PUB Manages the Complete Water Cycle

From sourcing, collection, purification and supply of drinking water, to treatment of used water and turning it into NEWater, drainage of storm water.
Sustainable Water Management

“Water for All”
4 National Taps

Supply

“Conserve, Value, Enjoy”
3P Approach

Demand

Water for All: Conserve, Value, Enjoy
Diversification of Sources of Supply

- Local Catchment Water
- Desalinated Water
- Imported Water (Johor)
- NEWater
Water Conservation Strategy

Pricing
Reflect the strategic importance and scarcity value of water

Voluntary
3P approach
Promote ownership of water conservation

Mandatory
Cut down on excessive flow and wastage of water
## Pricing

### Water Tariff Structure

<table>
<thead>
<tr>
<th>Tariff Category</th>
<th>Consumption Block (m3 per month)</th>
<th>With Effect from 1 July 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Tariff (cents per m3)</td>
</tr>
<tr>
<td>Domestic</td>
<td>1 to 40</td>
<td>117</td>
</tr>
<tr>
<td></td>
<td>Above 40</td>
<td>140</td>
</tr>
<tr>
<td>Non-Domestic</td>
<td>All Units</td>
<td>117</td>
</tr>
</tbody>
</table>

WCT : Water Conservation Tax - Broad-based Tax levied by the Government
Regulatory Requirements

Code of Practice for Water Services – SS CP 48 : 2005

Water Conservation Measures (Cl 7.2)

- Install Self-Closing Delayed-Action Taps (Since 1983)
  - All wash basins, shower pts
- *In all non domestic premises (including common amenities of condominiums)

Manually-operated

Sensor-operated

Self-Closing-Delayed-Action Tap
Install dual flush low capacity flushing cisterns in **new developments** and **existing domestic premises undergoing renovation** which involve the

- replacement of water closets
- applicable for non-domestic premises if flushing cisterns are to be used
- applicable to all domestic premises
Dual Flush Low Capacity Flushing Cisterns (LCFCs)

- Full flush not more than 4.5 litres
- Reduced flush not more than 3.0 litres
- Allow user to choose reduced flush for flushing liquid wastes
- Can save approximately 1.5 litres per flush

/Public toilets to be fitted with sensor operated flush valves as required by NEA/
CI 4.2.6 SS CP 48 – Flush valves for urinals

All flush valves must be so adjusted as to give a flush of not more than 1.5 litres, 1 litre and 0.5 litre of water per flush for large, medium and small size urinals respectively.

<table>
<thead>
<tr>
<th>Size of urinal</th>
<th>Max allowable flush volume (litres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>small</td>
<td>0.5</td>
</tr>
<tr>
<td>medium</td>
<td>1.0</td>
</tr>
<tr>
<td>large</td>
<td>1.5</td>
</tr>
</tbody>
</table>
Water Efficient Labelling Scheme
Background of WELS

- Voluntary Water Efficiency Labelling Scheme (WELS)
  - launched on 31 Oct 06

- Objective of WELS
  - Aims to help consumers make well-informed purchasing decisions and reduce their water consumption by providing information on the water efficiency of products

- WELS rate products in terms of water efficiency
  - (1 tick for Good rating, 2 ticks for Very Good rating and 3 ticks for Excellent rating)

- Voluntary WELS remains limited in its effectiveness in helping consumers make more informed choices
Mandatory Water Efficiency Labelling Scheme

- To enhance the Scheme, PUB has mandated it through the Mandatory WELS (MWELS)
- Type of water fittings under Mandatory WELS
  - *Basin taps & mixers
  - Shower taps & mixers
  - Sink/bib taps
  - *Dual flush low capacity flushing cisterns (LCFC)
  - *Urinals & urinal flush valve
Showerheads and clothes washing machines remains under Voluntary WELS

Washing machines

Showerheads

Water for All: Conserve, Value, Enjoy
## Criteria For Water Efficiency Labelling Scheme (WELS)

<table>
<thead>
<tr>
<th>FITTINGS</th>
<th>MAXIMUM ALLOWABLE</th>
<th>✓ GOOD RATING</th>
<th>✓✓ VERY GOOD RATING</th>
<th>✓✓✓ EXCELLENT RATING (**)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shower Taps, Mixers &amp; Showerheads</td>
<td>9</td>
<td>&gt;7 to 9</td>
<td>&gt;5 to 7</td>
<td>5 or less</td>
</tr>
<tr>
<td>(L/min)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basin Taps &amp; Mixers</td>
<td>6</td>
<td>&gt;4 to 6</td>
<td>&gt;2 to 4</td>
<td>2 or less</td>
</tr>
<tr>
<td>(L/min)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sink/Bib Taps (L/min)</td>
<td>8</td>
<td>&gt;6 to 8</td>
<td>&gt;4 to 6</td>
<td>4 or less</td>
</tr>
<tr>
<td>Flushing Cisterns – Dual Flush Type</td>
<td>4.5 (full flush)</td>
<td>&gt; 4.0 - 4.5 (full flush)</td>
<td>&gt;3.5 to 4.0 (full flush)</td>
<td>3.5 or less (1) (full flush)</td>
</tr>
<tr>
<td>3.0 (low flush)</td>
<td>&gt; 2.5 – 3.0 (low flush)</td>
<td>&gt; 2.5 – 3.0 (low flush)</td>
<td>2.5 or less (low flush)</td>
<td></td>
</tr>
<tr>
<td>Urinals &amp; Urinal Flush Valve</td>
<td>1.5</td>
<td>&gt; 1.0 to 1.5</td>
<td>&gt; 0.5 to 1.0</td>
<td>0.5 or less or (2) waterless urinals</td>
</tr>
<tr>
<td>(L/flush)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washing Machine</td>
<td>15</td>
<td>&gt; 12 -15</td>
<td>&gt; 9 -12</td>
<td>9 or less</td>
</tr>
<tr>
<td>(L/Kg)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) To pass laboratory simulation test on waste transportation efficiency in pipes

(2) To pass dilution test

** The Excellent rated fittings shall also meet the minimum acceptable flowrates specified for the different fittings above
From 1 July 2009
*All taps, urinals and flushing cisterns to display MWELS labels prominently at point of sale and packaging

*From 1 July 2009
For all new developments and existing developments undergoing renovations, only water fittings/products that are labelled with at least 1-tick water efficiency rating and above under MWELS shall be installed and used.

For existing fittings, constant flow regulators shall be installed to achieve the flowrates requirements in Table 1
Water Efficient Building Strategy – 3Rs

Reduce

Water Efficient Building

Replace

NEWater/Seawater Substitution

Reuse

Recycling of used water
REDUCE
Water Efficient Building Program

Install meters and take meter readings regularly

Check flowrate using a beaker and watch

To-date, more than 1900 buildings/premises are certified as Water Efficient Buildings

Basin Tap
2 litres/min (public)
4 litres/min (others)

Kitchen Sink
6 litres/min

Urinal
0.5 litres/flush

Shower
7 litres/min (All)
9 litres/min (Hotels)

Avoid water wastage. Repair leak fittings promptly.

Use high water efficient labelled products
How to measure flow rate

*Items required:
- A stopwatch / watch
- A measuring cylinder

Procedure:
1) Measure the flow rate for 6 seconds.
2) Multiply the volume of water by 10.
3) The flow rate will be in litres per minute.
Terminal Constant flow regulator

In line Constant flow regulator

Note: Constant flow regulator are not required where (i) the water pressure at the fitting is less than 1 bar or (ii) the water fitting is labelled with at least a 1-tick water efficiency rating. As a guide, these regulators need to be installed only where the static pressure at the fitting exceeds 1.5bar.
### MAXIMUM ALLOWABLE & WATER EFFICIENT FLOW RATES

<table>
<thead>
<tr>
<th>Area of Usage</th>
<th>Maximum Allowable Flow Rate (litres/min)</th>
<th>WELS Flow Rating for 1 Tick Label (July 2009)</th>
<th>WATER EFFICIENT Flow Rate (litres/min)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Basin tap &amp; Self-Closing Delayed Action Basin tap</strong>&lt;sup&gt;(1)&lt;/sup&gt;</td>
<td>8</td>
<td>&gt; 4 to 6</td>
<td>2</td>
<td>For Self-Closing* Delayed Action Basin tap, the timing shall remain at between 2 and 3 sec</td>
</tr>
<tr>
<td>For fittings installed prior to 1.10.04</td>
<td>6</td>
<td></td>
<td>(Public/staff toilets)</td>
<td></td>
</tr>
<tr>
<td>For fittings installed from 1.10.04 onwards&lt;sup&gt;(2)&lt;/sup&gt;</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td><strong>Sink/kitchen tap and wash area</strong></td>
<td>12</td>
<td>&gt; 6 to 8</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td><strong>Shower tap &amp; Self-Closing Delayed Action Shower tap</strong></td>
<td>12</td>
<td>&gt; 7 to 9</td>
<td>7</td>
<td>For Self-Closing Delayed Action shower tap, the timing shall remain at between 13 and 15 sec</td>
</tr>
<tr>
<td>For fittings installed prior to 1.10.04</td>
<td>12 (hotels)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For fittings installed from 1.10.04 onwards</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other areas</strong></td>
<td>12</td>
<td>&gt; 6 to 8</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

* Sensor self-closing delayed action basin taps with a flow rate of 2 litres/minute are allowed a maximum preset timing of not more than 60 seconds provided water supply from the tap is automatically cut off when the hand is moved away from beneath the tap.
In appreciation of Management Committee of Water Lab

at

for running a Water Efficient Building

Chong Hou Chun
Director
Water Supply (Network) Department
PUB

Date of Issue
Water Conservation
Replace : NEWater, Sea water, rainwater, etc

- Encourage substitution with NEWater, High Grade Industrial Water and Seawater

- NEWater :
  i) frees up potable water for other uses
  ii) quality suitable for process use (UPW), boilers, laundry, air-con cooling towers, toilet flushing, general washing
  iii) lower price - save 30% ($1.52 to $1.10*)

*Price will be $1.22 wef 1 April 2012
## Water Pricing

<table>
<thead>
<tr>
<th>Pricing</th>
<th>Per m³</th>
<th>Water Conservation Tax *</th>
<th>Water Borne Fee **</th>
<th>Total cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUB Water</td>
<td>$1.17</td>
<td>$0.35 (30% of $1.17)</td>
<td>$0.5607</td>
<td>$2.08</td>
</tr>
<tr>
<td>NEWater (current)</td>
<td>$1.10</td>
<td>-</td>
<td>$0.5607</td>
<td>$1.66</td>
</tr>
<tr>
<td>NEWater (wef 1 Apr 2012)</td>
<td>$1.22</td>
<td>-</td>
<td>$0.5607</td>
<td>$1.78</td>
</tr>
</tbody>
</table>

**Note:**

GST applies to all prices indicated.

* Tax levied by the Government to reinforce the water conservation message.

** Statutory charges payable to the PUB under Sanitary Appliances and Water Charges Regulations to offset the cost of treating used water and for the operation and maintenance of the public sewerage system.
Objective

• To encourage companies to look into efficient ways of managing their water demand through various water conservation projects.

• Aims at getting companies to look into efficient ways of managing their water demand, which includes Potable Water, NEWater and Industrial Water, through:
  – recycling
  – use of alternative sources of water supply
  – initiative to promote water conservation in the community.

For more information, please log on to www.pub.gov.sg
Regulatory Requirements

Water Conservation measures (CI 7.2 i)

- Other areas in domestic (where applicable) and non-domestic premises as follows:-
  - Install private water meters to measure water consumption at various areas such as cooling towers, swimming pools, kitchens, guestrooms, gardens, landscaped areas, toilets, boilers, etc and to monitor and track the water consumption at these areas for water usage and leakage control management.
Monitor Water Usage

- Key element

- Installation of private meters
  - Know how water is used
  - Identification of leak areas quickly
  - eg. outlet pipe to guest rooms, public amenities, kitchen, cooling tower, laundry, outdoor areas, etc.
Manual reading

- Take water meter readings regularly (daily/weekly/fortnightly)
  - Monitor the water consumption on a plotted graph
  - Any sudden increase may indicate a leak in the system
  - Investigate immediately
  - Take prompt action to repair leaks, if any
Automatic Meter Reading
Continuous monitoring system
Data is transmitted by:
- Dedicated wiring, site telephone network
- Link to Building Management System (BMS)
  - Water usage trends can be recorded
10% Challenge

- To challenge the non-domestic sector, particularly the hotels, schools, commercial buildings, government office buildings, etc, to work towards becoming a WEB and save 10% of their monthly water consumption.
- To help non-domestic customers better manage and improve their efficiency in water consumption and help them reduce costs.

10% Challenge Website portal
Water Efficiency Manager Course
Water Efficient Building Design Guide
Water Efficiency Management Plan
10% Challenge Website
(Hosted by S’pore Environment Council)
www.tenpercent.sec.org.sg

- Water Efficiency Index (WEI) Calculator
- Water Efficient Practices
- 10% Registration
- Water Audit Checklist
- Electronic Feedback Form
- Success stories
- Download WEB Design Guide
- Book & publicity materials
Water Efficiency Manager (WEM) Course
(Jointly developed by Singapore Polytechnic and PUB)

- Objective
  - To equip facilities managers with the knowledge and skills to conduct water audit.
  - Apply water efficiency measures to reduce water consumption in commercial/residential buildings.

- Target Audience
  - Facilities & Estates Managers
  - Building Owners
  - Engineers & Architects

- Award
  - Pass MCQ test, achieved minimum 75% attendance and must submit the Water Efficiency Management Plan (WEMP)
  - Certificate of proficiency upon completion of the course.

- Duration: 2.5 days

- Course Fees: S$374.50 (with GST) per participant

- Eligible for SDF Claims and PDU points
Water Efficiency Manager (WEM) Course

• **Course Content**
  - Regulatory requirements, Incentive, Water Efficiency in Buildings
  - Cooling Tower Water Management
  - Water Efficient Irrigation & Landscape
  - Swimming Pool
  - Audit Methodology & Tools
  - Site visits

• **Public Run Dates in 2011**
  - Mar 9, 16 and 17
  - May 11, 18 and 19
  - Jul 13, 20 and 21
  - Sep 14, 21 and 22
  - Nov 16, 23 and 24

[www.cet.sp.sg](http://www.cet.sp.sg)
Water Efficient Building Design Guide Book

Download from www.tenpercent.sec.org.sg

Acknowledgments
Foreword
Introduction
Mandatory Requirements
WATER EFFICIENT STRATEGIES – THE 3RS
DESIGNING A WATER EFFICIENT BUILDING
Include a Water Recycling System during Construction
Adopt a Low Pressure Water System
Employ Water Efficient Fittings/Products
Choose a Water Efficient Cooling System
Plan a Water Efficient Irrigation System
Design a Water Efficient Swimming Pool
Prevent Leakages in Plumbing System

ENSURING SUSTAINABILITY IN WATER EFFICIENCY MANAGEMENT
Corporate Culture & Management Commitment
Water Conservation Plan
Conducting Water Audit
Monitoring Water Consumption – Metering
Identifying & Repairing Leakage

Reference
Water Efficiency Management Plan

- Voluntary Submission
  - analysis of current water use
  - *identification of potential water saving measures
  - *action plan and implementation timelines
- Apply Water Efficiency Fund to implement measures
- *Complete and submit the Water Efficiency Management Plan to PUB

### Water Efficiency Management Plan

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
</table>
| 1. Voluntary Submission | - analysis of current water use
| 2. Apply Water Efficiency Fund | - action plan and implementation timelines

### Priority 1: High water savings - Low cost to implement

<table>
<thead>
<tr>
<th>Action</th>
<th>Description of project</th>
<th>Responsible</th>
<th>Due date</th>
<th>Capital cost</th>
<th>ROI</th>
<th>Water savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reduction of make-up water from the cooling tower through increase in CCG and use of Variable Speed Drive</td>
<td>Env-Ho</td>
<td>End Oct '10</td>
<td>$5,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Priority 2: Low cost - low water savings

<table>
<thead>
<tr>
<th>Action</th>
<th>Description of project</th>
<th>Responsible</th>
<th>Due date</th>
<th>Capital cost</th>
<th>ROI</th>
<th>Water savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Installation of water meters at key water usage areas and on water readings</td>
<td>Env-Ho</td>
<td>End Apr '10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Priority 3: High water savings - high cost

<table>
<thead>
<tr>
<th>Action</th>
<th>Description of project</th>
<th>Responsible</th>
<th>Due date</th>
<th>Capital cost</th>
<th>ROI</th>
<th>Water savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Optimization of water consumption to reduce consumption</td>
<td>Env-Ho</td>
<td>End Dec '10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Priority 4: Low water savings - high cost

<table>
<thead>
<tr>
<th>Action</th>
<th>Description of project</th>
<th>Responsible</th>
<th>Due date</th>
<th>Capital cost</th>
<th>ROI</th>
<th>Water savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reduce water re-injection</td>
<td>Env-Ho</td>
<td>End Apr '10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Water Supply and Use Breakdown

<table>
<thead>
<tr>
<th>Month</th>
<th>Total Water Use (kg/day)</th>
<th>Effective Water Use (kg/day)</th>
<th>Water use with</th>
<th>Water use with</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td>16,300</td>
<td>16,300</td>
<td>R0</td>
<td>R0</td>
</tr>
<tr>
<td>Feb</td>
<td>16,300</td>
<td>16,300</td>
<td>R0</td>
<td>R0</td>
</tr>
<tr>
<td>Mar</td>
<td>16,300</td>
<td>16,300</td>
<td>R0</td>
<td>R0</td>
</tr>
<tr>
<td>Apr</td>
<td>16,300</td>
<td>16,300</td>
<td>R0</td>
<td>R0</td>
</tr>
<tr>
<td>May</td>
<td>16,300</td>
<td>16,300</td>
<td>R0</td>
<td>R0</td>
</tr>
<tr>
<td>Jun</td>
<td>16,300</td>
<td>16,300</td>
<td>R0</td>
<td>R0</td>
</tr>
<tr>
<td>Jul</td>
<td>16,300</td>
<td>16,300</td>
<td>R0</td>
<td>R0</td>
</tr>
<tr>
<td>Aug</td>
<td>16,300</td>
<td>16,300</td>
<td>R0</td>
<td>R0</td>
</tr>
<tr>
<td>Sep</td>
<td>16,300</td>
<td>16,300</td>
<td>R0</td>
<td>R0</td>
</tr>
<tr>
<td>Oct</td>
<td>16,300</td>
<td>16,300</td>
<td>R0</td>
<td>R0</td>
</tr>
<tr>
<td>Nov</td>
<td>16,300</td>
<td>16,300</td>
<td>R0</td>
<td>R0</td>
</tr>
<tr>
<td>Dec</td>
<td>16,300</td>
<td>16,300</td>
<td>R0</td>
<td>R0</td>
</tr>
</tbody>
</table>

**Summary:**

- Total Effective Water Use: 190,400 kg/day
- Total Water Use: 184,300 kg/day

### Other Sources

- Decentralised water: 15% (50% Centralised Use)
- Water and wastewater (Other sources)

### Water Reduction Target

- Water Usage Savings: 2000 m³
- BAI: 2500 m³
- Time Frame: 1 year
- Next Review: 1 Apr '11
Green Mark Scheme
- Water Efficiency Criteria
*EXISTING BUILDINGS*

- Non residential buildings (ver 2.1) wef 1 Dec 09
- Water Efficiency – 18 points out of 128
- Perquisites:
  - **Green Mark Certified and Gold**: Certified Water Efficient Building (WEB) - 6pts
  - **Green Mark Gold plus**: Certified WEB and attain at least 10 pts
  - **Green Mark Platinum**: Certified WEB and attain at least 12 pts
<table>
<thead>
<tr>
<th>Part 2 – Water Efficiency (Total Points: 18)</th>
<th>Green Mark Points</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2-1  Water Monitoring (2 points)</strong></td>
<td>2 point</td>
</tr>
<tr>
<td>Provide the use of private water meters and *leak detection system for *better monitoring and control at major water usage area (e.g. cooling tower, water features, irrigation, swimming pools, tenants’ usage.</td>
<td></td>
</tr>
</tbody>
</table>
# GREEN MARK ASSESSMENT CRITERIA

## Water Efficiency – Existing Buildings

<table>
<thead>
<tr>
<th>Part 2 – Water Efficiency (Total Points: 18)</th>
<th>Green Mark Points</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2-2  Water Efficient Fittings (12 points)</strong></td>
<td>Rating based on Water Efficiency Labelling Scheme (WELS)</td>
</tr>
</tbody>
</table>

Encourage the use of water efficient fittings under Water Efficiency Labelling Scheme (WELS) or adopt equivalent water efficient flow-rate/flush volumes for water fittings:-

- Basin taps and mixers
- Showers
- Sink/Bib taps and mixers
- Urinals

*A PUB Water-Efficient Building would be entitled to 6 points.

Use of dual flush low capacity flushing systems under the Water Efficiency Labelling Scheme (WELS) or adopt equivalent water efficient flush volumes for water fittings

Rating based on Water Efficiency Labelling Scheme (WELS)
- Very Good – 6 points
- Excellent – 9 points

Points awarded based on the number and water efficiency rating of the fitting type used

(Up to 9 points)

Rating based on Water Efficiency Labelling Scheme (WELS)
- Good – 1 point
- Very Good – 2 points
- Excellent – 3 points

(Up to 3 points)
**GREEN MARK ASSESSMENT CRITERIA**

**Water Efficiency – Existing Buildings**

<table>
<thead>
<tr>
<th>Part 2 – Water Efficiency (Total Points: 18)</th>
<th>Green Mark Points</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2-3 Alternative Water Sources (2 points)</strong></td>
<td>Points awarded based on % reduction in potable water usage of the applicable uses</td>
</tr>
<tr>
<td>Use of suitable systems that utilize alternative water sources for non-potable uses: irrigation, washing, water features, cooling tower make-up water to reduce use of potable water. Alternative sources can include *rainwater, greywater, *NEWater, AHU condensate and recycled water from approved sources</td>
<td>&gt; 50 % - 2 points</td>
</tr>
<tr>
<td></td>
<td>&lt; 10 % to 50 % - 1 point</td>
</tr>
<tr>
<td></td>
<td>&lt; 10 % - 0.5 point</td>
</tr>
<tr>
<td></td>
<td>(Up to 2 points)</td>
</tr>
</tbody>
</table>
# Green Mark Assessment Criteria

## Water Efficiency – Existing Buildings

<table>
<thead>
<tr>
<th>Part 2 – Water Efficiency (Total Points: 18)</th>
<th>Green Mark Points</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2-4 Water Efficiency Improvement Plans (1 point)</strong></td>
<td>1 point</td>
</tr>
</tbody>
</table>

Targets to improve building water performance against own building water performance baseline should be set. To show intent, measures and implementation strategies of water efficiency improvement plans over the next three years. Committed water savings accrued from proposed measures should be quantified.
### Part 2 – Water Efficiency (Total Points: 18)

<table>
<thead>
<tr>
<th>2-5 Cooling Towers (1 point)</th>
<th>Green Mark Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of cooling tower water treatment system which can achieve 7 or better cycles of concentration at acceptable water quality.</td>
<td>1 point</td>
</tr>
</tbody>
</table>
NEW BUILDINGS

• 2 different categories for new buildings
  – Non residential buildings (ver 4.0)
  – Residential buildings (ver 4.0)

• Water efficiency – 17 points out of 190 (non residential)
  - 14 points out of 155 (residential)
Thank You