We have that $B = \lfloor \log_2(N) \rfloor R$, where B is the total (finite) time budget, N is the number of configurations (hence $\log_2(N)$ is the total number of iterations), and R is the maximum number of iterations to run per configuration.

Let's concretize this with an example containing 8 configurations where we naively eliminate the second half at each iteration.

	1	2	3	4	5	6	7	8
$i = 1$	R/8	R/8	R/8	R/8	R/8	R/8	R/8	R/8
$i = 2$	R/4	R/4	R/4	R/4	x	x	x	x
$i = 3$	R/2	R/2	x	x	x	x	x	x

- 4 arms that are allocated $R/8$

- 2 arms that are allocated $R/4 + R/8$

- 2 arms that are allocated $R/2 + R/4 + R/8$

Summing it up, we have

$$\begin{aligned}
S &= (4)(R/8) + (2)(R/4 + R/8) + (2)(R/2 + R/4 + R/8) \\
&= 3R \\
&= B
\end{aligned}$$

Thus, the total budget for all arms is B and hence the budget per arm is $B/8$.