Low Carbon Software Specification®

Sustainability Led Software Procurement Decisioning

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Low Carbon Software Specification (LCSS) as part of the Procurement & Supply Chain Decisioning Process.

These are recommended specifications to ask software vendors to enable a purchasing company to ascertain the low carbon credentials of the software product(s) they are selecting. These specifications are product oriented, and should be used in conjunction with a broader ESG assessment of the supplying organisations pathway to Net Zero and a low carbon future.

The specifications in the LCSS are intended to be general enough to cover the most important aspects of software development, but also focused enough that they will encourage revealing answers from the individuals and companies responding. We fully expect that over time the weightings and scoring bands may change as vendor maturity grows.

Why Does Low Carbon Software Matter?

Software runs our digital lives and businesses, but we use lots of energy to build it and need hardware, data centres and networks to keep it running. All of this consumes even more energy. The sector created 1.4 billion tonnes CO_2e or 2.5% of global emissions in 2020 and consumed 4% of global energy – the same as all the air travel taken in the world in a year. Data centres use about 1% of global electricity – 160TWh of energy. That's the same as powering 32 million homes. And these numbers are increasing every year as our usage of digital services continues to grow.

We can help by lowering the energy demands of software on the technology value chain and reduce the creation of millions of tonnes of CO_2e. By making more efficient use of ICT we not only lower energy consumption but also extend the lifespan of the embodied carbon in all devices and infrastructure components needed to run software. By designing and building carbon efficient software we can reduce total energy demands of the entire technology value chain.

Procurement and supply chain decisioning can be major influencers for software companies to focus on decarbonising their products and help us move toward a lower carbon IT future.

Low Carbon Software Specifications

Specification 1: Score out of 10
The vendor should present a project similar to tender scope in terms of technology choices, functionality and/or business domain. They should clearly state where actions have been demonstrated to drive carbon reduction or where these are in plan.

Ref	Assessment Criteria	Score Weighting
1.1	The vendor should demonstrate they have the right technical expertise to suit the purchasing organisations needs.	2.5
1.2	The vendor should demonstrate that they have the right level of technical expertise and has it been applied to reduce the carbon impact of their product.	2.5
1.3	The vendor should demonstrate that they have baselined their product development from a sustainability perspective, including a clear start position and what targets they have for the future.	2.5
1.4	The vendor should showcase a roadmap for improvement and further reductions to achieve their targets.	2.5

Further Guidance: Specific project examples are required to demonstrate actual action and understanding. These should be compared against an ambition to improve, and a non-response should be considered an indication of lack of action and planning.

Specification 2: Score out of 10
The vendor should provide good references from previous projects.

Ref	Assessment Criteria	Score Weighting
2.1	The vendor should evidence and provide supporting material with reviews from clients to give the best indication of action in practice.	3
2.2	Assess how well the vendor's software development processes and the delivered software perform for other clients.	2
2.3	The vendor should demonstrate actual carbon reduction metrics that have been validated and contribute toward a client's carbon reduction commitments. More than one example should be looked upon favourably.	3

Ref	Assessment Criteria	Score Weighting
2.4	Where the vendor is using a partner to complete carbon assessments for their product(s) then have they should provide client references to support their work and demonstrate their credibility.	2

Specification 3. Score out of 15
The vendor should describe their software and digital decarbonisation approach, highlighting the main activities and processes they undertake.

Ref	Assessment Criteria	Score Weighting
3.1	The vendor should detail their low carbon IT methodology, and provide details of how their approach is a structured, consistent and repeatable process.	7
3.2	The vendor should demonstrate a clear understanding of the difference between Net-Zero vs. Carbon Neutral and apply this to their overall response.	
3.3	The vendor should demonstrate an understanding of and an alignment to the GHG Protocol standards and guidance.	
3.4	The vendor should include a clear articulation of how they are able to provide Scope 1, 2 and 3 emission calculations for the product being procured.	
3.5	The vendor should provide a clear range of parameters being calculated and how they have approached boundary setting and allocation methods to calculate carbon impact.	
3.6	The vendor should demonstrate that they have a clear understanding of the emission factors being used.	
3.7	The vendor should show that they have baselined themselves, and can further demonstrate that the baseline meets standards or can be compared / validated.	2
3.8	The vendor should demonstrate the metrics they produce and how they align to the purchasing organisations ESG reporting commitments. Or be proactive in requesting further information from the purchasing organisation to be able to respond appropriately.	2
3.9	The vendor should provide clarity on the different carbon emission calculations being provided and whether they are able to reflect the usage of their product within the purchasing organisations context.	2
3.10	Te vendor should demonstrate how their approach to decarbonisation or sustainable IT compares to their competitors.	1

Ref		Score Weighting
3.11	The vendor should highlight where they use any form of independent assessment or whether their approach is based on 'marking their own homework'?	1

Specification 4. Score out of 10
The vendor should show how they ensure quality and accuracy of the low carbon impact of their software product.

Ref	Assessment Criteria	Score Weighting
4.1	The vendor should provide tangible and clear action driven responses covering their approach to regular re-measurement of carbon emissions.	2
4.2	The vendor should provide a clear target driven roadmap with regular tracking and checkpoints.	2
4.3	The vendor should evidence how they approach and gather neutral feedback from clients on their performance.	1
4.4	The vendor should demonstrate regular checkpoints and comparison against GHG Protocol standards, including how they continue to update their approach as standards evolve.	1
4.5	The vendor should state where they use third party or independent low carbon IT assessment services, And where utilised, evidence the level of partnership and collaboration they have to support further advances in the field.	2
4.6	The vendor should evidence the tools being used to assess the quality of carbon reporting and what processes have been adopted or deployed to ensure quality of data input and output through the assessment process.	2

Further Guidance: Any claims of Net-Zero targets for a software product should be treated as a reflection of their lack of understanding of GHG Protocol and SBTi Standards, there is a high likelihood that they do not understand basic principles and the vendors responses should be reviewed cautiously. Further detailed questioning from your ESG team may be required.

Specification 5. Score out of 10
The vendor should explain the practices they follow for low carbon IT reporting.

Ref	Assessment Criteria	Score Weighting
5.1	The vendor should demonstrate clear reporting practices showing how they report their decarbonisation progress and deliverables to their clients.	2
5.2	The vendor should demonstrate an ongoing and continuous approach to improving the sustainability credentials of their development practices, technology choices and product offering(s).	3
5.3	The vendor should ensure that their sustainability credentials include any third parties they may select and use to assist them with assessing their product(s).	3
5.4	The vendor should be seeking clarity from the purchasing organisation, and request clarity on reporting needs, and any specific levels of detail required to align to the purchasing organisations reporting standards.	2

Specification 6. Score out of 10
The vendor should state where they utilise a Low Carbon IT Assessment Partners, and demonstrate how they assessed their viability.

Ref	Assessment Criteria	Score Weighting
6.1	The vendor should provide a list of partners with background on their selection process and key capabilities that made them stand out from any competitors.	2
6.2	The vendor should evidence details of the partnering process, covering thoroughness, suitability and level of completeness in assessing the vendor's product(s).	2
6.3	The condor should provide (or offer to share) sample output and evidence of any assessments undertaken for the product being procured.	3
6.4	The vendor should share credentials of their selected partner, and indicate where these have been independently verified or supported.	3

Ref	Assessment Criteria	
6.5	Where the purchasing organisation has stated a preference for a low carbon IT measurement supplier for the vendor to consider then ensure this is detailed in the tender process with any supporting rationale and responses above are considered with this in mind.	INFO

Further Guidance: Decide if the Low Carbon Software Specification is mandatory for a procurement decision - and agree the level of guidance to be provided to shortlisted vendors. This may involve directing them toward a preferred assessment provider to drive consistency of results and enable a more straightforward comparison between products.

Specification 7. Score out of 10
The vendor should provide details of the Sustainable IT practices in their organisation and how they are used to improve the product being procured.

Ref	Assessment Criteria	Score Weighting
7.1	The vendor should provide details of their sustainable IT thinking, with method and practices demonstrated. These should cover a good level of understanding of the core principles behind sustainable IT and how to build low carbon IT solutions. Ensure your technology representative reviews the information provided.	3
7.2	The vendor should provide specific details of approaches and methods, and compare these to best practice . Again ensure your technology representative with expert understanding of low carbon IT product development assesses the responses. If you do not have this knowledge internally consider finding partners who can advise you to be able to best judge vendor answers and avoid longer term carbon remediation costs and impact.	
7.3	The vendor should provide a baselined position vs. improvement plans and a roadmap should be demonstrated in the response. The vendor's response should cover 'improvement', not just an initial measure of their performance. Improvement should be measurable and quantifiable, with key metrics, performance indicators and targets highlighted.	2
7.4	The vendor's response should cover the culture of their organisation and any investment they are making to improve the embedding of a sustainable, low IT approach to product development.	2
7.5	Where a vendor is over-emphasising their credentials based on solely a cloud based response, review this carefully. Where a balanced view on sustainable IT practices are evidenced score more generously.	3

Specification 8. Score out of 15
The vendor should provide details of the Sustainable Software Engineering knowledge and depth within the development team who build, improve and maintain the product being procured.

Ref	Assessment Criteria	Score Weighting
8.1	The vendor should clearly demonstrate their knowledge of Sustainable Software Engineering principles and techniques at software development level. Specific examples and coverage should be assessed to determine the depth within the vendor organisation.	5
8.2	The vendor should indicate how many developers have the experience, training and practical application of these techniques - and how they are contributing toward building a low carbon IT solution.	
8.3	The vendor should explain the methodology for dealing with the increasing demand for decarbonisation and low carbon IT skills.	3
8.4	The vendor should show how they vet candidates and employees on their level of understanding of Sustainable Software Engineering practices and techniques.	1
8.5	The vendor should present the key people who will deliver low carbon IT services as part of the solution being assessed, and clearly indicate their experience level.	2
8.6	Determine if the vendor is prepared for individuals working on the product to undergo tests to demonstrate their knowledge and experience. Raise this in the initial RFI process and look for a response in this section.	2
8.7	Clear learning pathways and a measure of the vendors sustainable software engineering credentials is a key indicator to look out for.	2

Specification 9. Score out of 7
The vendor should explain if implementing a Low Carbon IT solution impacts the cost to deliver and provision the product being procured.

Ref	Assessment Criteria	Score Weighting
9.1	The vendor should explain what additional costs are involved in providing and demonstrating the vendors low carbon IT solution?	
9.2	The vendor should explain if there are any additional rates and payment terms, and provide the rationale for these costs.	3

Ref	Assessment Criteria	Score Weighting
9.3	The vendor should indicate whether there might be any hidden costs later down the line as a result of investing in a low carbon IT solution.	
9.4	The vendor should explain if any provision for repeated measurement and assessments are included in their overall cost proposal.	2
9.5	The vendor should highlight if any additional internal costs should be expected as a result of selecting a low carbon IT solution and provide a rational to explain them.	2
9.6	The vendor should provide cost transparency and a clearly defined cost breakdown related to their low carbon solutioning as part of the proposal.	

Further Guidance: The vendor should explain or detail if there are any operational efficiencies or savings as a result of selecting a low carbon IT software product. The response should indicate the scale of cost efficiency that can be expected, and where applicable, evidence through examples or client use cases.

Responses to these questions may need to be specifically drawn out in the cost section of the tender process but seek to raise questions related to carbon reduction within the process to determine if there is a correlation between carbon efficiency and operational / cost efficiencies.

Specification 10. Score out of 3
The vendor should provide any further information that details their low carbon USP, and why they should be chosen instead of their competitors?

Ref	Assessment Criteria	Score Weighting
10.1	The vendor should clearly articulate any additional elements or evidence of their carbon reduction related USP.	
10.2	The vendor should highlight where they feel they are able to provide any additional low carbon IT or decarbonisation of software services of value to the purchasing organisation, or where through association, affiliation or partnership, they can bring services to add additional value.	
10.3	The vendor should demonstrate if they are taking a client or low carbon IT leadership position, and where evidenced explain how this might resonate or align to the purchasing organisations strategy.	1.5

10.4	The vendor should demonstrate how far they support innovation in sustainable IT and how this could also benefit the purchasing organisation.	
10.5	If the vendor is large and with global scale, they should demonstrate how they invest in progressing the decarbonisation of IT more broadly.	
10.6	The vendor can demonstrate their purpose led, or educational investments that they make to more broadly lead decarbonisation activity.	
10.7	The vendor should demonstrate the carbon reductions they have already achieved through their own low carbon / decarbonisation strategy for their business or for their other clients.	1.5

LCSS Scoring Bands

Scoring bands to assess the overall ratings achieved by a company for their digital product are available from GoCodeGreen. You can also get guidance on how to score and rate, or complete the LCSS if you are a software company.

To discuss this further, contact connect@gocode.green, who will be happy to discuss an example of how to implement this in practice and methods for measuring and tracking performance against your Low Carbon Software Specification.