

Lush Retail Ltd

- Hatch Pond Road, Poole



LUSH Retail Ltd contacted Airius to address the uncomfortable low temperatures and expensive costs for heating at their factory facility in Poole, Dorset. Originally it was estimated that this site would benefit from a minimum energy saving of 35%, however a far greater saving was achieved of over 60% following installation of the Airius system.



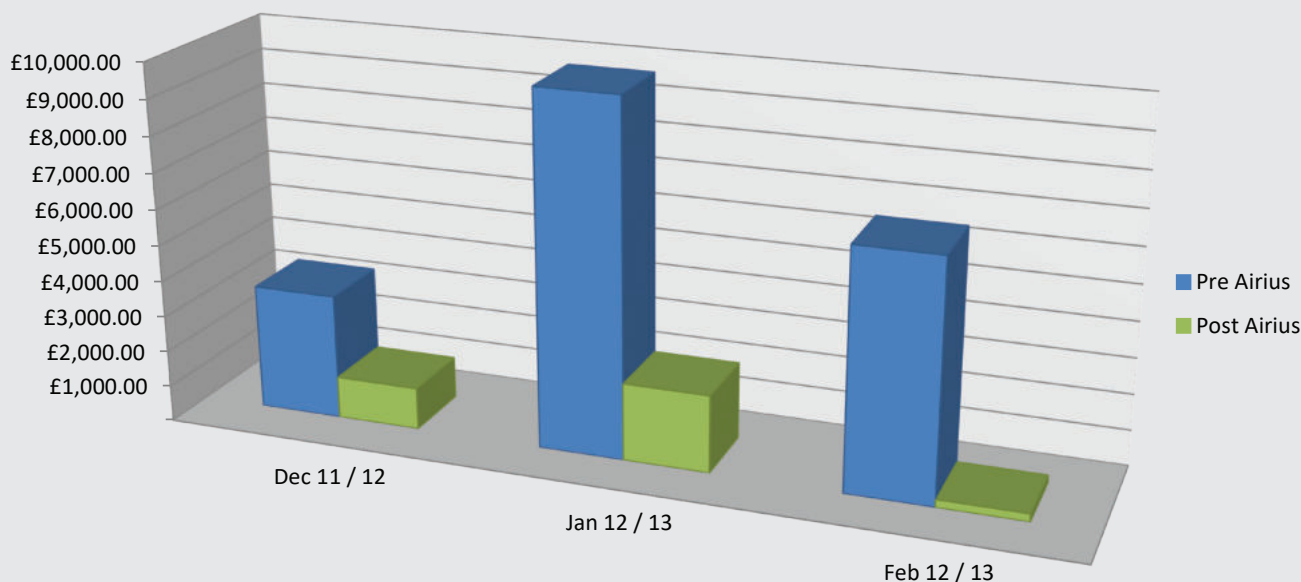
Key Points:

- **ROI = 26 DAYS!**
- **61% Energy saving on heating system**
- **Heating spend pre Airius = £26,638.83**
- **Heating spend post Airius = £7,333.38**
- **Comfort levels immediately improved.**
- **Recirculates process heat for free heating**
- **Provides cooling benefits during summer**
- **Key technology responsible for meeting energy and CO₂ targets**

Lush Retail Ltd needed to improve internal conditions at their Hatch Pond Road factory facility in Poole, Dorset. Temperatures at floor level were uncomfortably cold as their heating system was unable to reach acceptable conditions. This also incurred high energy costs as the heating system was running constantly in an attempt to reach set parameters.

Following installation of the Airius system heating costs for the site were reduced by over **60%**. Lush are now installing the Airius system throughout the rest of their factory facilities.

Heating Spend Pre & Post Airius



Meter Readings, Consumption & Cost Data (Pre Airius Installation)

Pre Airius Installation	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	
Reading Date	30/11/11	03/01/12	01/02/12	01/03/12	03/04/12	03/05/12
Reading	71,745.53	85,576.19	97,829.50	109,581.20	113,795.59	116,319.31
Usage		13,830.66	12,253.31	11,751.70	4,214.39	2,523.72
Less 20% For Boiler		11,064.53	9,802.65	9,401.36	3,371.51	2,018.98
Less 330 Units Per Month For Process Gas		10,734.53	9,472.65	9,071.36	3,041.51	1,688.98
Total Usage		34,009.02				
Total Usage With Weather Effect		37,750.02				
Cost		£3,482.07	£9,816.64	£6,628.24	£2,046.23	£926.18
Total Cost		£22,899.36				
Total Cost With Weather Effect		£26,638.83				
Average Temperature		6.7°C	6.1°C	4.4°C	8.3°C	7.2°C
Usage Including Weather Effect		11,915.33	10,514.64	10,069.21	3,376.08	1,874.76

Meter Readings, Consumption & Cost Data (Post Airius Installation)

Post Airius Installation	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	
Reading Date	30/11/12	31/12/12	31/01/13	28/02/13	28/03/13	01/05/13
Reading	123,503.25	126,043.72	130,397.79	134,882.49	138,829.17	142,685.57
Usage		2,540.47	4,354.07	4,484.70	3,946.68	3,856.40
Less 20% For Offices & Hot Water		2,032.38	3,483.26	3,587.76	3,157.34	3,085.12
Less 330 Units Per Month For Process Gas		1,702.38	3,153.26	3,257.76	2,827.34	2,755.12
Total Usage		13,695.86				
Cost		£1,162.02	£2,148.62	£218.48	£1,926.99	£1,877.27
Total Cost		£7,333.38				
Average Temperature		5.7°C	4.5°C	3.6°C	3.3°C	6.3°C
Temperature Difference		-1.0°C	-1.6°C	-0.8°C	-5.0°C	-0.9°C
Temperature Effect On Weather		11.0%	17.6%	8.8%	55.0%	9.9%

Consumption & Savings Summary

CONSUMPTION & SAVINGS	WEATHER		AVERAGE
Usage Difference	Without	20,313.17	22,183.66
	With	24,054.16	
Percentage Saving	Without	59.73%	61.73%
	With	63.72%	
Total Saving	Without	£15,565.98	£17,435.71
	With	£19,305.45	
Total Cost Of Airius Units			£2,967.50
Return On Investment	Without	29 Days	26 DAYS
	With	23 Days	

*Consumption & savings data supplied by Jack Gale, Utilities Coordinator - LUSH.
MET office used for the mean Temperature data.*

Conclusion

USAGE for November and December 2012 calculated by dividing the COST by the average amount per unit throughout the year. COST for March 2013 calculated by multiplying units used by average amount per unit throughout the year. 20% of consumption allowed for heating the offices and hot water.

Gas used for production processes approx. £220 per month. Calculated from average amount used throughout June, July & August when the heating is off. This has been subtracted to leave only heating gas.

A drop in temperature of one 1°C increases a buildings heat load by 8% to 12%, mainly depending on the base temperature and the building fabric. With the low level of insulation at the Lush Hatchpond Road facility calculations are based on a very conservative 11% per 1°C. The overall adjustment for the temperature difference works out as a 16.33% increase to the pre Airius figures.

All the final outcomes are shown in the data above including; WITHOUT weather effects taken into account, WITH weather effects taken into account and an AVERAGE of the both.

The Airius units in the Hatchpond road site have far exceeded predicted savings. This is mainly due to the buildings extremely low level of insulation and the high level of process heat within the environment, which when recirculated provides a free source of space heating.