附录 2：未来会涌现大量过滤和海水淡化装置

案例学习：上海水资源分配

概览-阐述-解决

2018 年 7 月 8 号，新加坡一经验丰富的法国发明家 Pierre Marconi 在 2018 年新加坡水资源周峰会上证明了创新科技有助于可持续水资源管理。全世界很多国家都面临水资源短缺的危机，有些国家的情况比较严重。南非的开普敦可能是近年来深受水资源匮乏影响的第一个国家。北京、圣保罗、班加罗尔、墨西哥、伊斯坦布尔、开罗、雅加达和莫斯科也濒临水资源枯竭。而导致水资源缺乏的罪魁祸首包括气候变化、全球变暖和环境污染。根据联合国的一项报告显示，超过五十亿的民众在 2050 年时会面临缺水困难，包括水资源危机和难以获得干净安全的饮用水。

一方面：7 月 8 号到 12 号，我参加了新加坡水资源周峰会和水资源领导者峰会，并倾听了由领先全球的净水专家分享的讲座。

水处理公司高层、研究员、学者以及政客组织了很多讨论小组和会议研讨。

2018 年 7 月 8 号，下午 4 点 15 分：
来自欧洲、美国和亚洲的国际知名专家小组讨论了新型突破性净水技术。
这些专家包括：

Mr Dauthuille，法国苏伊士运河主管
Ms Ester Rus，英国泰晤士水务公司高级研发工程师
Dr Sudhir Murthy，美国 NEWhub 总裁
Dr Winson Lay，新加坡 PUB 总经理
Ms An Lin，中国北京排水系统集团高级工程师

Mr Dauthuille 在讨论最后进行了总结。

参与讨论的公司目标相同：通过不断改善技术和减少能源耗费来提高净水质量。
新加坡 PUB 是一个国家水资源管理机构。此机构不断创新净水质量和安全、海水淡化、循环使用水和智能管理水资源网络相关的技术，由此也在国际上广为人知。PUB 参与组织了 27 个国家的超过 613 个项目。

附录内包含净水装置和海水净化装置的布局图。海水淡化装置在海平面上[1]。

另一方面：

2018 年 7 月 10 号上午九点，联合国秘书长 Ban Ki-moon 阁下发表了讲演。

Ban Ki-moon 先生在地址清楚的地方组织会议，很开心的是，我在会上提了一个问题。
BKM 警告全人类要注意全球变暖的风险，也鼓励人们在这样一个困难时期更要团结起来。
同时他也相信人类创新和技术能解决这些问题。

这次演讲非常有洞察力，也有很多独特的观点。很开心我有机会在会上提出一个对我来说很重要的问题—如果发生洪水或其他气候灾害，一个大型的净水设备会不会比很多小型分散净水设备更易损坏？

当我们谈论全球变暖或气候变化时，这个观点确实变得很模糊，而这在很多地区都有影响。而且，一旦这样的观点让我们产生强烈的焦虑感，我们的思考会受阻。

我们还需要去考虑那些处理水和获取健康水困难的地区。

2018 年 10 月，最新 IPCC 报告会说明增加 1-5 度的目标很可能会被超过。这会破坏地球生态平衡。
巴黎 COP 21 上决定的减少二氧化碳排放量方案不但没能实现，反而增加了排放量。

排放量增加的结果和我们的期望背道而驰。

现在我们已经书面记录了**未来不久**全球变暖对获取水资源的影响[ii]，总结如下：

高温会加速冰川融化，从而使得海平面上升，更多的海水会和淡水混合。不同于海平面上升和极端气候灾害这些影响，气候变化对内陆地区的影响最大。
如果二氧化碳排放量不断增加，到 2050 年将会有超过八亿的人口（相当于半个南亚的人口总量） 的生活区域变成中度甚至重度热区。
很多研究表明由此带来的影响很大，包括干旱、洪水、热浪、风暴潮和海平面上升。而且这些也会损坏人类健康。
季风降雨能快速降低气温，带来更宜人的温度以及丰沛的供水，可以用于农业灌溉。在南亚的很多地区这种水资源被充分利用，促进了当地农业生产。但这很难保证供水或用水需求。突然大量调水也会造成很大破坏。

Wiracocha Global limited
19th Floor, Lee Garden One
33 Hysan Avenue, Causeway Bay
Hong Kong

案例学习：上海水资源分配

南极洲冰川融化越来越快，海平面也相应升高。
南极洲 98%区域都是永久冰川，周边被南大洋环绕，拥有 90%的淡水资源，同时也是地球上淡水储备量最大的地方。如果这片冰川全部融化，则海平面会上升六十米左右。

上海 50%的净水设备是由法国领先净水品牌 Veolia 所有。这个设备为数以百万的上海人提供净水，在海平面以上四米。
它每年能分配超过三亿八千万立方的净水，跨度长达 2380 千米。

总结：
海平面上升了五米：
净水设备会越来越多，但它不能直接过滤盐水。因此以后海边会涌现大量海水淡化设备。

解决—使用量子创新净水技术和新型滤材

过去集中式电脑会为手提电脑预留空间，固定电话会为手机预留空间。

而且大型集中式净水设备或海水淡化装置属于高科技产品，便于生产，但维修保养比较难。数以千计的家用小型海水淡化装置、净水设备和装瓶设备便于维修保养，而且也是经过验证的技术。这些是世界上最经济安全而又便于复原的净水方法。

2012 年法国斯特拉斯堡的研究员开始开发新型量子净水技术。
量子净水技术不会产生废水、废弃塑料或化学添加剂，同时也能保留水中的矿物质。这种技术只改变污染物的原子和离子结构（最小的结构）。净水后加压的水流会持续流经专用纳米级部件。
2018 年量子净水技术可以开始用于各种便携净水设备，安装在家里或办公室里或者用于其他一些活动。使用量子净水技术可以用于快速生产超过八种不同尺寸的型号。

烦请参见《QTI 备忘信息》以了解详情。

Annexe 2 : Filtration and desalination plants will be flooded .

Case Study : Shanghai . water distribution

Overview - Explications - Solution .

Singapore, Singapore - July 8, 2018 - At Singapore Water Week Summit 2018 , French serial inventor Pierre Marconi demonstrated how innovation and technology can be entwined for sustainable Water Management. Countries across the world are facing a water scarcity crisis with the situation more acute in some countries than others. Cape Town in South Africa is probably the first serious victim of the water crisis currently. Beijing, Sau Paulo, Bangalore, Mexico city, Istanbul, Cairo, Jakarta, Moscow are other names in the list of cities next to run out of water. Climate Change, Global warming, environmental pollution are the prime reasons for the water scarcity woes and as per a United Nations report, more than 5 billion people could suffer water shortage by 2050. Of this looming water crisis, access to clean and safe drinking .

From one part : I went to Water Week Singapore and Water Leader Summit from July 8th to July 12th to attend lectures held by the world's leading water filtration specialists.

Numerous discussion panels and conferences held by leaders of water treatment companies, researchers and academics, as well as politicians.

July 8 2018, 4.15 pm :
Panel discussion of new disruptive technologies of water filtration with imminent and international specialists from all continents: Europe, US, Asia:

- Mr Dauthuille, Director Suez France
- Ms Ester Rus, Senior Research Engineer, Thames Water, Uk.
- Dr. Sudhir Murthy, CEO, NEWhub, USA
- Dr. Winson Lay, General Manager, PUB Singapore
- Ms An Lin, Senior Engineer, Beijing Drainage Group, China

Concluding remark are made by Mr Dauthuille.

The objectives of the companies are the same: to ensure a better quality of filtration by using technologies more and more perfected and less of possible energy resources.

- Pub Singapore is the national water agency. its expertise is recognized globally for innovation, particularly in filtration quality and safety, in the desalination and reuse of water and intelligent control of the network. More than 613 projects in 27 countries are engaged.

In appendix: a layout drawing of a filtration and desalination plant . Desalination plant is at sea level.[1]

Wiracocha Global limited
19th Floor, Lee Garden One
33 Hysan Avenue, Causeway Bay
Hong Kong

On the other hand:

July 10 2018, 9.00 Am . Keynote by His Excellency Ban Ki - moon, 8th Secretary - General United Nations.

Mr Ban Ki-moon opened the conference with a particularly clear address and I had the pleasure of asking a question. BKM warned humanity about the risks of global warming and the need for humanity to remain in solidarity in a difficult time. He also affirm his confidence in the strength of human innovation and new technologies.

This speech is clairvoyant but remains unique. I had the opportunity to ask a question that seems to me very important: « in case of flood or major climate disasters is a large filtration facility would not be more fragile than many small decentralized filtration stations? » .

Indeed, when we talk about global warming (or climate change), this notion remains very vague and its enormous impact in all areas. In addition, a strong anxiety effect blocks our thinking.

Concerning the area which concerns us more particularly the treatment of the water and the access to a healthy water of the very important news are awaited.

October 2018 .The new IPCC report will announce that the target temperature increase of 1°5 degrees will most likely be exceeded. Effects will be very bad for the general balance of the planet.
The carbon emission reductions decided at COP 21 in Paris will not be achieved. Worse, there are no reductions but emission increases.

The result is exactly the opposite of what we expect. An increase and not a réduction.

At present, the effects of global warming for access to water in ***very near future*** are already well documented[2].

In summary:

- The temperature will accelerate ice melting. the level of seawater will rise and mix with fresh water. .Unlike sea-level rise and extreme weather events, changes in average weather will affect inland areas the most.
- More than 800 million people—almost half of South Asia's population—currently live in areas that are projected to become moderate to severe hotspots by 2050 under the carbon-intensive scenario.
- A number of studies have looked at the consequences of extreme évents ;droughts, floods, heat waves, and storm surgés,as well as those of sea-level rise in general, and have found such events to damage the health and well-being of the population
- The onset of monsoon rains quickly reduces temperatures to more comfortable levels and brings much of the year's water, which facilitates agriculture. These water resources are close to fully used in many parts of South Asia, resulting in strong agricultural productivity (though not at its full potential), but with high vulnerability to changes in water supply or demand.
- Too much water delivered too suddenly can cause significant damage.

Wiracocha Global limited
19th Floor, Lee Garden One
33 Hysan Avenue, Causeway Bay
Hong Kong

Case Study : Shanghai water distribution.

- Antarctica is melting at an accelerated pace and reinforcing the rising sea level.

Covered more than 98% by permanent ice - the ice sheet - the continent island surrounded by the Southern Ocean alone accounts for 90% of the land ice and contains the largest reserve of fresh water on the planet. If this whole mass of ice melted, it would raise the ocean level by almost 60 meters.

Shanghai – Pudong filtration station is 50 % owned by French leader Veolia. Several million people are served by this station.

More than 380 million m3 water are distributed per year , with 2380 km network.

Station is at an altitude of 4 meters above sea level .

Conclusion :

With sea water 5 meter level élévation :

Filtration stations will be flooded . can not filter the water with salt and desalination stations at the seaside will be flooded ☹

Solution is innovation - use Quantum Technology - with new filtration materials.

I explained that as in the past, the centralized computers left room for the PC, in the phone the phone has wires to give way to the smartphone.

In addition to large centralized filtration station (or desalination plant) :

- high-tech, difficult maintenance , easily flooded , very difficult to repair

Thousands of small desalination, filtration and bottling facilities at home, easy maintenance and tested technology is the most economical, safe, resilient solution everywhere in the world .

- In 2012, in Strasbourg, France, researchers are starting to work on a new quantum water filtration technology.
- Quantum technology means no lost water, no lost plastic, no added chemical, does retain mineral salts. Only the atoms and ions (the smallest parts) of pollutants are modified. A constant stream of water under pressure passes through particular nanoscale components.
- In 2018, this quantum technology is ready to be manufactured and can be adapted to different portable devices, for the home, the office or the campaign. More than 8 different size and models can be made in very short time .

Wiracocha Global limited
19th Floor, Lee Garden One
33 Hysan Avenue, Causeway Bay
Hong Kong

See all information in « Infomation memo QTI «

[1] Book: Innovation in water Singapore .Volume 10 July 2018.

[2] The World Bank's regional agship, *South Asia's Hotspots: The Impact of Temperature and Precipitation Changes on Living Standards*

Wiracocha Global limited
19th Floor, Lee Garden One
33 Hysan Avenue, Causeway Bay
Hong Kong