

To reduce the consumption of potable water in new buildings through the effective management and monitoring of water consumption.

Assessment criteria

Water meter on the mains water supply to each building :	Yes
Sub-metering/monitoring equipment on supply to plant/building areas :	Yes
Pulsed output or other open protocol communication output and BMS connection :	Yes
The water monitoring strategy used enables the identification of all water consumption for sanitary uses as assessed under Wat 01 (L/person/day) :	Yes

Credits awarded : 1

Comments :

1 credit targeted for specification of a water meter with a pulsed output on the mains water supply.

Wat 03 Water leak detection

To reduce the consumption of potable water in new buildings through minimising wastage due to water leaks.

Assessment criteria

Leak detection system :	Yes
Are WC facilities only provided within the residential areas of a long-term residential accommodation? :	No
Flow control devices :	Yes

Credits awarded : 2

Comments :

One credit targeted for a leak detection system. Requirements are installation of a leak detection system capable of detecting a major water leak on the utilities water supply within the buildings, to detect any major leaks within the buildings

AND

Between the buildings and the utilities water supply, to detect any major leaks between the utilities supply and the buildings under assessment.

One credit targeted for flow control devices. Requires installation flow control devices that regulate the water supply to each public WC area or sanitary facility according to demand, in order to minimise undetected wastage and leaks from sanitary fittings and supply pipework. A common solution is a solenoid valve linked to the PIR lighting. (Note this is only required to public WC areas and not required to individual ensembles in bedrooms)

Wat 04 Water efficient equipment

To reduce water consumption for uses not assessed under Wat 01 by encouraging specification of water efficient equipment.

Assessment criteria

Water efficient consumption :

Yes

Credits awarded : 1

Comments :

1 credit targeted as no mains fed irrigation systems specified. Landscaping will rely on precipitation or manual watering using an outside tap.

Materials (Mat)

Mat 01 Life cycle impacts

To reduce the burden on the environment from construction products by recognising and encouraging measures to optimise construction product consumption efficiency and the selection of products with a low environmental impact (including embodied carbon), over the life cycle of the building.

Assessment criteria

Total Mat 01 credits achieved - taken from the Mat 01/02 Results 7

Submission Tool :

Total Exemplary credits achieved - taken from the Mat 01/02 Results 1

Submission Tool :

Credits awarded : 7

Exemplary credits awarded : 1

Comments :

7 credits targeted. Requirement is that during Concept Design before planning submission is applied for, a building Life Cycle Assessment (LCA) options appraisal of 4 significantly different superstructure design options and 6 different substructure and hard landscaping options is undertaken to appraise the different environmental impacts of each design using a building LCA tool that is recognised by BREEAM. LCA has been undertaken by RPS and the Mat 01 results submission tool has been uploaded to the BREEAM Projects Portal.

1 exemplar level credit targeted as the LCA has been third party verified by eTool.

Mat 02 Environmental impacts from construction products

To encourage availability of robust and comparable data on the impacts of construction products through the provision of EPD.

Assessment criteria

Mat 02 credit achieved - Taken from the Mat 01/02 Results Submission 1

Tool. :

Credits awarded : 1

Comments :

Credit targeted. Requires specification of products with a recognised environmental product declaration (EPD). Architect to refer to greenbooklive.com

Mat 03 Responsible sourcing

To facilitate the selection of products that involve lower levels of negative environmental, economic and social impact across their supply chain including extraction, processing and manufacture.

Assessment criteria

Prerequisite: All timber and timber based products are 'Legally harvested and traded timber' :	Yes
Has the enabling sustainable procurement credit been achieved? :	No
Mat 03 minimum scope level :	plus Substructure and hard landscaping / Internal Finishes
Percentage of available for percentage of RSM points achieved :	20 %

Credits awarded : 2

Comments :

Prerequisite - Legal and sustainable timber. Targeted, requires 100% of timber and timber-based products used on the project are 'Legal' and 'Sustainable' as per the UK Government's Timber Procurement Policy.

Sustainable Procurement Plan credit not targeted. A sustainable procurement plan must be used by the design team to guide specification towards sustainable construction products. The plan must:

- Be in place before Concept Design. Include sustainability aims, objectives and strategic targets to guide procurement activities.
- Include a requirement for assessing the potential to procure construction products locally. There must be a policy to procure construction products locally where possible.

Responsible Sourcing of Materials 2 credits targeted. Requires written commitment from Contractor to commit to achieving at least 20% of the available responsible sourcing points for superstructure, internal finishes, substructure and hard landscaping.

Mat 05 Designing for durability and resilience

To reduce the need to repair and replace materials resulting from damage to exposed elements of the building and landscape.

Assessment criteria

Protecting vulnerable parts of the building from damage and exposed parts of the building from material degradation : Yes

Credits awarded : 1

Comments :

Credit targeted. Requires protection measures to be incorporated into the building's design and construction to reduce damage to the building's fabric or materials in case of accidental or malicious damage occurring. These measures must provide protection against:

- 1.a Negative impacts of high user numbers in relevant areas of the building (e.g. corridors, lifts, stairs, doors etc.).
- 1.b Damage from any vehicle or trolley movements within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas.
- 1.c External building fabric damage by a vehicle. Protection where parking or manoeuvring areas are within 1 metre of the building facade and where delivery areas or routes are within 2 metres of the facade, i.e. specifying bollards or protection rails.
- 1.d Potential malicious damage to building materials and finishes, in public and common areas where appropriate.

Protecting exposed parts of the building from material degradation: Key exposed building elements are required to be designed and specified to limit long and short term degradation due to environmental factors.

Mat 06 Material efficiency

To avoid unnecessary materials use arising from over specification without compromising structural stability, durability or the service life of the building.

Assessment criteria

Material optimisation measures investigated and implemented at all relevant stages :	Yes
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Credits awarded : 1

Comments :

Credit targeted. Requirements are as follows:

- 1 At the Preparation and Brief and Concept Design stages, set targets and report on opportunities and methods to optimise the use of materials. These must be done for each of the following stages.
 - 1.a Preparation and Brief
 - 1.b Concept Design
 - 1.c Developed Design
 - 1.d Technical Design
 - 1.e Construction.
- 2 Develop and record the implementation of material efficiency, during:
 - 2.a Developed Design
 - 2.b Technical Design
 - 2.c Construction.
- 3 Report the targets and actual material efficiencies achieved.

Waste (Wst)

Wst 01 Construction waste management

To reduce construction waste by encouraging reuse, recovery and best practice waste management practices to minimise waste going to landfill.

Assessment criteria

Is demolition occurring under the developer's ownership for the purpose of enabling the assessed development? : No

Compliant Resource Management Plan : Yes

Have waste materials been sorted into separate key waste groups? : Yes

Exemplary level criteria :

KPI

Measure/units for the data being reported : m³

Non-hazardous construction waste (excluding demolition/excavation) - fill in to award 'Construction resource efficiency' credits : 7.5 m³/100m²

Total non-hazardous construction waste generated :

Non-hazardous non-demolition construction waste diverted from landfill - fill in to award diversion from landfill credit : 80 %

Total non-hazardous non-demolition construction waste diverted from landfill : 80 m³

Non-hazardous demolition waste diverted from landfill - fill in to award diversion from landfill credit : 80 %

Total non-hazardous demolition waste generated : 7.5 m³

Total non-hazardous demolition waste to disposal :

Non-hazardous excavation waste diverted from landfill - fill in to award credit : 80 %

Material for reuse :

Material for recycling :

Material for energy recovery :

Hazardous waste to disposal :

Credits awarded : 3

Comments :

2 credits targeted for construction resource efficiency. Requires main Contractor to prepare a

compliant Resource Management Plan (RMP) covering:
Non-hazardous waste materials from on-site construction and dedicated off-site manufacture or fabrication. Accurate data records on waste arisings and waste management routes.

Contractor to commit to achieving a construction waste benchmark of 7.5m³ or 6.5 Tonnes or less per 100m² GIFA which will achieve 2 credits.

1 credit targeted for diversion from landfill. Requirement is that at least 70% of waste by volume or 80% by tonnage is diverted away from landfill.

Wst 02 Use of recycled and sustainably sourced aggregates

To encourage the use of more sustainably sourced aggregates, encourage reuse where appropriate and avoid waste and pollution arising from disposal of demolition and other forms of waste.

Assessment criteria

Is demolition occurring under the developer's ownership for the purpose of enabling the assessed development? :
Projects Sustainable Aggregate points :

KPI

Total quantity of aggregate :

% of high - grade aggregate that is recycled/ secondary aggregate by application :

Credits awarded : 0

Comments :

Credit not targeted. Requires 3.5 to 6 Project Sustainable Aggregate Points to be achieved. The Wst 02 calculator combines scores for regional mineral depletion, social cost of transport and carbon footprint. Requirements to be reviewed with Engineer.

Wst 03 Operational waste

To encourage the recycling of operational waste through the provision of dedicated storage facilities and space.

Assessment criteria

Compliant recycling and non-recyclable waste storage allocated :	Yes
Static waste compactor(s) or baler(s) :	N/A
Vessel(s) for composting suitable organic waste and water outlet :	Yes

Multi-residential buildings with self-contained dwellings or bedsits only Yes
 criteria achieved :
 Multi-residential buildings with individual bedrooms and communal Yes
 facilities only criteria achieved :

Credits awarded : 1

Comments :

Credit targeted. Requires a dedicated space for the segregation and storage of operational recyclable waste generated. The space needs to be:

1.a Clearly labelled, to assist with segregation, storage and collection of the recyclable waste streams

1.b Accessible to building occupants or facilities operators for the deposit of materials and collections by waste management contractors

1.c Of a capacity appropriate to the building type, size, number of units (if relevant) and predicted volumes of waste that will arise from daily or weekly operational activities and occupancy rates.

Additionally requirements for multi-residential buildings with individual bedrooms and communal facilities include provision of three internal storage containers with a minimum total capacity of 30 litres with no individual container smaller than 7 litres for every 6 bedrooms. Provide home composting facilities and a home composting information leaflet within the kitchen area or communal space.

Where food waste is stored on site prior to collection ensure that there is a water outlet for wash down purposes.

Wst 04 Speculative finishes (Offices only)

To minimise the wastage associated with the installation of floor and ceiling finishes in lettable areas in speculative buildings where tenants have not been involved in their selection.

Assessment criteria - N/A

Wst 05 Adaptation to climate change

To minimise the future need of carrying out works to adapt the building to take account of more extreme weather changes resulting from climate change and changing weather patterns.

Assessment criteria

Resilience of structure, fabric, building services and renewables installation Yes
 :

Exemplary level - responding to climate change :

Credits awarded : 1

Comments :

Credit targeted. Requirements are as follows: Conduct a climate change adaptation strategy appraisal using:

1.a A systematic risk assessment to identify the impact of expected extreme weather conditions arising from climate change on the building over its projected life cycle. The assessment covers the installation of building services and renewable systems, as well as structural and fabric resilience aspects and includes:

1.a.i Hazard identification

1.a.ii Hazard assessment

1.a.iii Risk estimation

1.a.iv Risk evaluation

1.a.v Risk management.

As a guide, all adaptation plans should consider the following impacts of climate change and extreme weather events and describe how the design mitigates against them, where appropriate:

a. Flooding

b. Storms (including high winds)

c. Cold events

d. Heat waves (including temperature increases)

e. Drought (including reduced summer rainfall)

f. Milder winters

g. Wetter winters (including increased moisture and driving rain)

h. Warmer summers and increased solar radiation

i. Temperature variation

j. Precipitation, e.g. rain and snow

k. Subsidence or ground movement.

2 Develop recommendations or solutions based on the climate change adaptation strategy appraisal, before or during Concept Design, that aim to mitigate the identified impact.

3 Provide an update during Technical Design demonstrating how the recommendations or solutions proposed at Concept Design have been implemented where practical and cost effective.

Wst 06 Design for disassembly and adaptability

To avoid unnecessary materials use, cost and disruption arising from the need for future adaptation works as a result of changing functional demands and to maximise the ability to reclaim and reuse materials at final demolition in line with the principles of a circular economy.

Assessment criteria

Design for disassembly and functional adaptability - recommendations : Yes

Disassembly and functional adaptability - implementation : Yes

Credits awarded : 2

Comments :

2 credits targeted:

First credit - Design for disassembly and functional adaptability - recommendations:

1 Conduct a study to explore the ease of disassembly and the functional adaptation potential of different design scenarios by the end of Concept Design.

2 Develop recommendations or solutions based on the study, during or prior to Concept Design, that aim to enable and facilitate disassembly and functional adaptation.

The study must consider the following as a minimum:

â Feasibility: The likelihood to contain multiple or alternative building uses, area functions and different tenancies over the expected life cycle, e.g. related to the structural design of the building.

â Accessibility: Design aspects that facilitate the replacement of all major plant within the life of the building, e.g. panels in floors and walls that can be removed without affecting the structure, providing lifting beams and hoists. Accessibility also involves access to local services, such as local power, data infrastructure etc.

â Versatility: The degree of adaptability of the internal environment to accommodate changes in working practices.

â Adaptability: The potential of the building ventilation strategy to adapt to future building occupant needs and climatic scenarios.

â Convertibility: The degree of adaptability of the internal physical space and external shell to accommodate changes of in-use.

â Expandability: The potential for the building to be extended, horizontally or vertically.

â 'Refurbishment potential': The potential for major refurbishment, including replacing the façade.

Second credit - Disassembly and functional adaptability - implementation

3 Achieve criteria 1 and 2

4 Provide an update, during Technical Design, on:

4.a How the recommendations or solutions proposed by Concept Design have been implemented where practical and cost effective. Omissions have been justified in writing to the assessor.

4.b Changes to the recommendations and solutions during the development of the Technical Design.

5 Produce a building adaptability and disassembly guide to communicate the characteristics allowing functional adaptability and disassembly to prospective tenants.

Land use and ecology (LE)

LE 01 Site selection

To encourage the use of previously occupied or contaminated land and avoid land which has not been previously disturbed.

Assessment criteria

Percentage of proposed development's footprint on previously occupied land: :	0 %
Contaminated land :	No

Credits awarded : 0

Comments :

Previously occupied land: Not targeted. Requirement is that at least 75% of the proposed development is on previously occupied land.

Contaminated land: Not targeted. Requirement is that the site is significantly contaminated and remediation is undertaken.

LE 02 Ecological risks and opportunities

To determine the existing ecological value associated with the site and surrounding areas, and the risks and opportunities for ecological protection and enhancement.

Assessment criteria

Assessment route selection :	Comprehensive
Prerequisite - Statutory obligations :	Yes
Survey and Evaluation :	Yes
Determining ecological outcomes :	Yes
Exemplary level - Wider site sustainability :	

Credits awarded : 2

Comments :

Prerequisite - Statutory obligations: The client or contractor confirms compliance is monitored against all relevant UK and EU or international legislation relating to the ecology of the site.

Comprehensive route (Route 2). Credit targeted. Requires a Suitably Qualified Ecologist (SQE) carries out a survey and evaluation for the site early enough to influence site

preparation works, layout and, where necessary, strategic planning decisions (typically preparation and brief stage)

The SQE's survey and evaluation determines the site's ecological baseline including:
Current and potential ecological value and condition of the site and related areas within the Zone of Influence.

Direct and indirect risks to current ecological value from the project.

Capacity and feasibility for enhancement of the site's ecological value.

Determining ecological outcomes: Credit targeted. Requires the project team to liaise and collaborate with representative stakeholders early enough to influence key planning decisions (typically Concept Design stage), to:

Identify the optimal ecological outcomes for the site.

Identify, appraise and select measures to meet the optimal ecological outcomes for the site.

Two trees (T3 and T4) within the proposed care centre site are proposed to be protected.

SQE to complete BREEAM 2018 Ecology Template to firm up on the number of credits achievable.

LE 03 Managing impacts on ecology

To avoid, or limit as far as possible, negative ecological impacts associated with the site and surrounding areas resulting from the project.

Assessment criteria

Assessment route :	Comprehensive
Prerequisite - Ecological risks and opportunities :	Yes
Planning and measures on-site :	Yes
Managing negative impacts :	1

Credits awarded : 2

Comments :

Prerequisite - Ecological risks and opportunities. LE 02's 'Survey and evaluation and Determining ecological outcomes' criteria have been achieved using the Comprehensive route (Route 2).

One credit - Planning and measures on-site. Further planning to avoid and manage negative ecological impacts on-site is carried out early enough to influence the concept design and design brief as well as site preparation planning (typically Concept Design stage).

On-site measures for managing negative ecological impacts during site preparation and construction are implemented in-practice (e.g. mitigation measures to protect existing

ecological features)

Criteria 2-3 are based on input from the project team in collaboration with representative stakeholders and data collated as part of the 'Determining ecological outcomes' in LE 02.

Ecological risks and opportunities.

Up to two credits - Managing negative impacts.

1 credit targeted. Negative impacts from site preparation and construction works have been managed according to the mitigation hierarchy, in line with the SQE's recommendations and the loss of ecological value has been minimised. SQE to complete BREEAM 2018 Ecology Template to firm up on the number of credits achievable.

LE 04 Ecological change and enhancement

To enhance ecological value of the area associated with the site in support of local, regional and national priorities.

Assessment criteria

Assessment route :	Comprehensive
Prerequisite - Managing negative impacts on ecology :	Yes
Ecological enhancement (Comprehensive route only) :	Yes
Change and enhancement of ecology (Comprehensive route only) :	1

Credits awarded : 2

Comments :

One credit - Ecological enhancement comprehensive route.

Requirements are that measures have been implemented that enhance ecological value, which are based on input from the project team and SQE in collaboration with representative stakeholders and data collated as part of the 'Determining ecological outcomes' in LE 02.

Measures are implemented in the following order:

- On site, and where this is not feasible,
- Off site within the Zone of Influence.

Credit targeted as an extensive landscaping plan will be provided.

Up to three credits - Change and enhancement of ecology comprehensive route (Route 2).

Credits are awarded based on the change in ecological value occurring as a result of the project. This must be calculated in accordance with the process set out in GN36 - BREEAM, CEEQUAL and HQM Ecology Calculation Methodology - Route 2. Credits are awarded in line with the Reward Scale table in GN36 where there are no residual impacts on protected sites or irreplaceable habitats. Data collated are analysed and where potentially valuable, provided to the local environmental records centres nearest to, or relevant for, the site.

SQE to complete BREEAM 2018 Ecology Template to firm up on the number of credits achievable.

LE 05 Long term ecology management and maintenance

To secure ongoing monitoring, management and maintenance of the site and its habitats and ecological features, to ensure intended outcomes are realised for the long term.

Assessment criteria

Assessment route : Comprehensive

At least one credit achieved under LE 04 for 'Change and Enhancement of Ecology' : Yes

Prerequisite - Statutory obligations, planning and site implementation : Yes

Management and maintenance throughout the project : Yes

Landscape and ecology management plan : Yes

Credits awarded : 2

Comments :

Prerequisite - Statutory obligations, planning and site implementation. The client or contractor is to confirm that compliance is being monitored against all relevant UK, EU and international standards relating to the ecology of the site.

The following must be achieved, according to the route being assessed:

Comprehensive route (Route 2) - Criterion 8 in LE 03 has been achieved, and at least one credit under LE 04 for 'Change and Enhancement of Ecology' has been awarded.

5 year landscape and ecology plan to be produced.

Pollution (Pol)

Pol 01 Impact of refrigerants

To reduce the level of greenhouse gas emissions arising from the leakage of refrigerants from building systems.

Assessment criteria

Refrigerant containing systems installed in the assessed building? : Yes

Prerequisite: All systems (with electric compressors) comply with BS EN 378:2016 (parts 2 and 3) and (where applicable) Institute of Refrigeration Ammonia Refrigeration Systems code of practice? : 999 kgCO₂eq/kW

Total Direct Effect Life Cycle CO₂eq (DELCO). Emissions from the system : Global Warming Potential (GWP) of the specified refrigerant(s) 10 or less? No

Leak detection

Are all the systems hermetically sealed? : No

BREEAM compliant automatic refrigerant leak detection system installed and able to manage the remaining refrigerant charge : Yes

Credits awarded : 2

Comments :

It is a prerequisite that all systems with electric compressors comply with the requirements of BS EN 378:2016.

One credit targeted for impact of refrigerant. Requires systems using refrigerants to have a DELCO of less than 1000kgCO₂eq/kW cooling and heating capacity.

One credit targeted for leak detection. Requirement is that all systems are hermetically sealed or only use environmentally benign refrigerants.

OR

Where the systems are not hermetically sealed: Systems have:

A permanent automated refrigerant leak detection system, that is robust and tested, and capable of continuously monitoring for leaks.

OR

An inbuilt automated diagnostic procedure for detecting leakage is enabled.

Pol 02 Local air quality

To contribute to a reduction in local air pollution through the use of low emission combustion appliances in the building.

Assessment criteria

Is the project required to connect to a District Heating system, and it supplies all heating and hot water demands to the building? :	No
How many credits have been achieved? :	2

Credits awarded : 2

Comments :

2 credits achievable if all heating and hot water is supplied by non-combustion systems. For example, only powered by electricity such as air source heat pumps.

Pol 03 Flood risk management and reducing surface water run-off

To avoid, reduce and delay the discharge of rainfall to public sewers and watercourses, thereby minimising the risk and impact of localised flooding on and off-site, watercourse pollution and other environmental damage.

Assessment criteria

Prerequisite: Has an appropriate consultant demonstrated and confirmed the development's compliance with all sought credits? :	Yes
Has a site-specific flood risk assessment been conducted? :	Yes
Annual probability of flooding :	Low
Has the pre-requisite for the Surface Water Run-Off credits been achieved? :	Yes
Has the Surface Water Run-Off - Rate credit been achieved? :	Yes
Has the Surface Water Run-Off - Volume credit been achieved? :	Yes
Minimising watercourse pollution :	Yes

Credits awarded : 5

Comments :

2 credits targeted for low flood risk. Requirement is that a site-specific flood risk assessment (FRA) confirms the development is in a flood zone that is defined as having a low annual probability of flooding. The FRA takes all current and future sources of flooding into consideration. Infrastruct CS Ltd Flood Risk Assessment and Drainage Statement confirms a low risk of flooding from all sources.

Surface run-off rate credit targeted: BREEAM requirement is that for Greenfield sites, drainage measures are specified so that the peak rate of run-off from the site to the watercourses is no greater for the developed site than it was for the pre-development site. This should comply at the 1-year and 100-year return period events.

Surface run-off volume credit targeted: Drainage design measures are specified so that the post-development run-off volume, over the development lifetime, is no greater than it would

have been prior to the assessed site's development. This must be for the 100-year 6-hour event, including an allowance for climate change.

Section 7.3 of the FRA and Drainage Statement confirms that the proposed sustainable drainage techniques for the development should accommodate the peak rainfall event for a 1 in 100 year storm event with an additional allowance for climate change.

Last credit for minimising watercourse pollution targeted. Requires no discharge from the developed site for rainfall up to 5 mm.

Pol 04 Reduction of Night Time Light Pollution

To ensure that external lighting is concentrated in the appropriate areas and that upward lighting is minimised, reducing unnecessary light pollution, energy consumption and nuisance to neighbouring properties.

Assessment criteria

External lighting has been designed out? :	No
Does external lighting meet all relevant criteria? :	Yes

Credits awarded : 1

Comments :

Credit targeted. Requirement is that the external lighting strategy has been designed in compliance with Table 2 (and its accompanying notes) of the Institution of Lighting Professionals (ILP) Guidance notes for the reduction of obtrusive light, 2011. All external lighting (except for safety and security lighting) can be automatically switched off between 23:00 and 07:00.

Pol 05 Noise attenuation

To reduce the likelihood of noise arising from fixed installations on the new development affecting nearby noise-sensitive buildings.

Assessment criteria

Noise-sensitive areas/buildings within 800m radius of the development :	Yes
Is the site compliant with all relevant criteria? :	Yes

Credits awarded : 1

Comments :

Credit Targeted: Requirement is that as there are noise-sensitive areas within the assessed

building or noise-sensitive areas within 800 m radius of the assessed site, a noise impact assessment compliant with BS 4142:2014 is commissioned. Noise levels must be measured or determined for:

2.a Existing background noise levels:

2.a.i at the nearest or most exposed noise-sensitive development to the proposed assessed site

2.b Noise rating level from the assessed building.

3 The noise impact assessment must be carried out by a suitably qualified acoustic consultant.

4 The noise level from the assessed building, as measured in the locality of the nearest or most exposed noise-sensitive development, must be at least 5dB lower than the background noise throughout the day and night.

Innovation (Inn)

Inn 01 Innovation

To support innovation within the construction industry through the recognition of sustainability related benefits which are not rewarded by standard BREEAM issues.

Assessment criteria

Number of 'approved' innovation credits achieved? : 0

Credits awarded : 0