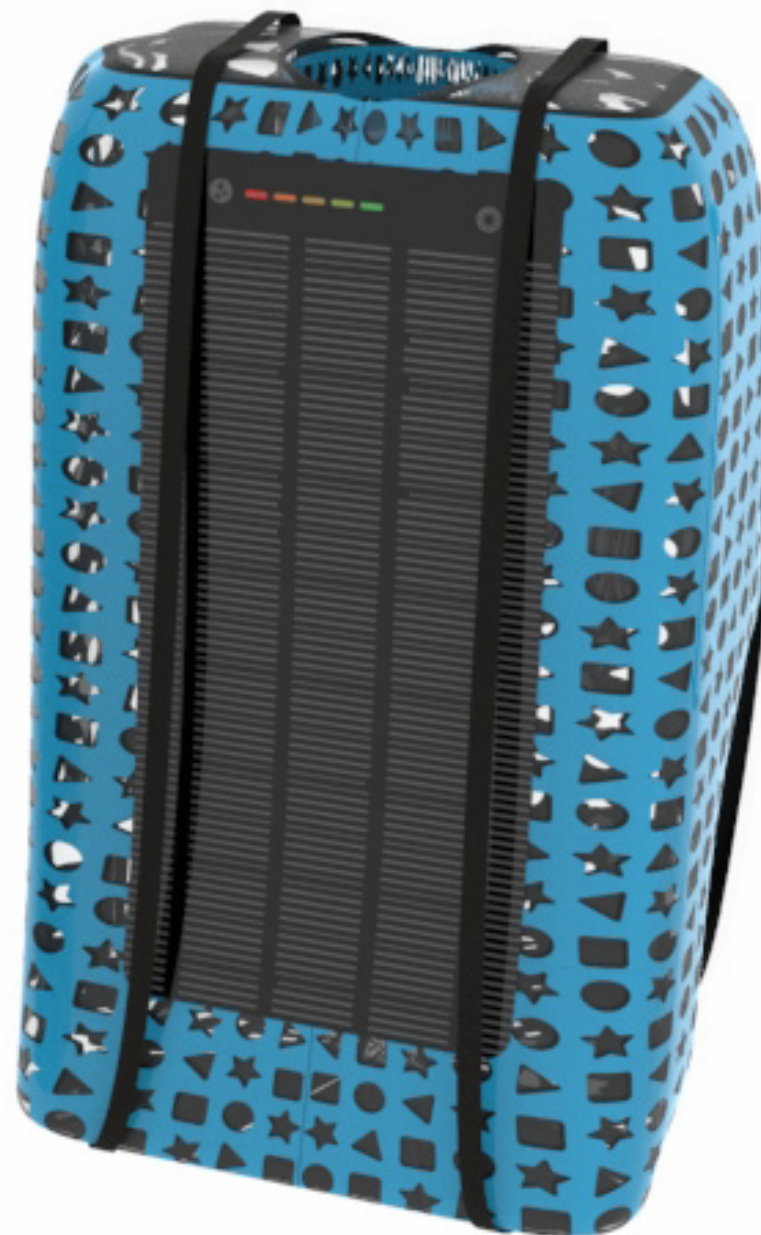
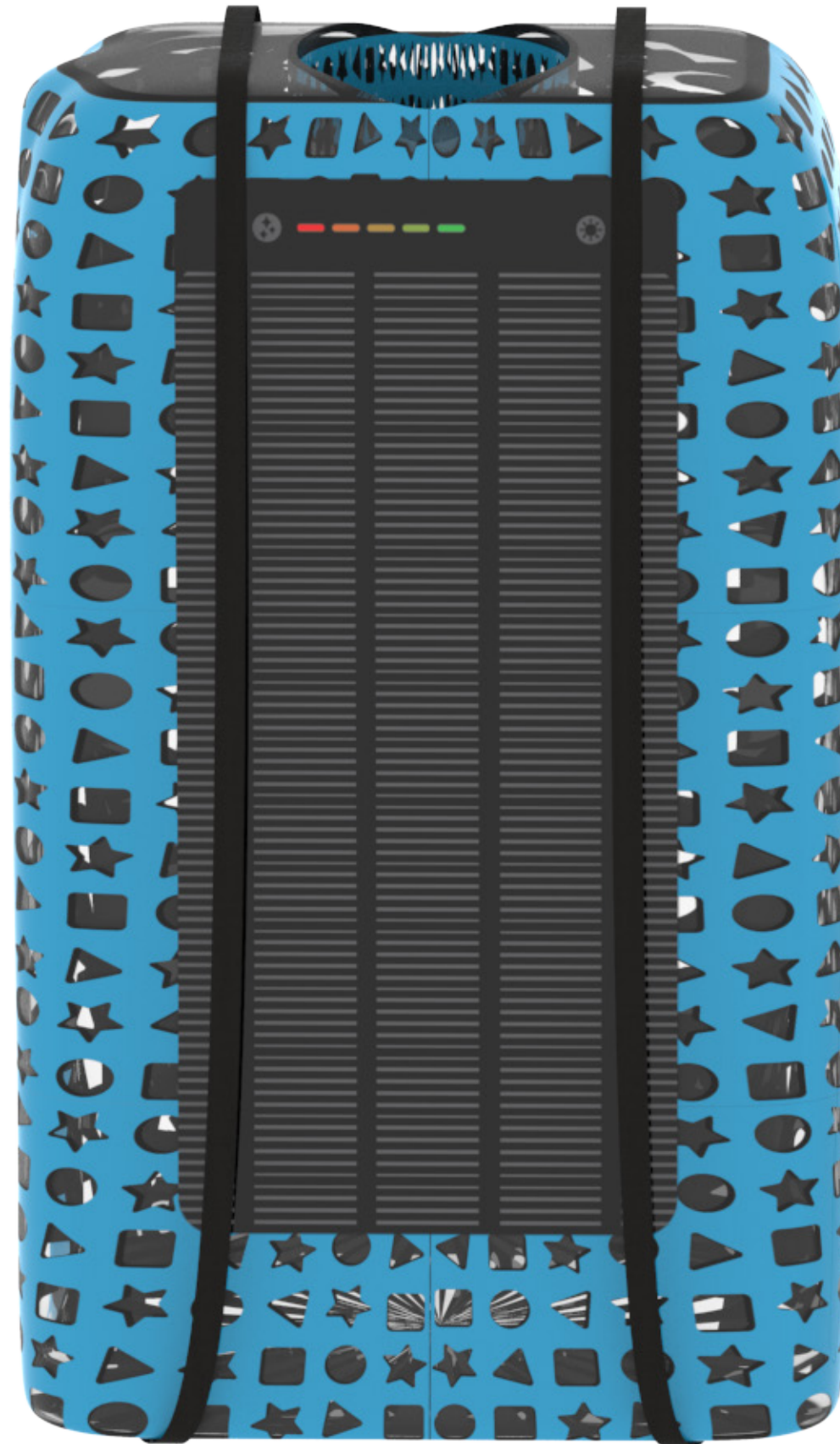




H₂GL 

MEET H2GLO

H2GLO is a personal solar-powered water pack designed to provide the security of light and clean water in the immediate aftermath of a natural disaster. Users can get their drinking water from any source, clearing it of sediment, chemical contamination, and disease-causing microorganisms without ever having to touch the infected water themselves. Light-weight and easy to transport, these packs would arrive in a disaster zone much faster than a slow-moving water truck or bottled water.





WATER, LIGHT & DISASTER ZONES

Each year **millions of people are displaced by natural disasters that cut off access to essential services like clean water and electricity**. In the course of these disasters, approximately 100,000 people perish per annum.

While government and non-government organizations (NGOs) work diligently to provide aid to victims of disasters, many disasters happen quickly and without warning leaving these organizations days and weeks behind. This timeline is too long because **humans can only survive three days without water**. It is challenging to deliver these services to zones that have been affected by natural and human disasters due to damage to power grids and the weight and spillage involved in transporting water.

After evacuees are allowed back in their homes, they continue to experience water and power outages as the utilities work to restore services. **During this traumatic period, people must have access to clean drinking water and light as both a utility and a comfort source.**

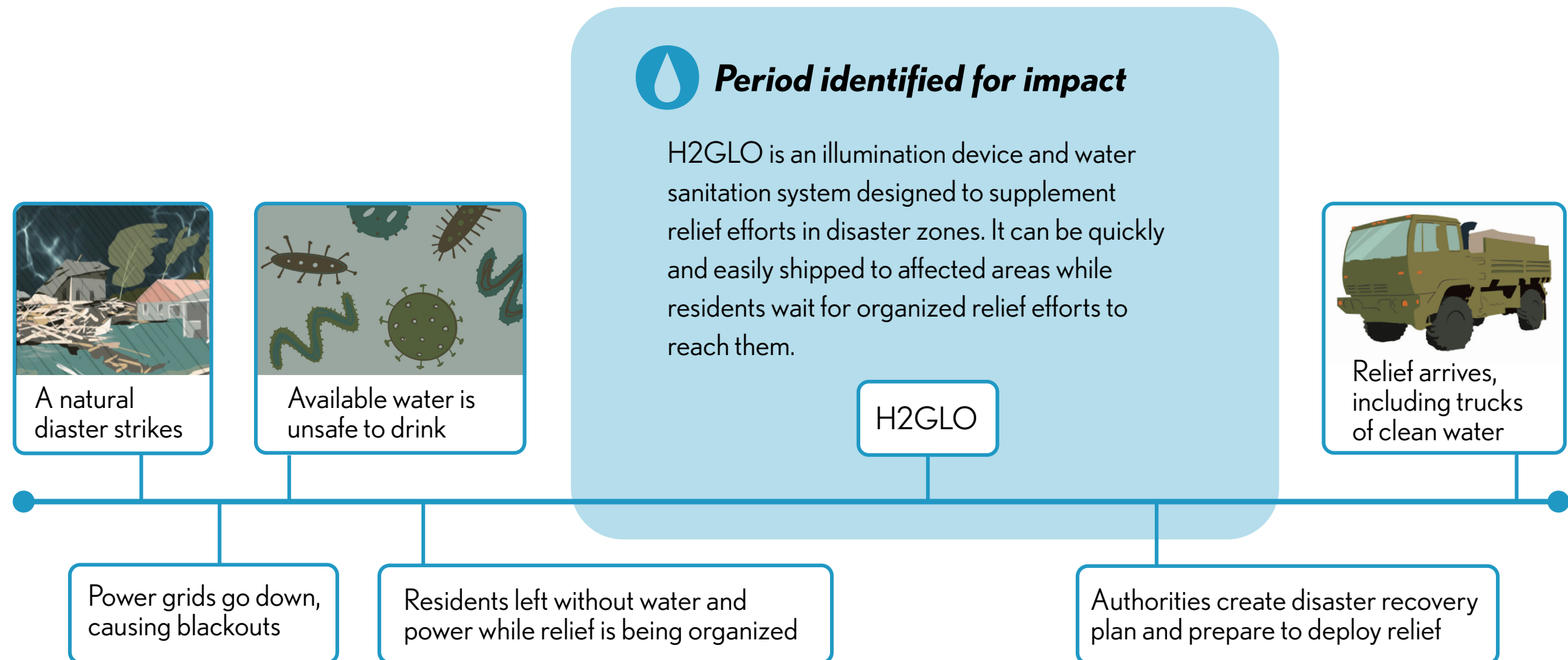
785 million people worldwide **do not have basic drinking water** services.

An average of **25.3 million** people are **displaced each year** by sudden-onset disasters.

1 out of 4 health-care facilities worldwide **lack basic drinking water** services.

RELIEF EFFORTS

Immediately following a disaster, both government and NGOs work together to assess victims' needs, coordinate relief efforts, deploy aid, and rescue citizens. As we saw with Hurricane Katrina, this effort is complicated, and **many people are left without clean water, power, and light** for days and even weeks. H2GLO is designed to supplement relief efforts, deploy prior to a disaster, and work as a stop-gap until resources can be mobilized.



FURTHER RESEARCH

To inform our design process, we **interviewed people who have personally taken part** in disaster relief deployment. One was a Construction Corps officer, another a team member working proactively on Water Projects in Haiti.

Interview 1: Construction Corps Officer

Insights:

- Scooping water with the container you drink from contaminates the whole system
- Need indicator to know UV is working
- Recommended 3 gal/day for water and hygiene

Design Solutions:

- Water intake is kept separate from water output by using the syringe to collect water safely
- Indicator lights track purification progress
- H2GLO holds approx. 5 gallons of water

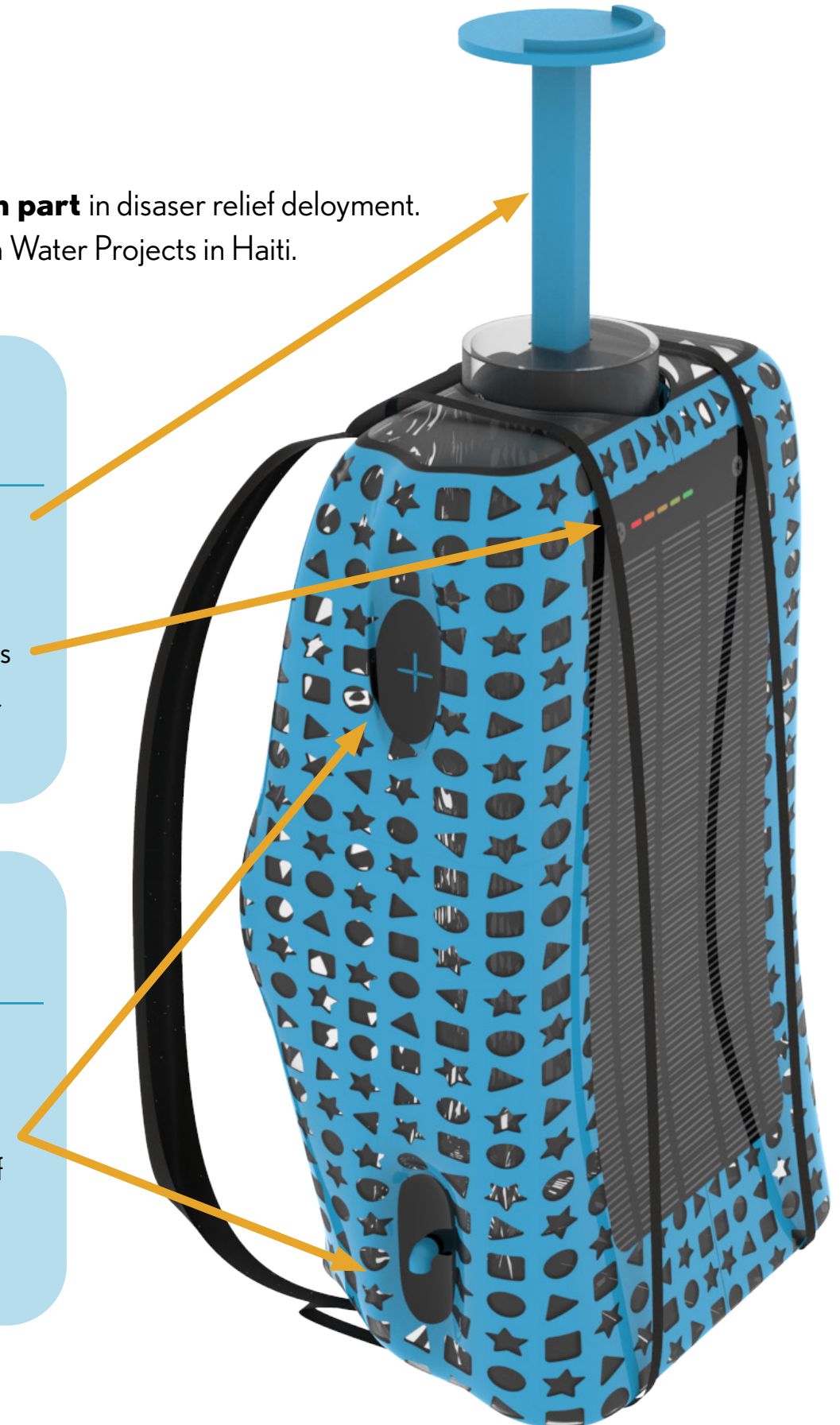
Interview 2: Water Projects in Haiti

Insights:

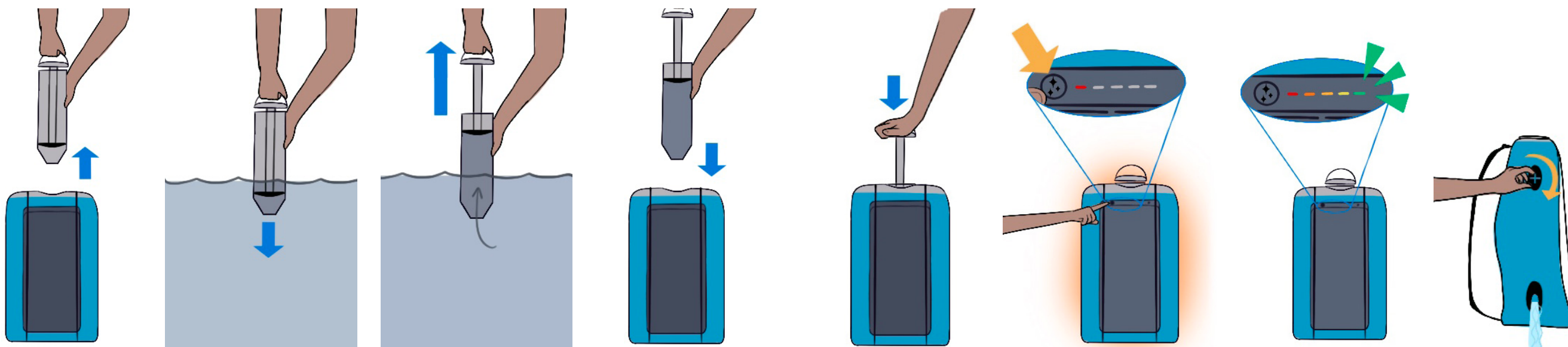
- They would use the product all the time, not just for disasters
- People should avoid touching the spout with contaminants on their hands
- It needs to be durable and difficult to take apart

Design Solutions:

- H2GLO is designed to be long-lasting, filters can be replaced once expended
- The knob that opens the output spout is located at a distance from the spout itself
- H2GLO's durable plastic body is further protected by its silicon cover



HOW IT WORKS



FEATURES

Ceramic filter

- Low cost
- Washable
- Filters out turbidity, sediment, bacteria, and metals.

Carbon filter

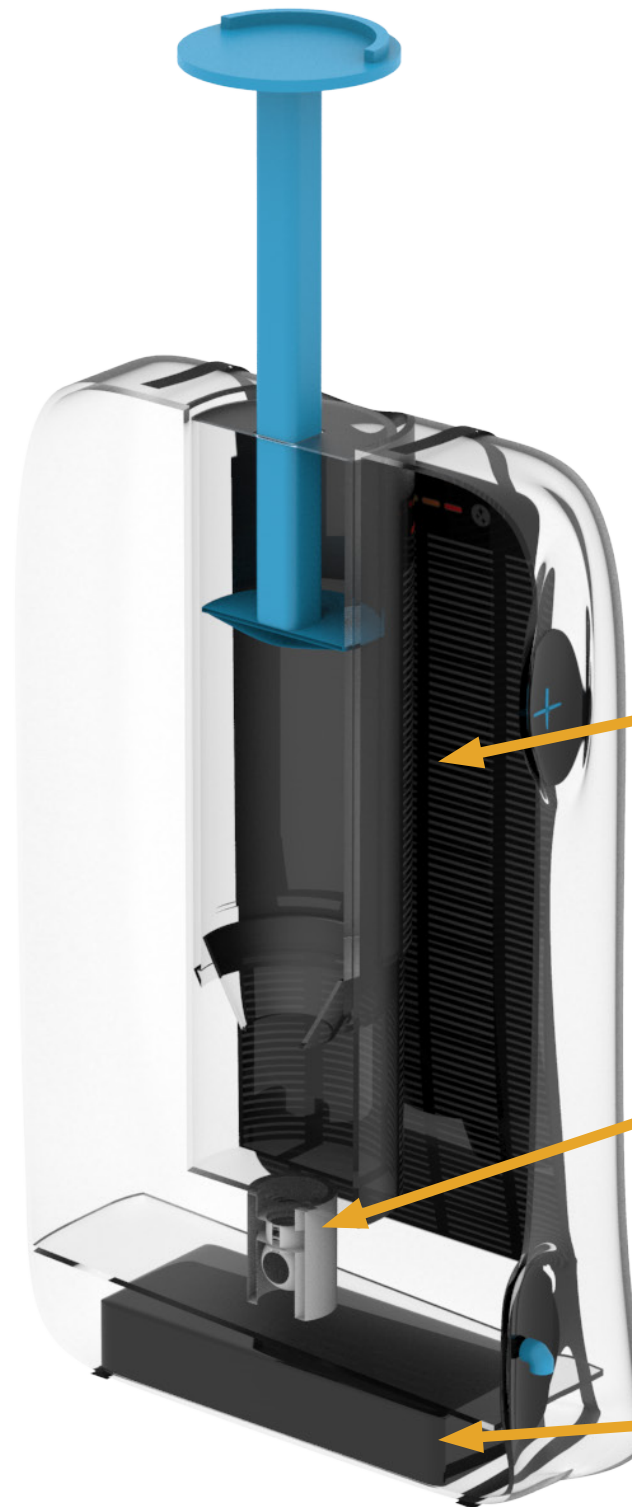
- Low cost
- Filters out 60+ chemicals, pharmaceuticals, pesticides, herbicides, and lithium

UV light

- UV lights embedded in the silicon layer surrounding the water reservoir kill disease-causing microorganisms (bacteria, viruses, and protzoa)

LED Illumination

- The silicon wrapping contains LED and UV lights. It is designed to protect the unit and project calming shapes when illuminated.



Interface

- Icon-based interface overcomes potential language-barriers
- Indicator lights transition from red to green as purification process takes place



Solar-powered

- Solar power makes H2GLO effective even in areas without power
- Solar panel charges the battery fully in 5-11 hours of sunlight

Check valve

- Check valve by the filters prevents water from escaping back out the top of the pack

Battery

- 8800 mAh battery
- One battery charge can run the UV water-purifying lights 4 times or the LEDs for 22 hrs



**ABSORBS
LIGHT**

**ILLUMINATES
NIGHT**

