

Specification: SPEC:04

SAP New Technology Recognition – Application Process

Issue 1.0

DOCUMENT REVISIONS

Documents will be revised by issue of updated editions or amendments. Revised documents will be posted on the website at www.ncm-pcdb.org.uk/sap.

Technical or other changes which affect product recognition requirements (for example) will result in a new issue. Minor or administrative changes (e.g. corrections of spelling and typographical errors, changes to address and copyright details, the addition of notes for clarification etc.) may be made as amendments.

The issue number will be given in decimal format with the integer part giving the issue number and the fractional part giving the number of amendments (e.g. Issue 3.2 indicates that the document is at Issue 3 with 2 amendments).

Users of this document should ensure that they possess the latest issue.

DOCUMENT REVISION LOG

DATE	VERSION NO.	AMENDMENT DETAILS	APPROVED BY
15/01/20	1.0	First issue	PD

The Standard Assessment Procedure (SAP) is the UK's National Calculation Methodology for energy rating of dwellings. It is used for many policy purposes, including the production of Energy Performance Certificates (EPCs) and for Building Regulation compliance.

SAP assesses the performance of all fixed elements of a dwelling, including building services equipment, such as boilers and mechanical ventilation. It does not consider the performance of non-fixed appliances, such as fridges.

SAP assessments are supported by two databases that hold in-use performance data for products which impact the energy performance of a dwelling. This data is provided by manufacturers on a declaration basis, typically via test data, that is processed into a different form using a calculation method that represents typical operation in UK homes.

The principal database used by SAP assessment software is known as the Product Characteristics Database (PCDB). The PCDB holds performance information for technology types that were known prior to the publication of the latest version of the SAP specification, which is generally updated every 3 to 5 years. These technology types have established calculation and testing methodologies which are used when entering data into the PCDB. Data from the PCDB is easy for SAP assessors to use because it is read automatically by SAP software.

In some cases, the SAP recognition of a new technology type is required, and this cannot be implemented via the PCDB, normally because the request arises in-between SAP specification updates. In this case, an alternative database is used, known as the Appendix Q database. Unlike the PCDB which SAP assessment software can access directly and automatically, the Appendix Q database works as an add-on to software and allows assessors to convert performance data into an energy or CO2 emission saving value that is then entered within software.

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The SAP New Technology application process is a six-stage process and allows manufacturers to submit New Technologies for recognition by SAP – see Figure 1. The application process is staged to provide risk mitigation for applications, since costs can be highly variable depending upon the complexity of the New Technology. In some cases, this means developing test methods and/or calculation methods from scratch.

A summary of each application stage is provided below:

- Stage 1¹ – Application is submitted: Manufacturer completes an application for SAP recognition of the New Technology by visiting: <http://www.ncm-pcdb.org.uk>
- Stage 2 - Review: To confirm the validity of the application, BRE completes a review within 8 weeks; there is no cost to the Manufacturer. This will typically be completed in a shorter amount of time but can vary depending on the nature of the application and the potential requirement for discussions with the manufacturer. If valid, the application proceeds to Stage 3. In some cases, applications are for technologies that are already recognised – in this case the application will proceed to Stage 6.
- Stage 3 – Preliminary meeting: BRE holds a meeting with the manufacturer to discuss the New Technology, clarify technical matters unresolved during Stage 2 and provide advice on the feasibility of the application; there is no cost for the meeting.
- Stage 4 – Feasibility Assessment: Subject to Stage 3 acceptance, the manufacturer can request that BRE undertakes a Feasibility Assessment at a standard cost of £2,500. The assessment consists of BRE producing a single-page review of the proposed treatment of the New Technology within SAP and an outline of the methodology and data likely to be required to analyse the energy performance of the product. The Feasibility Assessment also indicates the scale

¹ Manufacturers may wish to make enquiries prior to completing an application form. This could be to establish the need for an application if, for example, the technology type already exists in the PCDB or it is not within the scope of SAP.

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of the next phase, a Scoping Study (Stage 5). Alternatively, the manufacturer, or another company appointed by the manufacturer, could produce an Assessment which would be subject to review by BRE.

- Stage 5 – Scoping Study: If the results of the Feasibility Assessment (Stage 4) are favourable, then the manufacturer may wish to proceed to Scoping Study (Stage 5). This study will seek indicative energy savings to establish the benefit that should be given in a SAP calculation.

Since the scale of this study is highly variable and depends upon the complexity of the technology involved, associated costs and timescales² can only be derived on a case-by-case basis³. The level of information required is also variable and manufacturers may find this by any appropriate means. In all cases, BRE can advise on whether a proposed method would be acceptable for recognition.

The Scoping Study will normally require completion of the Work Packages: WP200 and WP510 – see Figure 2 for Work Breakdown Structure. In such cases, if tests are required, these shall be conducted by a suitable independent test laboratory (UKAS or equivalent if applicable). Testing activities are outside the scope of the application process, which will be paused upon completion of the test method. Although BRE can provide advice at this stage, manufacturers will typically use their preferred methods of completing this step which may include self-funded trials or funding routes such as ECO Innovation⁴.

² An indicative cost range for Stage 5 is £10,000 to £80,000, with a timescale range of 6 to 18 months.

³ The Convenor of TC228 WG4 at the European Committee for Standardization has advised that, in his experience, the cost for developing standards relating to individual building energy performance standards ranges up to €40,000 per year and normally extends over several years. Such costs exclude a substantial time contribution from unpaid members of the Working Group. Such standards are similar to those produced as an output of Work Package WP510.

⁴ <https://www.ofgem.gov.uk/publications-and-updates/eco3-innovation>

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- Stage 6 – SAP Implementation: If the results of the Scoping Study are favourable, that is the technology is shown to provide energy savings that are within the scope of SAP, then the manufacturer may wish to proceed to SAP Implementation (Stage 6). This stage requires completion of all work packages not already completed in Stage 5 – see Figure 2 for Work Breakdown Structure.

If required, the Work Package WP100 would normally be completed by the manufacturer, with advice from BRE or an appropriate independent expert.

As with Stage 5, since the scale of Stage 6 is highly variable and depends upon the complexity of the technology involved, associated costs and timescales can only be derived on a case-by-case basis.

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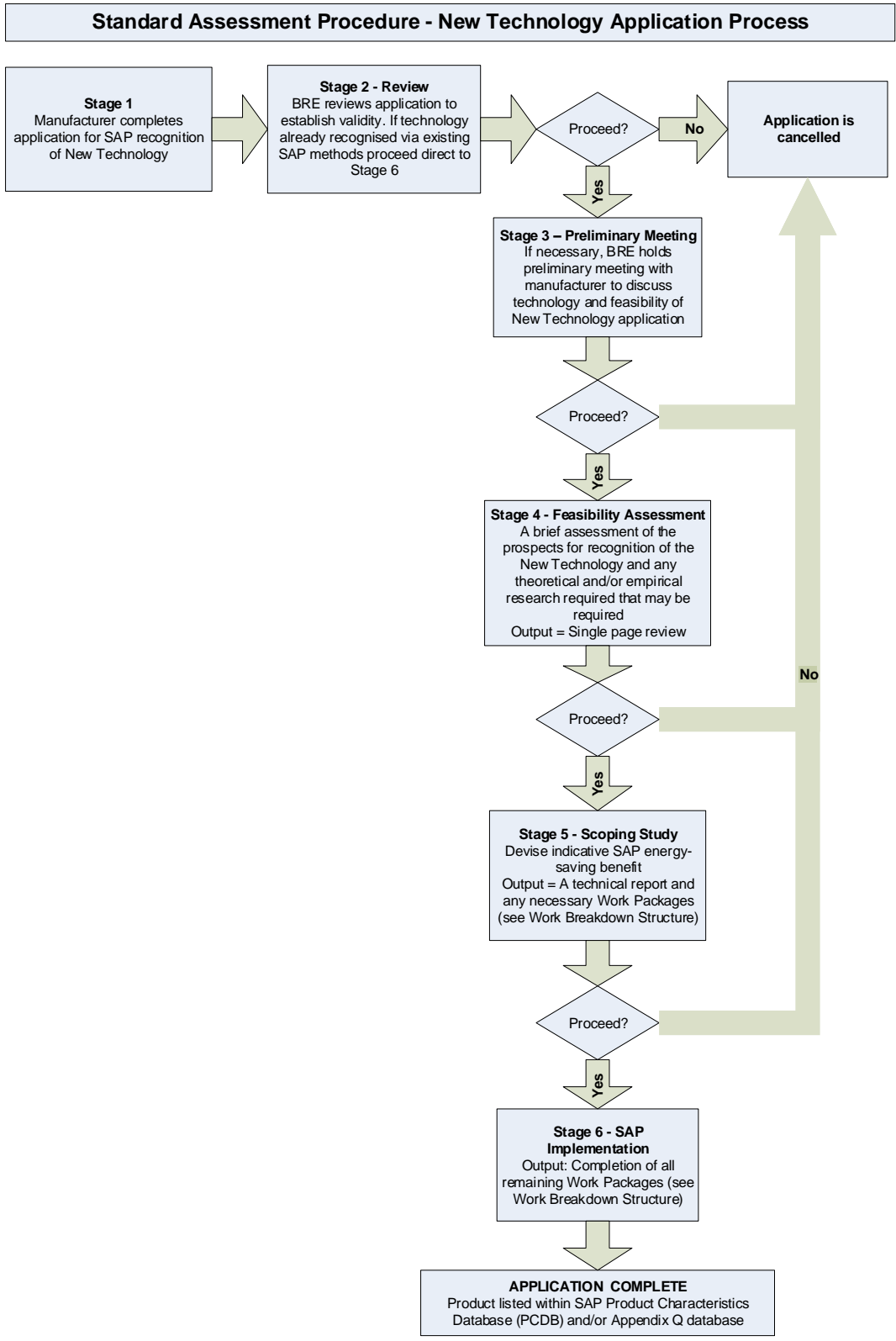


Figure 1 - SAP New Technology Application Process

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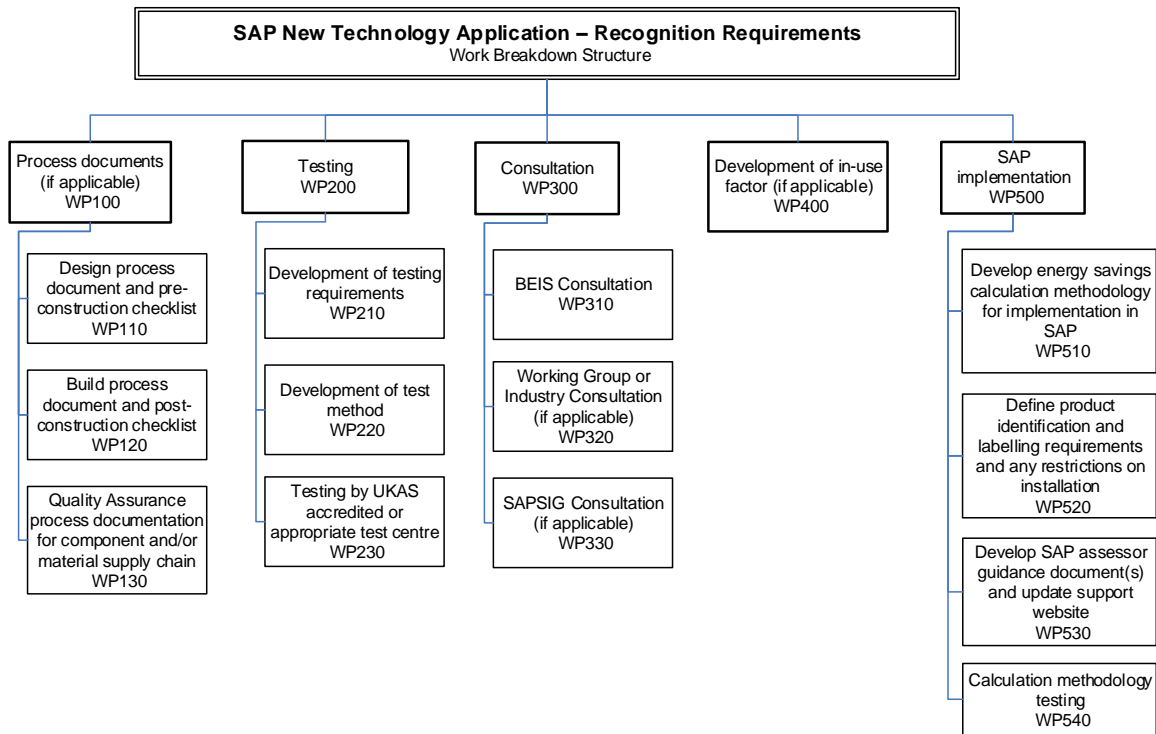


Figure 2 - General requirements for SAP New Technology recognition - Work Package Diagram

Further considerations:

- Suspending applications - Design/Specification Changes: The application can be suspended at any time during the application process until any planned design changes are complete or if it becomes apparent that certain specification aspects are inadequately defined. The applicant must confirm in writing that the design has been frozen, supplying proof of satisfactory design version controls.

Design changes will have a cost implication if they occur during or after Stage 5, with costs determined on an individual project basis.

- Pausing applications during testing by UKAS accredited or appropriate test centre (WP230): The application process will outline a suitable test methodology for assessment of the system and/or individual components within Stage 5 or 6 as appropriate. Any testing activities and associated timeframes are outside the

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scope of the application process, which will be paused upon completion of the test method.

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