

GREEN STAR 'TIMBER' CREDIT

2 POINTS

AIM OF CREDIT

To recognise the use of reused timber, legally sourced timber, and timber sourced from forests whose conservation values are not degraded.

CREDIT CRITERIA

Up to two points are awarded as follows:

- One point where at least 95% (by cost) of all timber used in the building and construction works is certified by a forest certification scheme that meets the GBCA's 'Essential' criteria for forest certification (e.g. all schemes accredited by FSC International or PEFC); or is from a reused source; or is sourced from a combination of both.
- Two points* where at least 95% (by cost) of all timber used in the building and construction works is certified by a forest certification scheme that meets both the GBCA's 'Essential' and 'Significant' criteria for forest certification; or is from a reused source; or is sourced from a combination of both.

** Only one point is currently available when claiming this credit. Further work is being undertaken on the 'Significant' criteria for forest management, against which forest certification schemes can be assessed to qualify certified timber for a second point in this credit. The second point will be N/A until the 'Significant Criteria' are implemented.*

A list of up-to-date GBCA recognised forest certification schemes can be found on the GBCA website at www.gbca.org.au.

If the material cost of timber represents less than 0.1% of the project's total contract value then this credit is 'Not Applicable' and is excluded from the points available used to calculate the Materials Category Score.

COMPLIANCE REQUIREMENTS

This credit addresses all timber applications within the building and construction works. No distinction is made between temperate, tropical, hardwood and softwood timbers and engineered wood products.

Typical timber uses include, but are not limited to:

- Formwork and other temporary installations of timber (e.g. hoardings);
- Structural and non-structural timber, including internal walls, floors and roof structures;
- External and internal cladding;
- Flooring, wall, and ceiling finishes;
- Internal and external joinery, windows, doors, and other specialist uses of timber, such as installed furnishings or balustrades; and
- Furniture items made from timber or timber components including workstations, chairs, tables, storage, and loose furniture (as applicable to the Green Star tool being used).

DOCUMENTATION: DESIGN RATING

Submit all the evidence and ensure it readily confirms compliance.

- Short report
- Extract(s) from the specification(s)
- Extract(s) from the contract

Where the credit is claimed as 'Not Applicable':

- Short report
 - Extract(s) from the contract
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Short report prepared by a quantity surveyor, cost manager, cost planner, cost estimator, or architect that describes how the Credit Criteria have been met by:

- Nominating all timber uses; and
- Referencing extracts from the specifications for all timber uses in the project to demonstrate that at least 95% of all timber (by cost) is either reused or certified.
- Where the credit is claimed as Not Applicable, a comparison of the timber's total value against the project's total contract value.

Extract(s) from the specification(s)

- Nominating whether the timber and/or timber products are reused or certified timber from a GBCA recognised forest certification scheme or a combination of both; and
- Requiring that any certified timber used in the project is supplied in accordance with the Chain of Custody (CoC) rules of the respective forest certification scheme (e.g. relevant CoC certificates or invoices including a relevant CoC code or serial number).
- Requiring the contractor to obtain approval of the design team or client before substituting the timber listed in the specifications.

Extract(s) from the contract that includes the project's total value.

DOCUMENTATION: AS BUILT RATING

Submit all the evidence and ensure it readily confirms compliance.

- Short report
- Signed Statement from Head Contractor or Supplier(s)
- Extract(s) from the contract

Where the credit is claimed as 'Not Applicable':

- Short report
 - Extract(s) from the contract
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Short report describing how the Credit Criteria have been met by providing:

- An as-installed timber schedule prepared by a quantity surveyor, cost manager, cost planner, cost estimator, or architect showing cost calculations to demonstrate that reused and certified timber jointly account for at least 95% of timber costs in the project. The timber schedule must provide:
 - Descriptions of each timber use or timber product including whether the timber is reused or certified timber;
 - The name of the forest certification scheme responsible for certifying the source of the timber;
 - Chain of custody codes or serial numbers;
 - The quantity of timber and/or timber products measured by area (m²), lineal metres (lm), or number of items (no); and
 - Total material cost of timber and/or timber products.

See Additional Guidance for timber schedule template that must be included with this short report

- A short description of where the reused timber was sourced (e.g. demolition site, second hand retailer);
- Where reused and/or recycled timber is used refer to the Additional Guidance section for compliance requirements; and
- A comparison of the timber's total value against the project's total contract value.

Signed Statement from Head Contractor or Supplier(s) confirming that the timber listed in the timber schedule has been supplied to the project; where certified timber is supplied, provide the:

- Chain of custody certificate(s), code(s) or serial number(s);
- Quantity of timber and/or timber products measured by area (m²), linear metre (lm), or number of items (no) (see Additional Guidance note on AQIS 2008 in timber schedule template); and
- Total material cost of timber and/or timber products.

Extract(s) from the contract that includes the project's total value.

ADDITIONAL GUIDANCE

Percentage of Timber Addressed by the Credit

The credit requires 95% of the timber used in a project (measured by cost) to be compliant with the credit criteria. The requirement for 95% of timber to be documented, rather than 100%, is aligned with GBCA policy to streamline compliance and reduce the documentation required from project teams. It also allows some margin for error, and maintains the integrity of Green Star by acknowledging that in reality, it is unlikely that a project team will manage to document 100% of all timber used in the building and construction works.

Certified Timber

Timber shall only be considered as 'certified' if it has been sourced from forests that have been certified by forest certification schemes that, at a minimum, are deemed to satisfy the requirements of the GBCA's 'Essential' criteria for forest certification. Currently this is limited to FSC International and PEFC-accredited certification schemes.

In addition, timber and timber products sourced from certified forests must be accompanied by a relevant Chain of Custody (CoC) in order to be recognised as certified timber. Further information relating to CoC is provided below in Additional Guidance.

Reused Timber

Reused timber is defined as timber that is pre-existing in a fitout or building, or timber and / or timber products (flooring, walls and cladding, ceiling finishes, joinery, etc.) procured from a second hand source. Reused timber sources may include, but are not limited to second hand retailers, removalists, auction houses, and demolition works from previous sites. For a product or material to be classified as 'reused' at least 80% by area, length,

volume or mass (whichever is more appropriate) of the item must be retained from the original / reused source; the rest can be refurbished or new, as in the case of new painting or coating. A description must be provided from the architect, interior designer or supplier demonstrating how this requirement is met and providing calculations (e.g. breakdown of all components by area, length and mass). Where the actual cost of the item is known then this cost must be reported. Where the actual cost of reused items is not known then the cost may be estimated on the basis of replacement cost (i.e. the cost of an equivalent new item).

For refurbishment projects claiming this credit, the area and market value of timber material retained within the existing building must be detailed. Any pre-existing timber that is retained in a refurbished project may be classified as reused and included in the calculations for this credit provided that its quantification is well justified.

Recycled Timber

The credit criteria do not directly address recycled timber as it is common practice for recycled timber fibre to be mixed with virgin timber fibre in the production of engineered wood products. Therefore timber products containing recycled content are required to be certified (e.g. as a mixed sources product) and supplied with a valid CoC in order to comply with the credit criteria. Recycled content, in the context of recycled timber, means post-consumer recycled timber (not pre-consumer recycled wood and wood fibre, industrial by-products, or sawmill co-products).

If a timber product is produced from 100% post-consumer recycled timber without the incorporation of any virgin timber content, then this shall be termed 'reused timber' for the purposes of this credit. Third-party verification, in the form of a signed statement, is required to confirm the percentage of post-consumer recycled content in such product(s) in order for them to be recognised as 'reused timber'. The third-party verification statement must be provided by an auditor registered by the Registrar Accreditation Board Quality Society of Australasia (RABQSA), or other equivalent national or international auditor accreditation system.

Virgin Timber

Virgin timber refers to timber and wood-derived products that are not recycled. Sawmill co-products are deemed to fall within the category of virgin timber.

Timber Schedule

The total material cost of timber used in the building and construction works must be demonstrated by first entering the costs for each timber use and/or timber product application on a line item basis into the timber schedule. Next, at the bottom of the timber schedule, add up all of the line item costs of the reused, certified and uncertified or undocumented timber in the schedule. The combined total of the reused and certified timber must be at least 95% of the total material cost of timber. If the uncertified or undocumented timber is greater than 5% of the total material cost then no points will be awarded.

For Green Star - As Built projects, where the cost of timber used in the project cannot be demonstrated via documentation from the supplier or contractors, the project must submit a short report prepared by a qualified quantity surveyor, cost manager, cost planner, cost estimator, or architect showing:

- The total actual material cost of timber (including existing timber if part of refurbishment) as a proportion of the project's total value; and/or
- For refurbishment projects claiming this credit, the amount and market value of timber material retained within the existing building. Measurements must be conducted in accordance with AIQS 2008 (see note below).

Timber Schedule Template

Description of Timber Use and/or Timber Products	Reused; Certified; or Uncertified Timber	Name of Forest Certification Scheme (certified timber only)	CoC Code or Serial Number (certified timber only)	* Quantity by area (m ²), lineal metres (lm), or number of items (no)	Total Cost Reused	Total Cost Certified	Total Cost Uncertified
Wood Panels (e.g. plywood, particleboard and MDF used for formwork, joinery, kitchens, bathrooms)				m ²			
Doors				No			
Windows				No			
Furniture covers timber used in loose furniture, tables, workstations, chairs, lockers, etc.				No			
Skirting boards				lm			
Architraves				lm			
Roof trusses				lm or m ²			
Studs				lm or m ²			
Structural Timber (pylons, beams, laminate beams, etc.)				lm			
Other timber uses and timber products not mentioned in table				*as per AIQS 2008			
Sub Total Costs					\$	\$	\$
Total cost of all timber used in the building and construction works					\$		
Combined total cost of reused and certified timber					\$		
Total cost of reused and certified timber as a percentage of total timber cost						%	

* Measurements and cost estimates of timber uses and timber products must be conducted in accordance with The Australian Standard Method of Measurement for Building Works – Fifth Addition, published by the Australian Institute of Quantity Surveyors (AIQS 2008).

Worked Example of Timber Schedule

Description of Timber Use and/or Timber Products	Reused; Certified; or Uncertified Timber	Name of Forest Certification Scheme (certified timber only)	CoC Code or Serial Number (certified timber only)	Quantity by area (m ²), lineal metres (lm), or number of items (no)	Total Cost Reused	Total Cost Certified	Total Cost Uncertified
Wood panels Company X MDF for joinery & bathrooms	Certified	FSC	SW COC 001302	200 (m ²)		\$5,000	
Wood panels Formwork	Certified	AFCS	AFS/01-31-38-02	1000 (m ²)		\$37,500	
Closet Doors	Certified	AFCS	AFS/01-31-38-03	20 (no)			
Fire Doors Company Y	Certified	FSC	SGS COC 005904	10 (no)		\$8,500	
Windows Stained glass case windows as architectural feature	Reused	-	-	6 (no)	\$9,000		
Furniture board and meeting room tables	Reused	-	-	6 (no)	\$8,000		
Furniture Company Z workstations,	Certified	FSC	SGS COC 003405	35 (no)		\$45,000	
Furniture (lockers)	Uncertified	-	-	20 (no)			\$5,000
Studs (meeting room wall partitions)	Certified	AFCS	AFS/01-31-38-06	900 (lm)		\$3,000	
Sub Total Costs					\$17,000	\$99,000	\$5,000
Total cost of all timber used in the building and construction works					\$121,000		
Combined total cost of reused and certified timber					\$116,000		
Total cost of reused and certified timber as a percentage of total timber cost					96%		

Chain of Custody (CoC)

In order for a timber product to be considered 'certified timber' for the purposes of this credit, a full CoC must be demonstrated from the forest, through the supply chain and to the building.

The rules for demonstrating full CoC for timber products vary depending on which CoC standards or CoC guidelines are endorsed by the forest certification scheme responsible for certifying the source of the timber product. Examples include, but are not limited to, the FSC CoC Guidelines and the Australian AS4707 Chain of Custody for Certified Wood and Forest Products Standard.

The Australian forest certification scheme websites (e.g. www.fsc.org.au and www.forestrystandard.com.au) provide a source for accurate and detailed information as well as current requirements on how to demonstrate full CoC for the timber products documented in this credit.

The GBCA recommends that projects claiming this credit consult the resources and scenario examples that these schemes have developed in order to explain which entities in the supply chain need to be CoC holders in order to ensure a full CoC is maintained.

The References and Further Information section provides links to the FSC International and PEFC websites which can be used to access complete lists of FSC International and PEFC accredited forest certification schemes.

Relevant CoC

Refers to a CoC awarded by a forest certification scheme that meets the GBCA's 'Essential' criteria for forest certification and which is valid at the time that the CoC certificate and/or product invoice is issued to the project.

Suppliers

Suppliers are defined entities that sell timber products to the project contractor, subcontractors, developer or building owner.

Contract Value

The contract value is defined as the dollar value required to complete the works for the entire project, including site works (landscaping, external paving, etc.). The following must be excluded when determining total contract value:

- Demolition works;
- Consultants, design fees, project management fees;
- Works outside the site area; and
- Buildings or areas within the site that are not being assessed for purposes of Green Star.

Where a number of amenities or services are shared between buildings, the GBCA expects that the cost apportioned to the rated building is equivalent to the use that the building will have of these facilities (e.g. if a shared parking has 100 spaces but 40 are being allocated to the Green Star-rated building, then 40% of the car park cost must be allocated to the project's contract value). Please submit a letter from a Quantity Surveyor or cost planner showing a breakdown of the excluded costs and the total cost for the project undergoing the Green Star rating.

Bamboo

There are no clear forest management standards that specifically apply to bamboo and against which bamboo sources can be certified. Bamboo products are therefore excluded from this credit and do not need to be documented.

Compact and High-Pressure Laminate

Products made completely of laminate which are not pressed onto a wood-product substrate, (e.g. Compact Laminate and High-Pressure Laminate) are considered engineered wood products and must be documented in accordance with the credit criteria.

Formwork

New formwork must be certified by a forest certification scheme recognised by the GBCA.

Formwork that is purchased as new for a project that is not certified by a forest certification scheme recognised by the GBCA, and is reused within the same project may not be claimed as reused and does not comply with the credit criteria irrespective of the number of times it is reused on the same project.

Formwork that has been previously used in another project and is used again in a new project can be claimed as reused.

BACKGROUND

The high demand for wood products worldwide has led to large-scale illegal logging operations in some countries. Illegally-harvested timber accelerates destruction of forest resources, has a negative impact upon biodiversity, and causes deforestation and desertification as well as other social and environmental degradation processes. The economic impacts of the trade in illegally-harvested timber are also considerable with losses of revenue and taxes in many countries. Estimates of global market losses amount to around US\$10 billion per annum.

Between the years 2003 and 2004 \$450 million worth of illegal timber was imported into Australia alone (Schloenhardt 2008). Eliminating illegal and uncertified timber products from Green Star projects is therefore seen by the GBCA to be essential for a Green Star certified rating, particularly given that forests support about 65% of the world's terrestrial taxa and support some of the highest species diversity for many taxonomic groups (e.g. birds, invertebrates and microbes) (Lindenmayer et al, 2006).

Imported secondary manufactured products (such as engineered wood products and furniture) are common timber uses in the built environment and may often contain illegally sourced timber. \$180 million worth of illegally-sourced furniture and engineered wood products are estimated to have been imported to Australia between 2002 and 2003 (Schloenhardt, 2008).

Forest certification is a process by which an independent third party certifies that a forest is managed to a national or international forest management standard(s). The content of a standard against which a forest is certified will vary depending on the purpose for which the standard is developed; and to what extent input from various interests are balanced in its development.

Forest certification schemes may operate in a regional, national or international capacity. They provide a framework for forest certification by developing or administering forest management standards and requiring suitably-qualified third party auditors, independent of the certification scheme, to assess the management of a forest against the criteria of the various standards that the scheme has developed or administers.

Chain of Custody (CoC) is a mechanism designed to ensure that certified timber and timber products are able to be tracked through the supply chain; from forest to point of sale. The aim of a CoC certificate is to provide a guarantee, through an auditable process, that only wood which has come from a certified forest management operation is sold and/or labelled as such. It is imperative that timber suppliers, contractors and subcontractors provide the project with evidence of a relevant CoC so that the origin of specified timber can be ascertained during the assessment of a building seeking Green Star certification.

Essential Criteria for Evaluating Forest Certification Schemes

These criteria do not apply directly to Green Star projects or to the requirements for documenting compliance with the Green Star 'Timber' credit.

The Essential Criteria Background document, available on the GBCA website, provides detailed information on the Essential Criteria.

The Essential Criteria are as follows:

CRITERIA	OBJECTIVE
1) Chain of Custody	Ensures timber can be traced to source and that no substitutions for uncertified timber are made along the supply chain.
2) Governance	Ensures schemes use a stakeholder governance model.
3) Standard Development and Revision	Ensures standards are developed robustly, independently, and are continuously improved over time.
4) Auditing and Certification Decisions	Ensures auditing and certification processes remain transparent and independent from one another.
5) Verification of Legality	Ensures projects do not use timber from illegal logging; includes verification of timber used in Mixed Sources products.

Forest Certification Schemes that are deemed to satisfy the Essential Criteria are limited to those accredited by the Forest Stewardship Council (FSC) International or Programme for the Endorsement of Forest Certification (PEFC). Any non FSC- or PEFC-accredited forest certification schemes seeking to demonstrate compliance with the Essential Criteria must contact the GBCA for further guidance.

FSC Australia is the Australian provider of FSC certification. The Australian Forest Certification Scheme (AFCS) is the PEFC accredited scheme in Australia.

FSC International and PEFC are deemed to satisfy the Essential Criteria on the basis that they:

- provide an assurance of legality
- have robust governance, standards development, and independent auditing process; and
- provide chain of custody certification extending from the forest to the end user which is traceable throughout the supply chain.

Timber and timber products that are sourced from forests which are certified by FSC International and PEFC accredited forest certification schemes are therefore eligible to contribute to the achievement of one point within this credit.

The GBCA's decision to recognise FSC International and PEFC accredited schemes as deemed to satisfy the Essential Criteria was reached by considering the recommendations from an independent Timber Expert Reference Panel (TERP) process as well as engaging with timber stakeholders over a 2 year period. The TERP process concluded in June 2009 and resulted in the development of an Assessment Framework for Forest Certification Schemes (Framework) which sought to provide guidance on best practice forest certification. This Framework contained fifteen criteria addressing the governance, standards development procedures and content of forest management standards. The GBCA Essential Criteria comprise five of the fifteen criteria that were developed with the TERP. Much of the Framework was based on the work of UK Government's Central Point of Expertise on Timber Procurement (CPET).

CPET was established by the Department for Environment, Food and Rural Affairs (DEFRA) in 2006. CPET have established a Framework for Assessment of Forest Certification Schemes and have contracted independent assessors to verify the compliance of Forest Certification Schemes operating in the UK market against this Framework.

The Dutch government has established a similar process to CPET called the Timber Procurement Assessment Committee (TPAC). The results of the CPET and TPAC assessments of forest certification schemes have informed the UK and Dutch governments' timber procurement guidelines since 2006 and 2008 respectively.

CPET and TPAC have undertaken assessments of the PEFC and FSC International forest accreditation systems. These assessments resulted in both being recognised as compliant with the UK and Dutch governments' requirements.

A review of the requirements of the CPET and TPAC criteria by the GBCA has shown clear correlations between the requirements of the GBCA Essential Criteria and the CPET and TPAC frameworks' criteria for:

- Chain of Custody
- Schemes Governance;
- Standard Development Processes;
- Independence of Auditing; and
- Legality of Timber

The CPET recognition of PEFC and FSC International's conformance with the above five criteria, most notably assurance of legality of timber, is the basis of the GBCA's rationale for recognising PEFC and FSC International accredited forest certification schemes as deemed to satisfy the GBCA 'Essential Criteria'.

Significant Criteria for Evaluating Forest Certification Schemes

The GBCA's recognition of FSC and PEFC applies to the Essential Criteria ONLY.

The Draft Significant Criteria will be released for further consultation in early 2010 with the aim of being implemented in mid-2010. The GBCA's Significant Criteria for forest certification will focus on best practices in forest management.

In future, two points will be available where at least 95% (by cost) of all timber is certified by a forest certification scheme that meets both the GBCA's 'Essential' and 'Significant' criteria for forest certification; or is from a reused source; or is sourced from a combination of both.

REFERENCES AND FURTHER INFORMATION

- Australian Institute of Quantity Surveyors (AIQS), 2008 " *The Australian Standard Method of Measurement for Building Works – Fifth Addition* ", published by the Australian Institute of Quantity Surveyors and Master Builders Australian Limited.
- Australian Forest Certification Scheme (AFCS), found at: <http://www.forestrystandard.org.au/>.
- Central Point of Expertise on Timber (CPET) 2006, "Criteria for Evaluating Certification Schemes (Category A Evidence) Second Edition", UK Government Timber Procurement Policy, found at: www.proforest.net/cpet/files/Category%20A%20Criteria%20Edition%202.pdf, accessed July 2008.
- Forest Stewardship Council (FSC) Australia, found at: www.fscaustralia.org/.
- Forest Stewardship Council (FSC) International, found at: www.fsc.org/. Links to FSC International accredited forest certification schemes: <http://www.fsc.org/fsc-locations.html>.
- Green Building Council Australia, 2009, "Timber Credit Review", found at: www.gbca.org.au.
- Lindenmayer D.B. Franklin J.F. Fischer, J., 2006, "General management principles and a checklist of strategies to guide forest biodiversity conservation", Centre for Resource and Environmental Studies, The Australian National University (ANU), http://faculty.washington.edu/jff/Lindenmayer_Franklin_Fischer_Management_Principles_Biodiversity_BC_2006.pdf, accessed November 2008.
- Program for the Endorsement of Forest Certification (PEFC), found at: www.pefc.org. Links to PEFC accredited forest certification schemes: http://www.pefc.org/internet/html/members_schemes/4_1120_59.htm.
- Schloenhardt, A. 2008, "The Illegal Trade in Timber and Timber Products in the Asia–Pacific Region", Australian Institute of Criminology, Australian Government, Research and Public Policy Series #89 found at: <http://www.aic.gov.au/publications/rpp/89/rpp89.pdf>, accessed August 2008.
- Timber Procurement Assessment System (TPAS) 2008, "User Manual for the Timber Procurement Assessment System", The Timber Procurement Assessment Committee (TPAC), Government of The Netherlands, [http://www.tpac.smk.nl/webadmin/files/pdf/User%20Manual%20\(July%202008\).pdf](http://www.tpac.smk.nl/webadmin/files/pdf/User%20Manual%20(July%202008).pdf), accessed November 2008.