

kWh

Dance for Energy



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kWh – The Idea

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kWh – The Idea

- Green Club
- Location: Koeln
- GmbH with limited liability
- Main concept: Produce energy through dancing
- Additional facilities:
 - Dry-toilets
 - „Kindergarten“
 - Healthy drinks and food
 - Ecological taxis or bicycle taxis
 - Art students exhibit their project → interior design



kWh – The Idea

Motivation

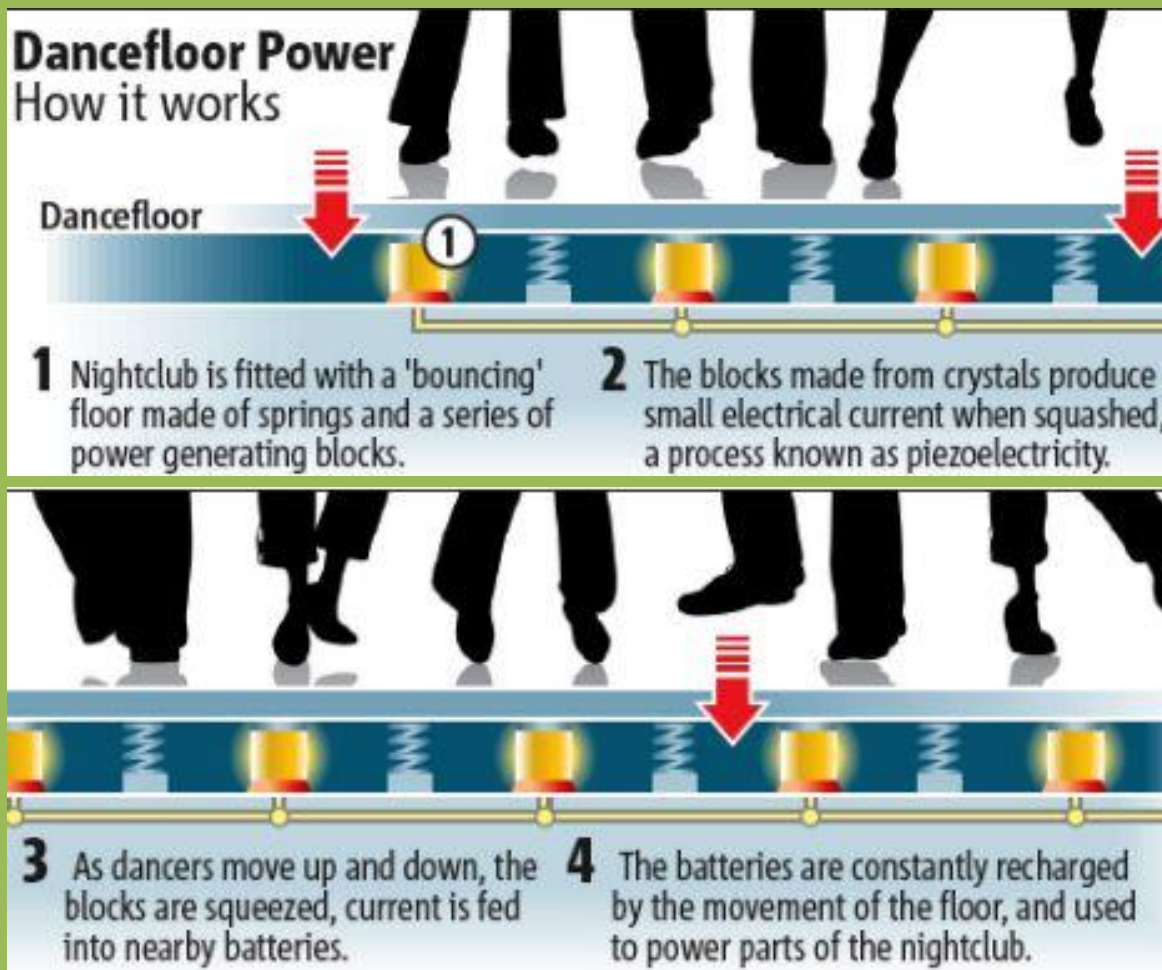
- Awareness program for environmental issues
- Animate people to use green options by having fun



http://image.shutterstock.com/display_pic_with_logo/74155/74155,1169664593,1/stock-photo-young-people-having-fun-and-being-active-2546372.jpg



kWh – Piezoelectric Floors



Source:
<http://mkarkare.wordpress.com/2011/11/26/dance-floor-that-produces-electricity/>



kWh – Piezoelectric Floor

- The dance floor is a scalable floor with modules of 75x75x20 cm each
 - 90 modules for 2 dance-floors → 50m²
 - 1 clubgoer could generate roughly 10 Watts/hour per square foot
 - In 1 night à 8h, 200 clubgoers can produce 40 kW
- about 60 percent of the club's total energy need (80 kW per night)
is covered



kWh – Market Analysis

- Population 18-35: 256,515 (*Statistisches Jahrbuch 2011, Koeln*)
 - 123 Dance Clubs
 - No eco-club
 - The turnover of bio-products increased by 9.5% in 2011 comparing to 2010, Germany (*Nielsen*)
 - 2010: 460 Millionen people in Germany like to go to a club min. 1 x per week (*Statista*)
 - Referring to Cologne → 56235 people/week
 - 123 Clubs à 300 visitors → 39600 p/w
 - $56235 - 39600 = 16635$ people
 - -20% age, -50% non-ecological
- **6654 people in the age 18-35 could come to kWh**



<http://www.google.de/imgres?start=186&num=10>



kWh – Marketing Strategies

- Cooperation with art students attracts many people who are interested in art
- Collaborating companies use us as their marketing strategies
- Participation in Exhibitions/Workshops/Conferences within the energy and organic sector
- Flyers, brochures, internet



<http://www.google.de/imgres?um=1&hl=de&client=firefox-a&rls=org.mozilla:de:official&biw=1680&bih=918&tbn=isch&tbnid=mJRWjsTZVORfJM>



kWh – Cost and Financing

Investment				
	Total	Details	Deprecitation in %	Total
Technical Equipment	100,000	Sound system, lights, bar equipment etc.	10	10,000
Floor	50,000	50 m ² with 1000 € per m ²	10	5,000
Building and Equipment	300,000	bathrooms, modification, air conditioners	10	30,000
Office Equipment	10,000	telephone, computers, printers	5	500
Initial Stock (Grand Opening)	100,000		0	0
Total Investment	560,000		Total Depreciation Costs	45,500

Total of Investment and Financing		
Total Investment	560,000	
40% Own Capital	224,000	
60% Outside financing	336,000	7% interest rate, 10 years running time



kWh – Cost and Financing

Running Costs		
	Total	Details
Labour	48,000	10 people à 400 €
	150,000	5 people 2,500
Rent	14,400	300 m ² with 4 €/m ²
Energy	1,250	50% of total energy consumption: 6,250 kWh/year with 20 cent per kWh
Raw material	288,000	drinks, food,: 24,000 €/Monat
Running Costs	501,650	



kWh – Cost and Financing

Calculation of Financing Costs

Year	Balance of debt	Interest Rate	Interest Costs Paid p.a.	Repayment
1. year	336,000	7%	23,520	33,600
2. year	302,400	7%	21,168	33,600
3. year	268,800	7%	18,816	33,600
4. year	235,200	7%	16,464	33,600
5. year	201,600	7%	14,112	33,600
6. year	168,000	7%	11,760	33,600
7. year	134,400	7%	9,408	33,600
8. year	100,800	7%	7,056	33,600
9. year	67,200	7%	4,704	33,600
10. year	33,600	7%	2,352	33,600
Total Interest Paid			129,360	336,000



kWh – Cost and Financing

Turnover		
	Total	Details
Guests	468,000	3 times per week à 200 guests à 15 €
Drinks	390,000	3 times per week à 500 drinks à 5 €
Food	21,840	3 times per week à 35: each 4 €
Total Turnover	879,840	



kWh – Cost and Financing

Computation of Cash-Flow for 10 years

	Year 1 (80%)	Year 2 (100%)	Year 3 (100%)	Year 4 (100%)	Year 5 (100%)	Year 6 (100%)	Year 7 (100%)	Year 8 (100%)	Year 9 (100%)	Year 10 (100%)
Turnover	703,872	879,840	879,840	879,840	879,840	879,840	879,840	879,840	879,840	879,840
Depreciation Costs	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500	45,500
Running Costs	501,650	501,650	501,650	501,650	501,650	501,650	501,650	501,650	501,650	501,650
Financing Costs	23,520	21,168	18,816	16,464	14,112	11,760	9,408	7,056	4,704	2,352
Profit before tax	133,202	311,522	313,874	316,226	318,578	320,930	323,282	325,634	327,986	330,338
Profit after tax (40%)	79,921.2	186,913.2	188,324.4	189,735.6	191,146.8	192,558	193,969.2	195,380.4	196,791.6	198,202.8
Cash flow	125,421.2	232,413.2	233,824.4	235,235.6	236,646.8	238,058	239,469.2	240,880.4	242,291.6	243,702.8
Repayment credit	33,600	33,600	33,600	33,600	33,600	33,600	33,600	33,600	33,600	33,600
Dividend	91,821.2	198,813.2	200,224.4	201,635.6	203,046.8	204,458	205,869.2	207,280.4	208,691.6	210,102.8

! GO kWh !



<http://www.google.de/imgres?hl=de&client=firefox-a&hs=tph&sa=X&rls=org.mozilla:de:official&biw=1680&bih=918&tbn=isch&prmd=imvns&tbnid=zIMs0w1YgkFuSM:&imgrefurl=http://www.ecofriend.com/entry/12-piezoelectric-systems-for-green-environment/>