

# WHY?

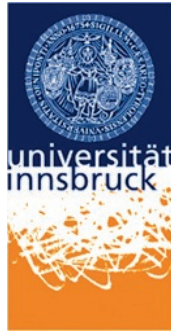
## Why now?

- The use of renewable energy continues to grow world-wide
- The production of electricity from renewable sources is unpredictable
- The increasing integration of intermittent renewable energy sources into the grid demands an efficient storage system
- Only if the system is changed can the goal of sustainable energy for all be achieved

## Why Buoyant Energy?

- Based on the well-established technology of pumped storage plants
- 85% - 95% efficiency
- Unlimited number of load cycles
- Response time of mere seconds
- Fully dispatchable
- Well tested and proven construction methods are already available
- Can be uniquely combined with numerous offshore energy producers
  - Offshore wind turbines
  - Ocean current power stations
  - Solar power plants
- Can easily be integrated into any form of offshore infrastructure (floatels, floating container ports, etc.)

# Contact



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**Welcome!**

[www.buoyant-energy.com](http://www.buoyant-energy.com)

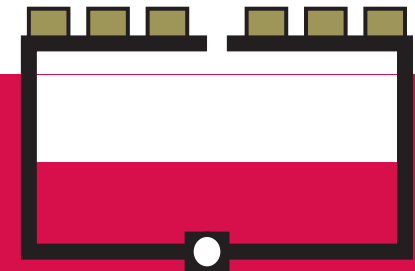
**BUOYANT ENERGY**  
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smart concepts for energy storage

# BUOYANT ENERGY

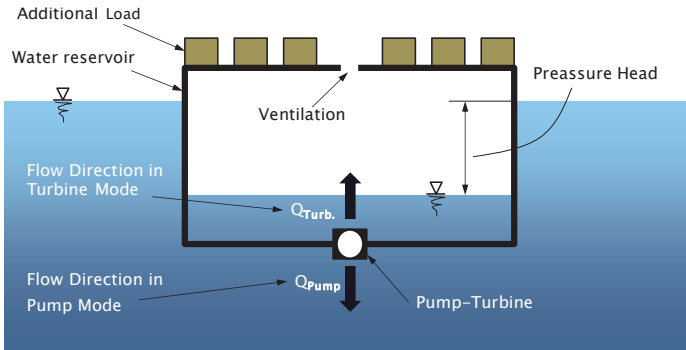
smart concepts  
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Minimize your **ecological footprint** and **balance the fluctuations** between your energy supply and demand:

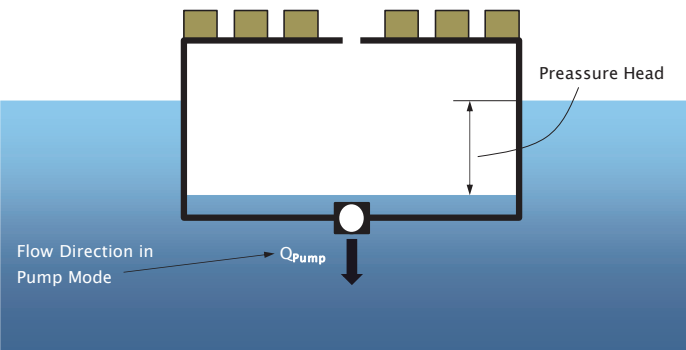
integrate **carbon-free renewable energy sources** into the energy market.



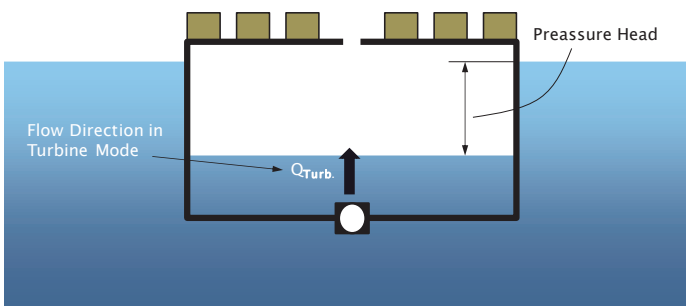
## System Design



## Store Energy



## Generate Energy



## HOW?

*Buoyant Energy* uses a smaller reservoir (buoyant platform), that lies within a larger reservoir. Water can be moved from one reservoir to the other by means of pumps and turbines.

The energy is stored solely through the potential energy of the mass of the floating structure. In order to **store energy**, water from the smaller reservoir is pumped to the larger reservoir (pump mode). As a result, the floating structure that encloses the smaller reservoir rises. In order to release the energy (**generate energy**), the structure is lowered and the inflow into the smaller reservoir powers a turbine (turbine mode).

The large reservoir could be any large body of water, like a lake, the sea or even the ocean. One possibility would be to arrange the floating structures close to offshore wind farms. Another possibility would be to combine the *Buoyant Energy* technology with any floating offshore infrastructure.

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## Application Possibilities

- Decentralized compensation of fluctuating power generation
- System balancing
- Ancillary services
- Solution for off-grid energy systems on natural *and* artificial islands

