What are our competitors doing: Existing International Assessment Tools

Year of Introduction	Name and Country	Description	Implementation & Policy Application
1990 [Current system is BREEAM 2011]	UK BREEAM: BRE Environmental Assessment Method	BREEAM is a certification scheme assessing a building's performance in the following areas: • Management; • Health and Wellbeing • Energy • Transport • Water • Materials • Waste • Land Use & Ecology • Pollution • Innovation For each of the above, a percentage of total credits is awarded and weighed to form an overall score. BREEAM differs in that it adopts a 'balanced score-card'. To achieve a particular level of performance the majority of BREEAM credits can be traded, i.e. non-compliance in one area can be off-set through compliance in another to achieve the target BREEAM rating. However, BREEAM sets minimum standards of performance in key areas e.g. energy, water, waste etc.	• **Mandatory** BREEAM 'Very Good' for non domestic buildings – Homes & Communities Agency [national] • **Mandatory** BREEAM**/** Code for Sustainable Homes Level 3 for residential projects [HCA national] • **Mandatory** BREEAM 'very good for all schools over 500K • Number of government departments (both UK and globally) require or encourage BREEAM. • Verification carried out by independent, trained assessors.
1998 [Current system is LEED 2009]	USA LEED: Leadership in Energy and Environmental Design	LEED is a certification scheme which provides a 100-point scale, where credits are allocated based on a development's performance (in relation to baseline standards) in criteria such as: • the sustainability of the site; • water efficiency; • energy and atmosphere; • materials and resources; • indoor environmental quality; • plus an additional 10 bonus credits allocated between innovation in design and regional priority. The LEED for Home ratings provide additional performance credits around location and linkages and awareness and education LEED provides separate rating systems for: • New Construction • Existing Buildings: Operations & Maintenance • Commercial Interiors • Core & Shell • Schools • Retail • Healthcare • Homes • Neighborhood Development	**Mandatory** : Widely used across USA, for example Full list of US planning policies requiring LEED certification : http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1852 Examples of policy : • **Mandatory** LEED Gold [from 2012] in San Francisco for all high rise residential, all new large commercial, interiors and refurbs. LEED Silver for all other resi. • **Mandatory** in Los Angeles for large-scaled residential and commercial projects [Leed certified Level] • **Mandatory** LEED Silver for municipal buildings and multifamily buildings. • Verification carried out by the Green Building Certification Institute.
1999	Australia NABERS: National Australian Building Environment Rating System	NABERS differ from other certification scheme in that it assesses against operational performances (i.e. operation of built buildings). Categories include: • Energy use and GHG emissions • Water • Waste • Indoor environment	• **Mandatory disclosure** Under the Building Energy Efficiency Disclosure Act 2010 (BEEDA) most sellers or lessors of office space of 2,000 m2 or more will be required to obtain and disclose an up-to-date energy efficiency rating.

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			• **Mandatory** for government buildings to achieve a 4.5 NABERS rating. • Verification carried out by independent, trained assessors. • NABERS Energy star rating forms part of a full Building Energy Efficiency Certificate required under the BEEDA. • Likewise a NABERS rating must be included in any advertisement for the sale, lease or sublease of office space.
2001	Canada SBTool (formerly GBTool)	Provides a generic framework which asseses a building's performance in two stages of its life-cycle: site assessment in the pre-design phase, and building assessment during design, construction and operation phases. Broad criteria assessed include: • Site location, available services, and site characteristics • Site Regeneration and Development, Urban Design and Infrastructure • Energy and resource consumption • Environmental loadings • Indoor environmental quality • Service quality • Social, cultural, and perceptual aspects • Coast and economic aspects SBTool scoring relies on a series of comparison between the building being assessed and national or regional references e.g. 'good' practice and 'best' practice. The score is calculated by first multiplying each value by its appropriate weight followed by summing of the scores for all criteria. This allows for comparison of buildings internationally and regionally, as per the intention that the SBTool be a generic framework (a consistent methodology) with local non-commercial organizations being expected to define local context conditions and to develop appropriate weights and benchmarks.	• **Mandatory** : LEED Silver or SB Tool equivalent for all rezoning within Vancouver • **Mandatory :** LEED Gold [using Custom Tool and SB Equiv] for all development within waterfront area • Verification carried out by third parties who are also responsible to establish weighting for criteria to reflect importance of local issues.
2003	Australia GreenStar	GreenStar is a building certification scheme assessing a building's performance in the following areas: • Management • Indoor Environment Quality • Energy • Transport • Water • Materials • Land Use & Ecology • Emissions • Innovation For each of the above, a percentage of total credits is awarded and weighed to form an overall score. However the environmental weighting factors vary across states and territories to reflect diverse environmental concerns across Australia.	• Several governments, including South Australia, Queensland and Victoria refrences GreenStar as benchmarks in their policies. • Verification carried out by independent, trained assessors commissioned by Green Building Council of Australia (certification body)

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2003	South Africa SBAT: Sustainable Building Assessment Tool	SBAT measures performance in the following criteria: **Social** · SO1: Occupant comfort · SO2: Inclusive environments · SO3: Access to facilities · S04: Participation and control · S05: Education, health and safety **Economic** · EC1: Local economy · EC2: Efficiency · EC3: Adaptability · EC4: Ongoing costs · EC5: Capital costs **Environmental** · EN1: Water · EN2: Energy · EN3: Waste · EN4: Site · EN5: Materials and components Each criteria is given a score out of 5 and represented on a radar diagram allowing for quick visual reading of a building's performance. SBAT aimed to assess not only the performance of but also the extent the building contributes to supporting and developing more sustainable systems around it.	
2004 [Started in 2004 with Sydney and rolled out for the rest of NSW]	Australia BASIX: Building Sustainability Index	BASIX is an on-line assessment tool whereby users can input data such as location, size, material, etc to compare the potential energy and water consumption of a new home or unit against reduction targets. BASIX is divided into three broad sections: • Water; • Thermal Comfort; • Energy If a proposal complies with the targets, a BASIX certificate is issued (i.e. printed). Commitments made to achieve accreditation must be marked on plans and adhered to. Any changes to the design of the development require a new BASIX assessment.	• **Mandatory :** introduced by the NSW Government. Every development application for a new home must be submitted to council with a BASIX Certificate. • Self verification via internet.
2005	Japan CASBEE: Comprehensive Assessment System for Built Environment Efficiency	CASBEE is a tool for assessing and rating the environmental performance of buildings and built environment. Corresponding to the building lifecycle, CASBEE is composed of four assessment tools, CASBEE for Pre-design, CASBEE for New Construction, CASBEE for Existing Building and CASBEE for Renovation. CASBEE assesses 4 specific fields: • Energy efficiency • Resource efficiency • Local environment • Indoor environment Scoring is accomplished by dividing the built environment quality (improvements within the building) rating with the built environment load (negative effects caused outside building).	• CASBEE results (If assessed) are required to be reported before construction. • Used by the Japanese local governments to encourage green buildings .

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2006	China National Standard of the People's Republic of China, Evaluation Standard for Green Building (the Standard; China)	The evaluation system provides 2 standards: residential and public buildings (i.e. large commercial). Each building is rated with a range of prerequisites (called 'control items') and credits (called 'general items') in six categories: • Land savings and outdoor environment • Energy savings • Water savings • Material savings • Indoor environmental quality • Operations and management A seventh 'Preference items' is roughly analogous to 'innovation'. • Ratings are granted by a systems of 'stars' (up to 3) dependent on the number of items a building complies with.	• Appears to be self assessed, though analysis reports are submitted to the Ministry responsible for certification.

Note

This is not an exhaustive list, there are many other tools available internationally. This is just a snap shot of the main tools.