

HOW DOES THIS SPREADSHEET WORK?

INPUTS REQUIRED

1. PFI credits: This is the level of credits issued by the sponsoring department. In certain cases - where the project was endorsed before 1 April 2002, or (for certain schools schemes) where the PFI credits calculation used the old discounting method, ie using the contract signature date as the base - 'uplift' should be applied to the figure. The method is described in the Grant Determination.
2. Start of grant payment: The year and month to be entered will be the month in which full service commencement occurs, i.e. when the main asset (or first phase of a phased project) becomes operational. Where the project involves maintenance of transferred assets it will be for the sponsoring department to decide whether significant investment has started. Interim services and temporary assets will not trigger grant. The year must show the actual year, not the financial year.
3. End of contract: The month in which contract expiry occurs. The dates are entered in the same way as those for the start of grant payment.
4. Interest rate: For all projects which reached contract signature before 1 April 2005, the rate will be that in force in the year of contract signature. For projects which were endorsed, but which had not reached contract signature, before 1 April 2005 the rate will be 6.3%. For projects endorsed after 1 April 2005, the rate will be that in force at the date of endorsement. For 2005/06 this is 6.3%. For later years, see the latest Grant Determination.
5. Scaling factor: For all projects endorsed in 2005/06 or earlier the rate will be 1.0. For later years, see the latest Grant Determination.

CALCULATIONS

6. The spreadsheet calculates the annual grant by doing an annuity calculation using the PMT function: PMT (interest rate, period, -PFI credits). The period is found by deducting the start date from the end date. The two dates are found by using a lookup table to convert the month to a fraction of 1 (column E of the lookup table) and adding that to the year. Thus April 2006 becomes $2006 + 0.292 = 2006.292$.

Example: Start April 2006, end Jan 2026 = $2026.042 - 2006.292 = 19.750$ (ie 19 yrs 9 mths)
7. Various options are possible for the annuity calculation. For PFI annuity grant the following simplifying assumptions have been adopted:
 - (i) the interest in the annuity is calculated annually, using the opening balance to calculate interest for the whole year, even though payments are quarterly.
 - (ii) the length of the annuity is based on using mid-month points for the start and end dates rather than being accurate to the day. This is consistent with the way in which the level of grant has always been calculated for the first year.
8. To produce the final annuity, the figure produced by the PMT function is multiplied by the scaling factor.
9. The last part of the annuity calculations is to pro-rata the payments in the first and last years according to the start or end month. For the first year the annual annuity figure is multiplied by the start month factor (the old Factor X), found in the column D of the lookup table. For the last year the annual annuity figure is multiplied by the end month factor (the inverse of the old Factor X), found by deducting the figure in the same column D of the lookup table from 1.0.
10. In order to determine the last year of payments the spreadsheet calculates the last financial year by using the lookup table to see whether the month is Apr - Dec, in which case it uses the year as the financial year. If it is Jan - Mar it shows the financial year as the year before, ie Jan 2026 is shown as financial year 2025 (that is 2025/06). The year in column C is then compared to the last financial year.

Example: Start April 2006, start month factor = 0.958 (ie 11.5 mths); end Jan 2026, end month factor = 0.792 (ie 9.5 mths). Total payments are 11.5 mths in year 1, 18 years receiving full annuity, 9.5 mths in year 20 = 19 yrs 9 mths total payment.

Local Authority

Project

PFI credits	£65,000
-------------	---------

see commentary para 1

First payment year	2014
--------------------	------

see commentary para 2

ANNUITY	£5,037
---------	--------

Starting Month	July
----------------	------

see commentary para 2

YEAR 1	£3,566
--------	--------

Contract end year	2039
-------------------	------

see commentary para 3

Contract end month	July
--------------------	------

see commentary para 3

Interest rate	5.9%
---------------	------

see commentary para 4

Scaling Factor	100.0%
----------------	--------

see commentary para 5

LOOKUP TABLE					
Lookup number 1		April	1	0.958	0.292
	6.000	August	2	0.625	0.625
Annuity period start		December	3	0.292	0.958
	0.542	February	4	0.125	0.125
Start month factor		January	5	0.208	0.042
	0.708	July	6	0.708	0.542
Lookup number 2		June	7	0.792	0.458
	6.000	March	8	0.042	0.208
Annuity period end		May	9	0.875	0.375
	0.542	November	10	0.375	0.875
End month factor		October	11	0.458	0.792
	0.292	September	12	0.542	0.708

ANNUITY

Length of annuity payments	25.000
Annual annuity	£5,037
First financial year	2014
Last financial year	2039

Year	Financial Year	Grant	Cumulative grant
1	2014- 2015	£3,566	£3,566
2	2015- 2016	£5,037	£8,602
3	2016- 2017	£5,037	£13,639
4	2017- 2018	£5,037	£18,675
5	2018- 2019	£5,037	£23,712
6	2019- 2020	£5,037	£28,748
7	2020- 2021	£5,037	£33,785
8	2021- 2022	£5,037	£38,822
9	2022- 2023	£5,037	£43,858
10	2023- 2024	£5,037	£48,895
11	2024- 2025	£5,037	£53,931
12	2025- 2026	£5,037	£58,968
13	2026- 2027	£5,037	£64,004
14	2027- 2028	£5,037	£69,041
15	2028- 2029	£5,037	£74,077
16	2029- 2030	£5,037	£79,114
17	2030- 2031	£5,037	£84,150
18	2031- 2032	£5,037	£89,187
19	2032- 2033	£5,037	£94,223
20	2033- 2034	£5,037	£99,260
21	2034- 2035	£5,037	£104,296
22	2035- 2036	£5,037	£109,333
23	2036- 2037	£5,037	£114,369
24	2037- 2038	£5,037	£119,406
25	2038- 2039	£5,037	£124,442
26	2039- 2040	£1,471	£125,913
27	2040- 2041	£0	£125,913
28	2041- 2042	£0	£125,913
29	2042- 2043	£0	£125,913
30	2043- 2044	£0	£125,913
31	2044- 2045	£0	£125,913
32	2045- 2046	£0	£125,913
33	2046- 2047	£0	£125,913
34	2047- 2048	£0	£125,913
35	2048- 2049	£0	£125,913
36	2049- 2050	£0	£125,913
37	2050- 2051	£0	£125,913
38	2051- 2052	£0	£125,913
39	2052- 2053	£0	£125,913
40	2053- 2054	£0	£125,913

TOTAL

£125,913

CHECK

£125,913