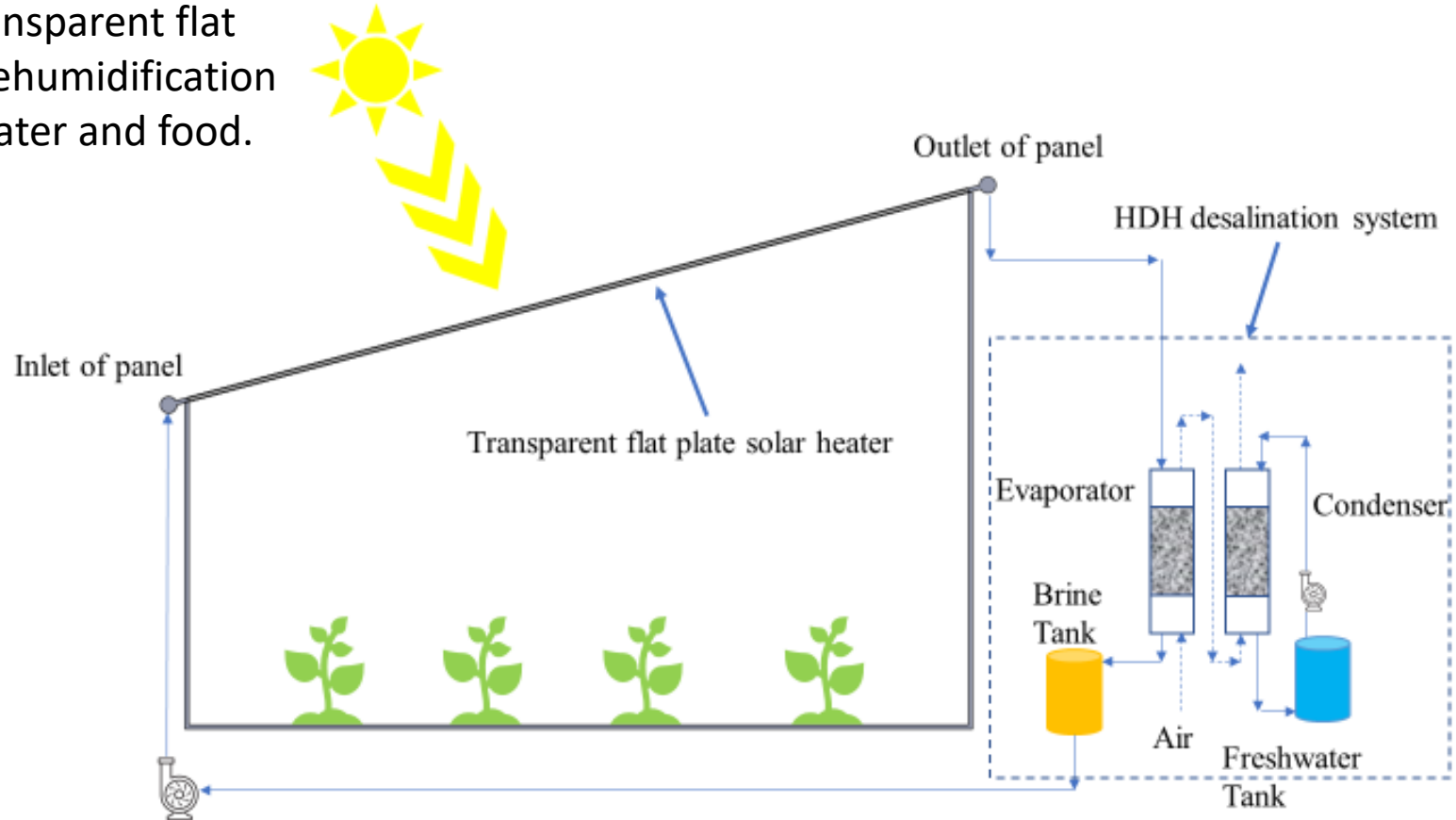


# Integrated Greenhouse for Food and Water Production

An innovative greenhouse is integrated with a transparent flat plate solar heater as roof and a Humidification Dehumidification (HDH) desalination system for producing clean water and food.

## Solar panel can:

- Transmit most of photosynthetically active radiation (PAR) for plant growth
- Absorb most near-infrared radiation (NIR) to heat water
- Provide shadings for plants
- Reduce cooling load for the greenhouse
- Produce heat for desalination system



- The system is a good match for arid regions of the US and the world
- Water production can meet water needs for leafy crops such as lettuce
- Can offer optimum DLI for different plants
- Will significantly reduce the cooling costs