

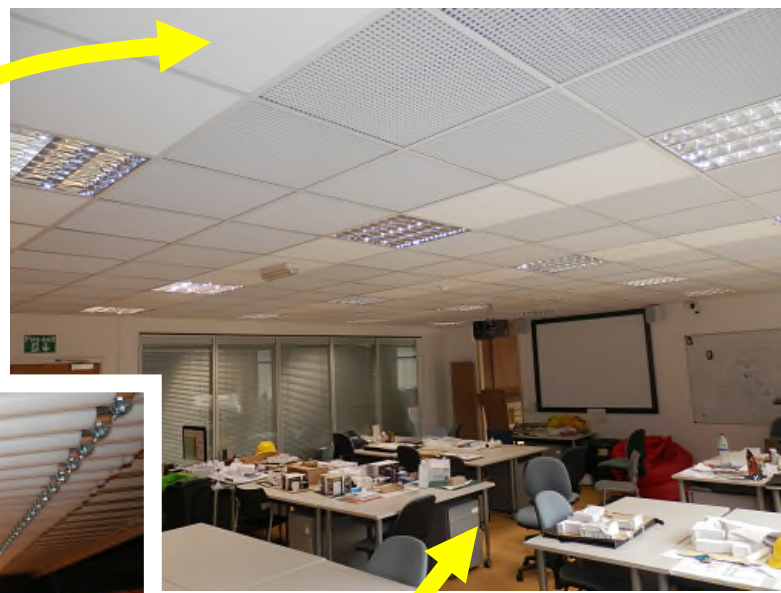
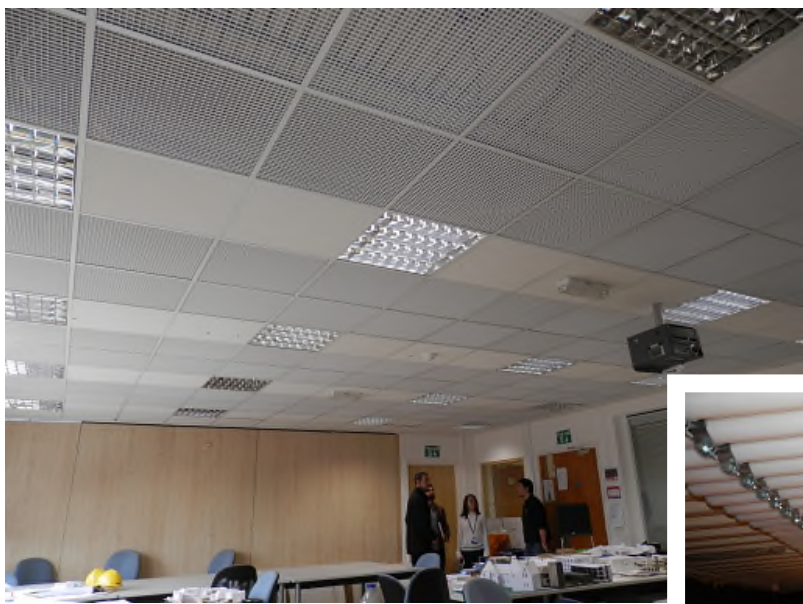


**PASSIVE COOLING**

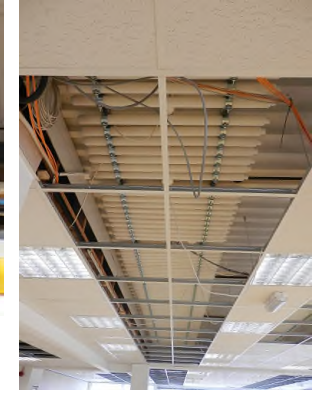


**Floor Layout**

**TOTAL 1,590  
TubelCE filled  
with  
+27C solution  
providing  
230 kWh  
energy storage**



# Office Retrofit



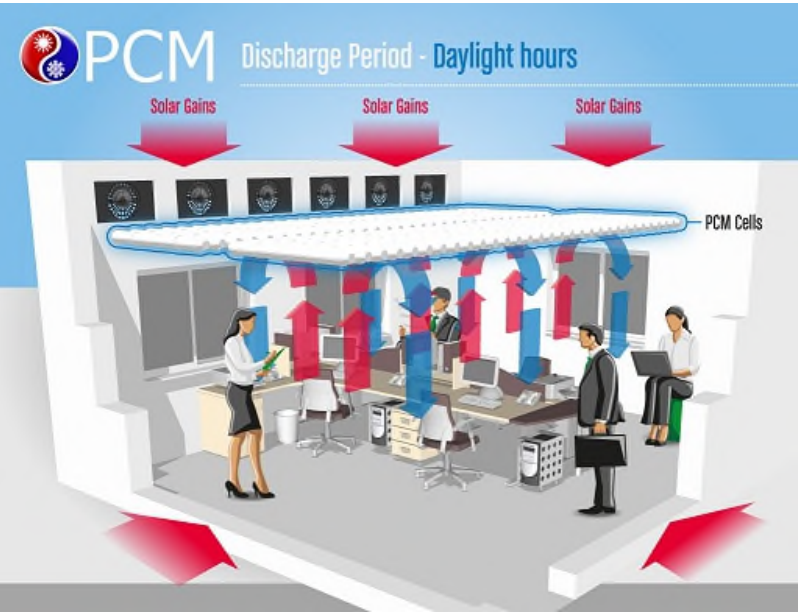
**PCM Charge Period - Night hours**



**Charging Over-Night**



**Office Retrofit**



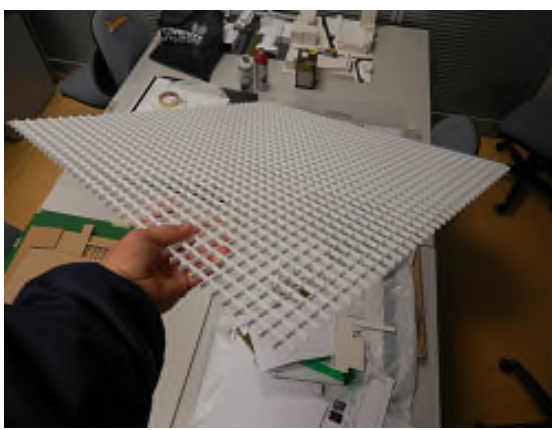
**Discharging Day-Time**




**TubeICE Passive Cooling modules Fixed behind the ceiling tiles using standard 2" pipe brackets**



**Solid ceiling tiles Replaced with Perforated Grilles**



# TubeICE Passive Cooling Energy Records

	John Laing Building, Coventry, UK		
	Pre	Post	Saving
Boilers energy (MWh)	418.8	399.3	11.35%
Total system energy (MWh)	448.8	428.9	10.58%
Total nat. gas (MWh)	418.8	399.3	11.35%
Total electricity (MWh)	30.1	30.1	0.00%
Total Carbon Emissions (Kgco2)	106,064	101,614	9.67%
Total energy (MWh)	448.8	428.9	10.58%
Total energy (MWh/m2)	0.123	0.117	10.58%
Total energy (KWh/m2)	122.6	117.2	10.58%