

Device gives the bear facts about your water usage

It shows animation, real-time info, ratings to help households cut consumption

IT PAYS TO USE LESS WATER

The device is a very good indicator of how much water you use... I will try to use less water because, at the end of the day, I will have to pay more otherwise.



MR MICHAEL ZEE, one of the participants who tested the device.

Carolyn Khew

In a new device in some households, a polar bear's ice melts as more water is used. And, if consumption continues unabated, the bear disappears.

Animation like this, coupled with real-time information on the amount of water used as a person showers, has helped such households to cut their water consumption by about 20 per cent.

This was among the findings of a study last year by national water agency PUB and the National University of Singapore (NUS). It involved 550 households in public housing estates islandwide.

Each household was given a device to be mounted on a handheld shower head. Apart from the polar

bear animation, the device showed real-time information on the amount of water used as well as ratings from "very good" to "too much".

Study participants used 20 litres of water per shower on average initially. But, by the end of the study, conducted from June to December last year, it was found that those who had the animation, real-time information and ratings on their device, saved 3.8 litres per shower, a 20 per cent savings.

The amount saved per person was about five litres of water each day.

There were spillover effects too. Apart from using less water in the shower, participants also cut down on water used for other activities, such as washing in the sink.

This means that each person could save about 40 cents each month, based on the total amount of water saved.

Associate Professor Sing Tien Foo, a deputy head of the NUS Department of Real Estate, was involved in the study.

He said a survey done before the device was installed showed that participants' estimation of water use was very inaccurate.

"For those who had the real-time information, estimation of how much water is used actually improved over time," he said.

One resident who took part in the study is Mr Michael Zee, a 65-year-old retiree who lives in Queenstown. The device has helped him to cut down his water usage by almost half.

"The device is a very good indicator of how much water you use... I will try to use less water because, at the end of the day, I will have to pay more otherwise," he said.

PUB said showering accounts for more than one-quarter of the water used in households.

While the amount of water each person uses daily fell from 165 to 151 litres from 2003 to 2015, the aim is to bring it down to 140 litres by 2030.

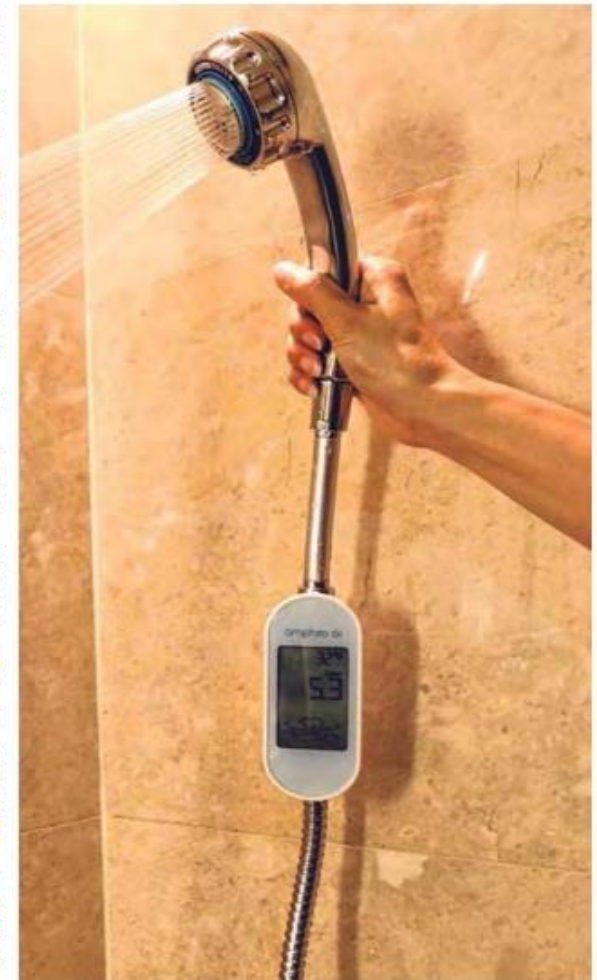
Mr Michael Toh, director of the Water Supply (Network) Department at PUB, said that he hopes the real-time information will encourage people to be mindful of how they use water.

"Water utilities around the world are trying to manage their water resources and, of course, water conservation is one of their main areas of focus," he added.

While the device can be installed in a matter of minutes, it costs about \$100, including retrofitting. The households that took part in the study did not have to pay for the device.

PUB said that it will look at the study results and see how it can work with equipment suppliers, developers and other stakeholders to find out how the device can be improved.

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The device, mounted on a handheld shower head, also gives ratings like "very good" to "too much". PHOTO: PUB

调查：

洗澡时得知用水量 有助培养省水习惯

公用局和国大的用水调查发现，那些装上计水器、能实时获知洗澡用水量的人，在完成调查后，每人每天节约约五公升的用水。

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洗澡是本地家庭耗水量最高的日常活动，占家庭每月平均用水量的29%。若人们能在洗澡时实时得知用水量，或更易养成节约用水的好习惯。

公用事业局和新加坡国立大学去年针对本地520户家庭参与的一项用水调查发现，那些获知洗澡用水量的人，在完成调查后，每人每天节约约五公升的用水。

调查使用的每次洗澡基本用水量是20公升。

参与调查的家庭都是被随机抽选，住户类别介于三房式至公寓式组屋。调查小组为住户派发特制的计水器，并将他们分为两组；一组计水器只显示水量；另一组则显示用水量及省水目标，以这两组人作对比。

负责调查的国大房地产系副主任程天富指出，鼓励人们在洗澡时节约用水，除了洗澡是每家每户最为耗水的项目，它无需参与者付出额外气力去获得信息。

他强调，推动行为改变的关键在于用户获得的实时用水量信息。“为期半年的调查对参与家庭算是

一种学习过程。使用计水器让人们了解洗澡时到底用了多少水，我们在调查完成前后进行的对比发现，那些能看得到用水量的用户省水量为明显。这种实时用水信息能促使人们主动改变行为，养成好习惯。”

逾八成参与家庭 把洗澡省水习惯沿用开来

值得一提的是，调查小组根据家庭用户每月水电费账单推断出的信息显示，超过八成参与调查的家庭在调查完成后，也逐渐把从洗澡养成的省水习惯沿用在其他家务中，如在水槽中洗东西，协助家庭额外节省了每人每天约2.5公升的用水。

国大在上周举行的新加坡国际水费课网上分享这一调查结果。

厨房和洗衣用水是本地家庭另两大高耗水量的家务活动，分别占家庭每月平均用水量的22%和19%。

公用局供水网络署署长卓金福受访时指出，这个调查凸显了一个非常有趣的概念，那就是通过了解实时的用水量，研究人们的用水行为，从而破除人们改变习惯。

公用局也不断呼吁国人为珍惜水资源尽一分力，减少不必要的用水

推动行为改变的关键在于人们获得实时用水量信息。使用计水器让人们了解洗澡时到底用了多少水……这些用户省水量为明显。

——国大房地产系副主任程天富



约520户家庭去年在参与洗澡用水调查时使用了这个计水器，它从花洒启动时就开始计算用水量。有趣的是，显示屏中可看到一只北极熊站在冰块上，若用水量过大，冰块便会慢慢融化，北极熊最终会消失。（公用局提供）

需求。例如洗澡时间加快一分钟，便能省却九公升的水。另外，人们一些小动作，如洗手抹肥皂时把水龙头关上，或把碗碟或蔬果放在盆里装水清洗，都能达到显著的省水目的。

计水器目前只供研究

接下来，国大希望能在首段调查结果的基础上，做进一步研究。不过，程天富指出，由于目前这款计水器价格约100元（包括改造费），因此在推广方面可能会面对一定阻力。

卓金福认为，下一步须探讨如何在住家推广和鼓励人们使用这类

计水器。不过，这款计水器现阶段只供研究用途。

参与研究的徐志荣（65岁，退休者）平时花10分钟至15分钟洗澡，每次用水量约20公升。使用了计水器后，如今每次洗澡的用水量已减至10公升至14公升，他因此非常满意它为家里带来的改变。

由于水费相对便宜，徐志荣以前不太在意用水量，但现在他对用水量已变得很敏感，会尽量少用。

他说：“计水器方便易用，它为我们提供实时数据，这样一来我们每次洗澡都能知道用了多少水。最大的好处就是帮我们节省水费，家人也很欢迎这个好的转变。”