Boiler Start-Stop (Cycling) Cost per Year

Yearly cost of boiler starts from the number of starts, the fuel per start and its price, and an allowance for life consumption per start.

Method: Definitions (starts × cost per start)

Input parameters

Unit system: SI

Parameter	Value	Unit
Starts per year	40.000	
Fuel per start	3.0000	t
Fuel price per tonne	9,000.0	
Life and maintenance cost per start	20,000	

Calculated results

Parameter	Value	Unit
Fuel cost per year	1,080,000	
Life cost per year	800,000	
Total cycling cost per year	1,880,000	

Formula and method

$$C_f = N \frac{m_s}{1000\ \mathrm{kg/t}}\, c_f, \quad C_l = N c_l, \quad C = C_f + C_l$$

Variables

N	Starts per year	-
m_s	Fuel per start	kg
c_f	Fuel price per tonne	-
c_l	Life and maintenance cost per start	-
C_f	Fuel cost per year	-
C_l	Life cost per year	-
C	Total cycling cost per year	-

Method and standards

Definitions.

Assumptions and limits

- Average start.

References

- Definitions (starts × cost per start)

Report details

Report reference	FCC-Y3A7-04T1 (the same inputs always give the same reference)
Generated	17 November 2026, 19:49 UTC
Calculator	Boiler Start-Stop (Cycling) Cost per Year
Method last reviewed	13 November 2026
Software release	FireCAD Calc, release of 17 November 2026
Release checks	2 reference cases of this calculator, computed independently, are checked on every release

Results are for engineering estimation. Verify critical designs against the referenced standards and your own data.

This calculator online

https://calc.firecad.com/boilers-power-plant/boilers/boiler-cycling-cost

Open this case on calc.firecad.com →

Reopens the calculator with the inputs of this report.