



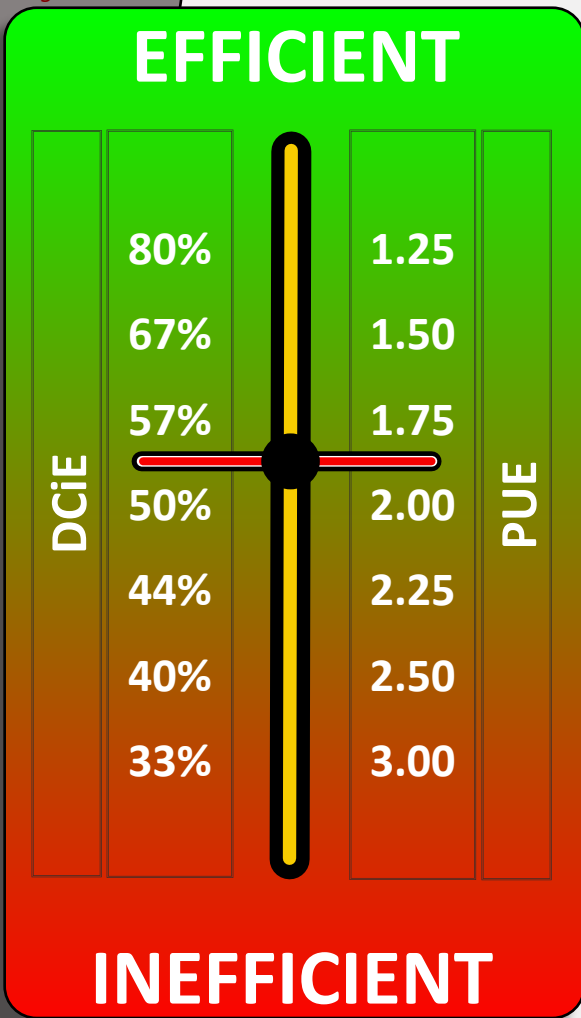
DCiE / PUE spook

European Code of Conduct for Data Centres

Spook is an approved Endorser of the European Code of Conduct for Data Centres. This EU initiative has been created in response to increasing energy consumption in data centres and the need to reduce the related environmental, economic and energy supply security impacts.

The aim is to inform and stimulate data centre operators and owners to reduce energy consumption in a cost-effective manner without hampering the mission critical function of data centres. The Code of Conduct aims to achieve this by improving understanding of energy demand within the data centre, raising awareness, and recommending energy efficient best practice and targets.

Figure 1



What is DCiE or PUE?

DCiE (Data Centre Infrastructure Efficiency) or PUE (Power Usage Effectiveness) are efficiency benchmarks for data centres; comparing the power used solely by the IT equipment against the total power used by the data centre. This results in DCiE / PUE efficiency scores which, if repeated on a regular basis provide comparable data, enabling a business to assess initial and subsequent scores and set targets to continually improve the power efficiency of their data centre.

What is the PUE & DCiE Calculation?

Basically the two measurements are directly related as both are calculated from the same two pieces of information; namely the 'Total Facility Power' and the 'IT Equipment Power'. Power is measured in Watts. DCiE is presented as a percentage figure and PUE is shown as a number. Typical 'scores' for DCiE (PUE) range from a very inefficient 33% (3.00) to a very efficient 90% (1.11).

$$PUE = \frac{\text{Total Facility Power}}{\text{IT Equipment Power}} \quad DCiE = \frac{\text{IT Equipment Power} \times 100}{\text{Total Facility Power}}$$

Power is measured in Watts (W)

To convert a known value, use the following formulae:

$$PUE = 100/DCiE \quad DCiE = 100/PUE$$

Figure 2

What is a 'Data Centre'?

For the purposes of the Code of Conduct, the term "data centres" includes all buildings, facilities and rooms which contain enterprise servers, server communication equipment, cooling equipment and power equipment, and provide some form of data service (e.g. large scale mission critical facilities all the way down to small server rooms located in office buildings).

Where to Measure

Following site survey and proposal stages Spook engineers would install the required meters etc at points

A and **B** as shown in Figure 2.

'Spook Console' software would be implemented providing clients with a real-time view of DCiE / PUE. Graphical historic data is also available via weekly Management Reports and our secure online web portal.

