348 291 €	348 291 €	348 291 €	348 291 €	348 291 €
Financing costs	132 580 €	119 322 €	106 064 €	92 806 €	79 548 €
Labour Costs	1 281 000 €	1 281 000 €	1 281 000 €	1 281 000 €	1 281 000 €
Utilities and maintenance costs	30 000 €	30 000 €	30 000 €	30 000 €	30 000 €
Loss carried forward		-1 191 733 €	-578 338 €	0 €	0 €
Profit before tax	-1 191 733 €	-578 338 €	613 396 €	648 453 €	1 261 849 €
Tax IRC* 25%	0 €	0 €	153 349 €	162 113 €	315 462 €
Profit after taxes	-1 191 733 €	-578 338 €	460 047 €	486 340 €	946 387 €
Cash Flow (net profit + depreciation costs)	-843 442 €	-230 046 €	808 338 €	834 631 €	1 294 678 €
Repayment bank loan	189 399 €	189 399 €	189 399 €	189 399 €	189 399 €
Dividend	-1 032 841 €	-419 446 €	618 939 €	645 232 €	1 105 279 €
Equity	1 262 662 €	1 262 662 €	1 262 662 €	1 262 662 €	1 262 662 €
Interest on equity	-81,80	-33,22	49,02	51,10	87,54

Cash Flow Calculation (cont.)

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	year 6	year 7	year 8	year 9	year 10
Working capacity	100%	100%	100%	100%	100%
Revenue	3 000 688 €	3 000 688 €	3 000 688 €	3 000 688 €	3 000 688 €
SELF COSTS	Depreciation costs	348 291 €	348 291 €	348 291 €	348 291 €
	Financing costs	66 290 €	53 032 €	39 774 €	26 516 €
	Labour Costs	1 281 000 €	1 281 000 €	1 281 000 €	1 281 000 €
	Utilities and maintenance costs	30 000 €	30 000 €	30 000 €	30 000 €
	Loss carried forward	0 €	0 €	0 €	0 €
Profit before tax	1 275 107 €	1 288 365 €	1 301 623 €	1 314 881 €	1 328 139 €
Tax IRC* 25%	318 777 €	322 091 €	325 406 €	328 720 €	332 035 €
Profit after taxes	956 330 €	966 274 €	976 217 €	986 161 €	996 104 €
Cash Flow (net profit + depreciation costs)	1 304 622 €	1 314 565 €	1 324 508 €	1 334 452 €	1 344 395 €
Repayment bank loan	189 399 €	189 399 €	189 399 €	189 399 €	189 399 €
Dividend	1 115 222 €	1 125 166 €	1 135 109 €	1 145 053 €	1 154 996 €
Equity	1 262 662 €	1 262 662 €	1 262 662 €	1 262 662 €	1 262 662 €
Interest on equity	88,32	89,11	89,90	90,69	91,47

Future Expansion

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□ **Recreative**

- Reconstruct fuel tank for thematic expositions
- Construct skate park
- Panoramic elevator on the Chimney

□ **Research & Development**

- Construct Department responsible for Global Sustainability and Environment Protection Projects

Conclusion

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- The Business Investment will be sufficient to replenish the stock of capital invested;
- Innovative concept will attract visitors from various places
- It will increase tourism in the region and contribute to the employment rate;
- Create awareness to surroundings areas of high environmental value and contribute to their protection;