ES-SO

EUROPEAN SOLAR SHADING ORGANISATION

"The best kWh is always the one we do not need"



























MunichRe's NatCatSERVICE 1980 - 2017

Summary of reported Heat and Cold impacts in Europe and related fatalities.

	Hea	it	Cold		
REGION	No of events	Fatalities	No of events	Fatalities	
Northern Europe	4 32		47	163	
UK/Ireland	3	2747	47	175	
Central EU North part	17	14017	78	2266	
Central EU South part	25	25589	94	1060	
Southern Europe	33	41686	99	315	
EU + UK	82	84071	365	3979	

2018 heatwave in Netherlands + 700 deaths + **144.000 airconditioners –** more than normal





Solar Shading

The potential to disrupt rising cooling demand and overheating in European buildings

Dr. Andreas H. Hermelink

28 October 2021



Defining the citerias



2 Scenarios

- **1. BAU** Business as usual
- 2. **Preferred** increase by recognition in building reg's
 - "To be applied before installation of AC..."

Combined with final energy use for Air conditioning

Using EU models (as per2020) for climate evolution, energy production



Guidehouse

"Dynamic solar shading can stop the increase of additional AC units in the future."





Guidehouse

"Decarbonisation of Electricity is already considered in line with the EU Impact Assessment 2021"



Who will gain benefit from these €14.6 bill/year?



Step 1 - Owners - Developers - Tennants

Step 2 - Society



Dynamic solar shading has been declared as a passive solution



The UK's independent adviser on tackling climate change. Environmental Services · London, England · 7,061 followers



Lord Krebs, Chair of the CCC's Adaptation Sub-Committee

"A lot of modern flats are built with limited ventilation. We are not designing buildings for preventing overheating. **Shading is not costly or difficult to install, it's just that we're not doing it.**"

Financial support or via Tax reduction

- Germany, Italy, Belgium, France...
- Solar shading is mandatory in Switzerland

The European Building Directive

- Several suggested improvements
 - A recognized "Building system"
 - Smart Rediness Indicator









INDIA

Today50 mill AC's

2050 > 1 bill



The test site in New Dehli





DYNAMIC SOLAR SHADING

"The potential to make buildings more productive, efficient and sustainable in the Indian context"

Will be published in 2 months...

Final energy consumption



Energy Consumption (in kWh)								
	Pha	se – 1 Te	sting	Phase – 2 Testing				
	Duration – 10 days each			Duration – 5 days each				
	Base case	Test case	% Saving	Base case	Test case	% Saving		
Test Case – 5 DGU + External blind (92-2167)	22.2	15.8	29%	9.9	7.1	28%		

Guides the AC capacity needed (The "size of the machine")



Case	Peak load (kW)	% reduc	tion from base case	
Base	1 848	(Fixed shading)		
case	1.040	(
Case 5	0.978	(Dynamic External)	47%)	

2070 – potential contribution from solar shading



Off-set 20% of AC's => 200 mill less!

A lot using 30% less energy!

Recommended actions

- Reconition of Solar Shading as a Builing System
 - To be applied before installing AC
 - Allow for a flexible SHGC (not only Glass)
 - Calculated combined with Glass + AC
 - Identify solutions "Made in India for India"
 - Low cost Manual
 - Medium Motorized
 - Premium Automated



Challenge – Lack of knowledge & Experience



"We have never done this before"

"At University nobody trained us on solar shading...
So now when we HAVE to care – we do not know how to"

"We know we should – but we do not need to meet with compliance"

Something pro active



Make sure to provide both knowledge & tools required





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Download at www.es-so.com/tools/esbo

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- Reliable performance data
 - Shading materials
 - Glass



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Health, comfort and energy saving. Non-profit Organizations · Zaventem, Flemish Region · 1,796 followers



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Talks about #overheating, #shadeacademy, #solarshading, #dynamicfacades, and #sustainability

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Working together – not working at the same time



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