

**RainCatcher Calculator examples to assist customers to determine appropriate tank sizes and payback periods – brought to you by Raincatcher Products and Services Ltd and John Moores University**

**Below are two examples with same input data but different locations (different rainfall depths)**

**Method 2 – Non Domestic Building**

**Example 1**

Data:

Building type non-domestic    Occupants =100

Roof area= 550 m<sup>2</sup>                  Rainfall (England S) = 780.3mm

Roof type (pitched roof with tiles) =0.75

Total Daily water consumption other than WC (include washing M., Garden use, industrial process) = 200 litre/day

Filter efficiency= 0.90

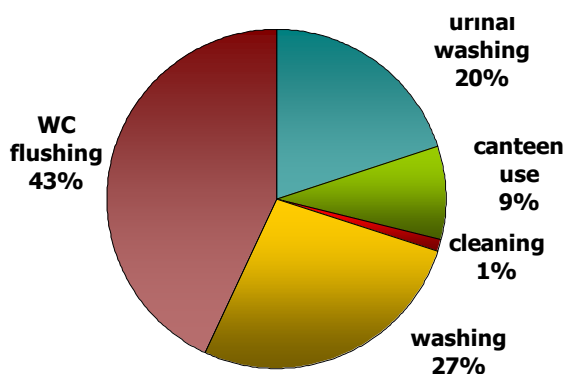
An Total system cost=£10000

Installation cost=£1000

Unit water cost =£2.9/m<sup>3</sup>

1. Annual yield=550\*780.3\*0.9\*0.75 =**289,686.375 litre**

2. Annual demand:



Commercial

For non domestic:

Daily WC &Urinal=63%\*50\*100

Daily washing machine +garden use+ industrial process = 200l/day

Total annual demand= (63%\*50\*100+ 200)\*255=**854,250 litre**



3. Saving %=289,686.375 /854,250 =**33.9%**

Saving £= 854,250 \*£2.9/m<sup>3</sup> =**£840.09**

4. Tank size:

6%( annual yield) =0.06\*289,686.375 =17381.18 litre

6%( annual demand) =0.06\*854,250 =51255 litre

Tank size the lower value =17381.18 litre

6. Payback =total cost/saving =10000+1000/ (840.09) =13.09 years



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