White Paper: Features and benefits of solar water pasteurization technology in the context of the United Nations' sustainable development goals.

This briefing focusses on how off-grid solar water pasteurisation contributes in both targeted and broad ways towards meeting the UN's 17 sustainable development goals.

Besides solar water pasteurization making core contributions to goal 6, which is on sanitation and clean water, the sustainable design philosophy and usage context of such technology alsoi deliver substantive contributions to a further nine of goals.

This demonstrates that solar water pasteurisation technology can be a rounded and compliant enabler of the UN's goals.

The full list of the ten UN goals that solar water pasteurisation is capable of addressing are:

  1 Against poverty
  3 Health and wellbeing
  5 Gender equality
  6 Clean water
  7 Clean affordable energy
  8 Economic growth
  11 Sustainable communities
  12 Sustainable consumption
  13 Climate action
  15 Land sustainability

On first reading, this may seem like a rash, sweeping, and over-broad list of claims, so, in justification of them, a summary of how our technology meets these goals is mapped in the following table.

For simplicity, these goals are mapped against only two of the product features, these being: delivering killing of pathogens to deliver clean water, and operating comprehensively off-grid.

These features are in turn set against only three selected main benefits, these being health, socioeconomic and environmental.

Thus, while this 6-cell table is only a summary, it is nevertheless elucidates both the depth and the breadth of the scale of this technology's potential sustainability benefits.

This summary table also identifies beneficiary groups which, while this generally includes everyone who drinks water, particularly identifies children, women, the elderly, the immunosuppressed, asthmatics, refugees and disaster victims, depending upon the circumstances of use and the type of benefit they receive.

Thanks to Dr. Sam Wong of University College Rooseveldt, for prompting this analysis.

Features:	Benefits: Heath	Benefits: Socioeconomic	Benefits: Environmental
Kills pathogens.	Primary benefit: Clean water saves lives and prevents debilitating disease, whether in regular use or in emergency use. In its regular use context, everyone benefits, but infection-vulnerable groups including children, elderly & HIV immunosuppressed benefit most. In its emergency use context, besides the above list, refugees and disaster victims benefit most. *Helps meet UN goals:* *6 clean water* *3 health (enteric)*	Time: Women gain time because not caring for sick people. Longevity Happiness Productivity *Helps meet UN goals:* *3 wellbeing.* *5 gender equality*	Lower pathogen burden in the environment. *Helps meet UN goal: 11 Sustainable communities.*
Off-grid capability. Zero chemical use and zero fuel use, in particular… May reduce burning of fossil fuel such as kerosene. May instead reduce biomass fuelwood burning. It also has off-grid emergency service capability.	If this technology stops water being boiled to clean it, there is a lower chance of scalds from boiled water spilling. Children and women exposed to these risks and activities will benefit most. In addition, if smoky fuelwood is not burnt indoors, the young, the old and asthmatics also benefit substantially, because less smoke and smog means fewer lung problems. In its emergency use context, besides saving lives, it frees up contested health service capability by supplying clean drinking water. *Helps meet UN goals:* *3 health (scald and smoke)* *7 clean affordable energy.*	If reducing bought in fossil fuel, saves money: stops wealth leaving the whole community. *Helps meet UN goals 1 against poverty 8 economic growth* If it reduces distances travelled for clean water or firewood collection, the time saved has value and will benefit children and women most of all. *Helps meet UN goals:* *5 on gender equality* *8 economic growth* *12 Sustainable consumption*	Reduces CO2 emissions. *Helps meet UN goal: 13 Climate action* Also cuts deforestation and outdoor smog if fuelwood is saved. *Helps meet UN goal: 15 Land sustainability*