

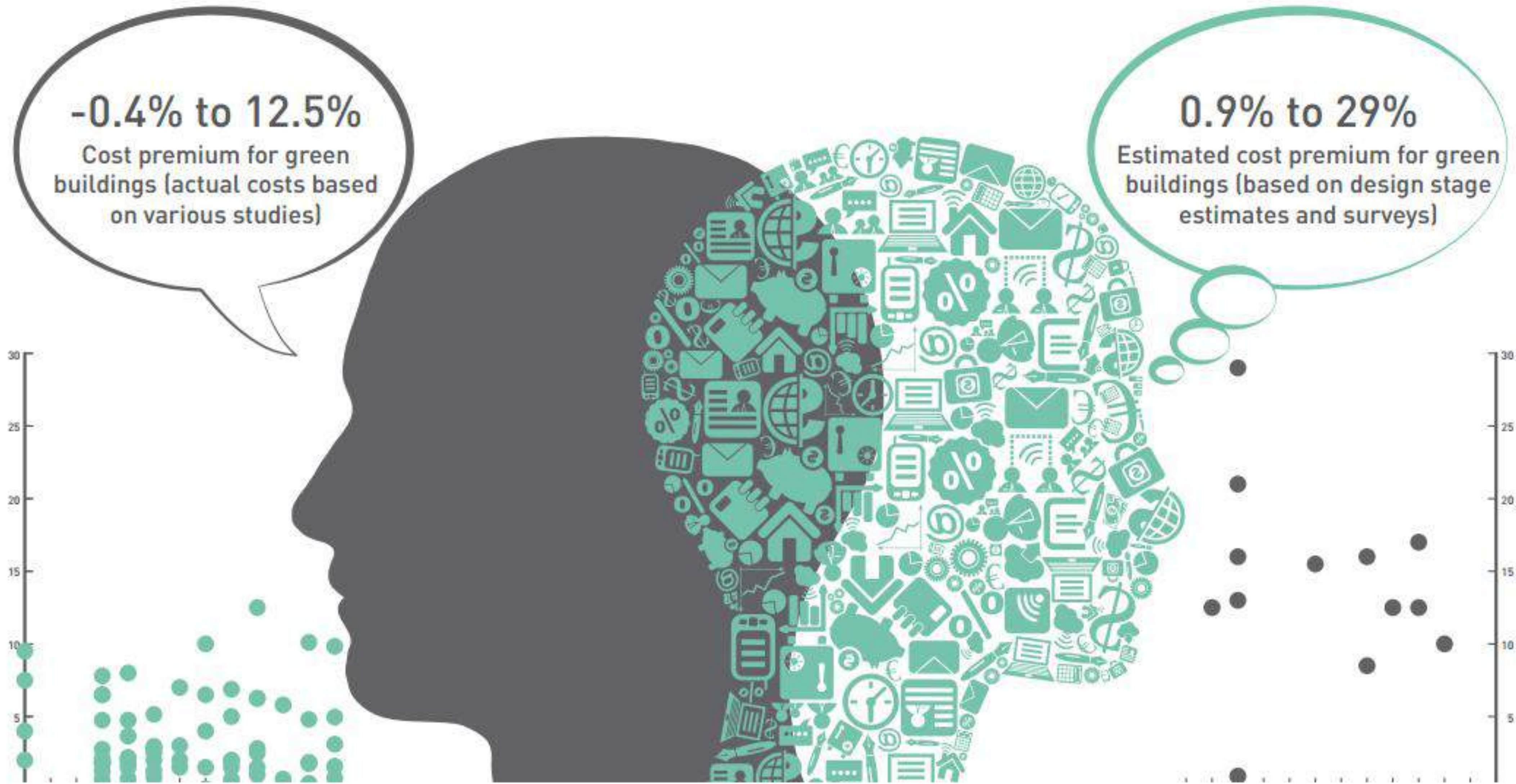
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WHAT IS THE
COST ?

CASE STUDY

NATIONAL

THE PERCEPTION GAP



SOURCE: THE BUSINESS CASE FOR GREEN BUILDING



THE COST OF GREEN BUILDING

- INCREASE OF DESIGN AND CONSTRUCTION COSTS ARE IN THE RANGE OF **-0,4%** TO **12,5%** BASED ON STUDIES IN UK, US, AUSTRALIA, SINGAPORE AND ISRAEL (2000-2012)
- SEVERAL STUDIES HAVE SHOWN THAT GREEN BUILDINGS **DO NOT NECESSARILY HAVE TO COST MORE**
- GREEN DESIGN IS NOT A BOLT-ON TO CONVENTIONAL BUILDINGS, BUT IS INSTEAD AN **INTEGRATED DISCIPLINE FOR DESIGN** THAT REQUIRES A DIFFERENT WAY OF THINKING

GENERAL TRENDS

- THE COSTS OF DESIGN AND CONSTRUCTION ASSOCIATED WITH GREEN BUILDINGS TEND TO DECREASE AS BUILDING CODES AROUND THE WORLD BECOME STRICTER AND SUPPLY CHAINS FOR GREEN MATERIALS AND TECHNOLOGIES MATURE
- UPFRONT COST INCREASES IN GREEN BUILDINGS ARE OFTEN OFFSET BY A DECREASE IN LONG-TERM LIFE CYCLE COSTS, PARTICULARLY IN THE CASE OF GREEN BUILDINGS THAT FEATURE HIGH-PERFORMANCE FAÇADES AND ENERGY- EFFICIENT BUILDING SYSTEMS



RETRO-FIT OF EXISTING BUILDING: COST BENEFIT ANALYSIS

- UPGRADE OF COMMON AREA LIGHTNING TO LED
- BUILDING MANAGEMENT SYSTEM UPGRADE
- FINE TUNING OF HVAC PLANT
- CAR PARK CO2 MONITORING
- INSTALLATION OF EXTERNAL SHADING
- REPLACEMENT OF BOILERS WITH MORE EFFICIENT
- REPLACEMENT OF OLD CHILLERS WITH MORE ENERGY EFFICIENT

TOTAL INVESTMENT COST 1 350 000 €



Projection Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
REVENUES								
Area	7500	7500	7500	7500	7500	7500	7500	7500
Rent as €/sq.m.	€ 10,0	€ 10,2	€ 10,3	€ 11,5	€ 11,8	€ 12,1	€ 12,4	€ 12,7
Rental growth	1,5%	1,5%	1,5%	2,5%	2,5%	2,5%	2,5%	2,5%
Occupancy (%)	80%	80%	25%	90%	95%	95%	95%	95%
Collection loss (%)	5%	5%	5%	5%	5%	5%	5%	5%
<u>TOTAL REVENUE</u>	<u>€ 675 000</u>	<u>€ 685 125</u>	<u>€ 185 441</u>	<u>€ 879 750</u>	<u>€ 954 788</u>	<u>€ 978 657</u>	<u>€ 1 003 124</u>	<u>€ 1 028 202</u>

OPEX								
As % of Revenue	15%	15%	15%	10%	10%	10%	10%	10%
<u>TOTAL OPEX</u>	<u>€ 101 250</u>	<u>€ 102 769</u>	<u>€ 27 816</u>	<u>€ 87 975</u>	<u>€ 95 479</u>	<u>€ 97 866</u>	<u>€ 100 312</u>	<u>€ 102 820</u>

GROSS OPERATING INCOME	€ 573 750	€ 582 356	€ 157 624	€ 791 775	€ 859 309	€ 880 791	€ 902 811	€ 925 382
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CAPEX								
Capital investment cost, €	€ 0	€ 0	€ 1 350 000	€ 0	€ 0	€ 0	€ 0	€ 0
Reserve for replacement, %	5%	5%	0%	3%	3%	3%	3%	3%
Reserve for replacement, €	€ 33 750	€ 34 256	€ 0	€ 26 393	€ 28 644	€ 29 360	€ 30 094	
<u>TOTAL CAPEX</u>	<u>€ 33 750</u>	<u>€ 34 256</u>	<u>€ 1 350 000</u>	<u>€ 26 393</u>	<u>€ 28 644</u>	<u>€ 29 360</u>	<u>€ 30 094</u>	

<u>TERMINAL VALUE</u>	€ 10 004 125							
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NET OPERATING INCOME	€ 540 000	€ 548 100	-€ 1 192 376	€ 765 382	€ 830 665	€ 851 432	€ 10 876 842	
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Terminal capitalization rate **9,25%**

Discount rate **9,75%**

NPV after Retrofit (' 00 000) **€ 7 300 000**

Value appreciation **18%**

NPV prior Retrofit **€ 6 200 000**

Terminal capitalization rate 9,5%

Discount rate 10,0%



ANY QUESTIONS?

CONTACT US!

SVETOZAR ATANASOV, ENG.

(+359) 892 378 335

SVETOZAR.ATANASOV@GMAIL.COM

[HTTPS://WWW.LINKEDIN.COM/IN/SATANASOV](https://www.linkedin.com/in/satanasov)



GEORGI GEORGIEV, ENG.

(+359) 887 386 556

GGEORGIEV13@GMAIL.COM

[HTTPS://BG.LINKEDIN.COM/PUB/GEORGI-GEORGIEV/30/341/1B9](https://bg.linkedin.com/pub/georgi-georgiev/30/341/1b9)