Introducing An Assessment Tool Classification System

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A wide variety of green building and LCA tools are currently in use in the marketplace, with announcements of new entrants becoming almost routine; sorting them out in the decision-making process can be a daunting task, even for people working in the field. Recognizing the confusion that surrounds the plethora of tools "out there", ATHENA has developed a basic, three-level classification system that provides a uniform framework for discussing, assessing and comparing tools. We presented this "Assessment Tool Typology" to an international audience in Paris a month ago, and as part of a presentation at a recent LCA conference in Washington; in both instances it seemed to be very well received.

The typology is fairly simple and it certainly does not pretend to be all-encompassing. But it does provide a basic framework for comparing systems.

The typology is especially intended for people not directly involved in development of the tools: the building community (architects, engineers, developers, etc.), governments, industry, foundations, and the media.

The essence of the typology is a basic three-level classification scheme, with a separate category for supporting tools and techniques that either span more than one level of the classification or are not readily classified. Tools are slotted into one level or another depending on where in the design/assessment process they are used and for what purpose.

Level 1

Product comparison tools and information sources, such as BEES, the Environmental Resource Guide, LCExplorer, SimaPro and TEAM are classified as Level 1. This level is used primarily at the procurement stage; a tool may include economic as well as environmental or other data, and it may have LCA in the background (e.g. BEES), or be used to construct LCAs (e.g. SimaPro). Level 1 tools and information sources are probably the most common. They can be valuable for building databases and for making comparisons and choices at the procurement stage, or when designing fairly simple systems. However most, if not all, Level 1 tools can quickly run afoul of LCA guidelines or be overloaded if used to make whole building design decisions.

Level 2

Whole building decision support tools, such as ATHENA, EcoQuantum, Envest, DOE2, E10 and Radiance, are classified as Level 2. Level 2 tools typically focus on a specific area of concern, such as life cycle costs, life cycle environmental effects, lighting, or operating energy, and a few combine more than one of these areas. Level 2 tools are uniformly data-oriented and objective, and try to adhere to formal ISO, ASTM, ASHRAE or other standards and guidelines. Level 2 tools are typically intended for use by design team members at as early a stage as possible during the design phase. The environmental tools may involve weighting or scoring, and all of the tools can provide important inputs to Level 3 tools.

Level 3

Whole building assessment frameworks or systems, such as BREEAM (Canada/UK), GBTool (international), EcoEffect (Sweden), ECOPROFILE (Norway), ESCALE (France), and LEED (US) are classified in this Typology as Level 3. Level 3 tools provide a very broad coverage of environmental, economic, social and other issues deemed to be relevant to sustainability. Level 3 tools use a mix of objective and subjective data, often leaning on Level 2 tools for the objective data. Most use subjective scoring or weighting systems to distil the information and provide some useable overall measures. Level 3 tools may be applied to new designs or existing buildings, depending on the tool. Some require external auditors, and most yield

certificates or labels indicating a building's performance. Most Level 3 tools claim to be LCA tools, or at least use that term, even if they don't truly meet the criteria. The rationale seems to be that if they deal with the life cycle, it must be Life Cycle Assessment.

Supporting Tools and Techniques
In this category, the Assessment Tool Typology accommodates systems that provide more general support to the various tools, or to the design process itself. Examples of support systems are Baseline Green, Green Balance, Green Building Advisor, LCNetbase and the Whole Building Design Guide. These tools or methods generally apply to the whole or part of a building or development and are generally used for screening, setting priorities, or addressing specific concerns, such as indoor air quality and carbon dioxide emissions.

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One very important function of the classification system is to provide a framework for comparing tools and systems in terms of their characteristics:
• the status of the tool (i.e., is it commercial, at the beta stage, or partially developed?);
• the ability of the user to modify or add data;
• whether the tool is based on agreed LCA or LCC guidelines or standards; or
• whether it spans more than one level of the basic classification.

The key is that comparisons should be within and not cut across classification levels: compare Level 1 tools to other Level 1 tools, but not to those in Levels 2 and 3. It is not only unfair, but confusing, to compare a Level 1 to a Level 2 tool or to criticize a Level 2 tool because it does not provide some of the answers that are properly the subject of Level 3 tools.

Hopefully, the typology will also help guide people to the appropriate kinds of tools for the task at hand.

Imposing some order becomes increasingly critical as new tools emerge. In fact, in the not-too-distant future we will probably have to add a Level 4 classification to deal with tools and techniques that focus on urban form and function, including infrastructure and other elements of sustainable communities.

As we indicated at the beginning, we don't presume that this system is necessarily the best or the most comprehensive, and we would certainly like to hear any thoughts or suggestions on how we might improve the typology. But bear in mind the basic objective of keeping it simple so that we can bring order to a cluttered and chaotic scene.

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