

# Aik Sheher, Dou Mousam?

## Heating Degree Days

**Bahria  
Enclave** ↑58%

Cold Levels:



Heating Requirement:



**Shah Allah  
Ditta, D-12**

Cold Levels:



Heating Requirement:



# Seasonal Heating Demand Assessment for Bahria Enclave and Shah Allah Ditta

We've compared the Heating Degree Days (HDD) for two key areas in Islamabad: Bahria Enclave and Shah Allah Ditta. These locations represent different microclimates within the same city, and understanding the HDD variations is crucial for businesses focused on energy consumption, heating costs, and environmental impact.

## What are Heating Degree Days (HDD)?

Heating Degree Days are a measure used to estimate the demand for energy needed to heat a building. Higher HDD values indicate colder weather, which typically means more heating is required.

Heating Degree Days (HDD) for the October to March period provide a clear indication of winter severity and the resulting need for household heating across Islamabad. Higher HDD values represent a greater cumulative exposure to cold. Over three consecutive winters, Bahria Enclave consistently shows higher seasonal HDD than Shah Allah Ditta, although the pattern and extent of variation differ notably between the two areas.

## Seasonal Heating Intensity across the Three Winters

Bahria Enclave records the strongest heating demand in 2023–24, reaching 847.632 HDD, a 7.2 percent rise from 2022–23. The following winter, 2024–25, shows a reduction to 709.486 HDD, a 16.3 percent decrease, indicating a milder season.



Shah Allah Ditta demonstrates sharper shifts between winters. HDD climbs from 501.943 in 2022–23 to 722.137 in 2023–24, an increase of nearly 43.9 percent, then declines to 550.019 in 2024–25, a 23.8 percent drop.

### Seasonal HDD and Percentage Difference

Winter (Oct–Mar)	Bahria Enclave HDD	YoY Change (Bahria)	Shah Allah Ditta HDD	YoY Change (Shah)	Difference (Bahria minus Shah)	Bahria Higher (%)
2022–23	790.680	–	501.943	–	288.737	57.5 %
2023–24	847.632	+7.2 %	722.137	+43.9 %	125.495	17.4 %
2024–25	709.486	–16.3 %	550.019	–23.8 %	159.467	29.0 %

The heating demand gap between the two locations changes significantly across seasons. In 2022–23, Bahria Enclave’s HDD is 57.5 percent higher than Shah Allah Ditta. The difference narrows in 2023–24 to 17.4 percent, reflecting a more uniform cold season across both sites. By 2024–25, the gap widens again to 29.0 percent. Averaged over all three winters, Bahria Enclave maintains a 32.3 percent higher heating requirement than Shah Allah Ditta.

### Estimated Heating Energy Demand

Heating energy consumption increases in proportion to Heating Degree Days (HDD), which makes HDD a reliable indicator of expected seasonal gas or electricity usage.

The table shows that Bahria Enclave consistently requires more heating energy each winter compared to Shah Allah Ditta due to higher HDD values. This difference directly translates into higher seasonal gas costs. Shah Allah Ditta remains the lower-cost location overall, although its year-to-year variability is stronger, especially during the 2023–24 winter. Bahria’s heating demand remains higher and more stable, resulting in consistently greater household energy expenses across all three winters.

Winter (Oct–Mar)	Location	HDD	Estimated Heating Energy (kWh)	Equivalent (MMBtu)	Estimated Gas Cost (Rs)
2022–23	Bahria Enclave	790.680	21,260 kWh	~72.6 MMBtu	36,300
	Shah Allah Ditta	501.943	13,510 kWh	~46.1 MMBtu	23,050
2023–24	Bahria Enclave	847.632	22,784 kWh	~77.7 MMBtu	38,800
	Shah Allah Ditta	722.137	19,437 kWh	~66.3 MMBtu	33,150
2024–25	Bahria Enclave	709.486	19,064 kWh	~65.0 MMBtu	32,500
	Shah Allah Ditta	550.019	14,800 kWh	~50.5 MMBtu	25,250

### Broader Implications for Heating Demand

The consistent elevation of HDD in Bahria Enclave suggests a reliably higher baseline heating demand each winter. Shah Allah Ditta, although generally milder, exhibits stronger year-to-year variability, meaning heating needs can fluctuate substantially depending on the intensity of the season. This distinction affects household energy planning: Bahria residents must prepare for higher heating loads, while Shah Allah Ditta residents must account for greater uncertainty in seasonal demand.





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