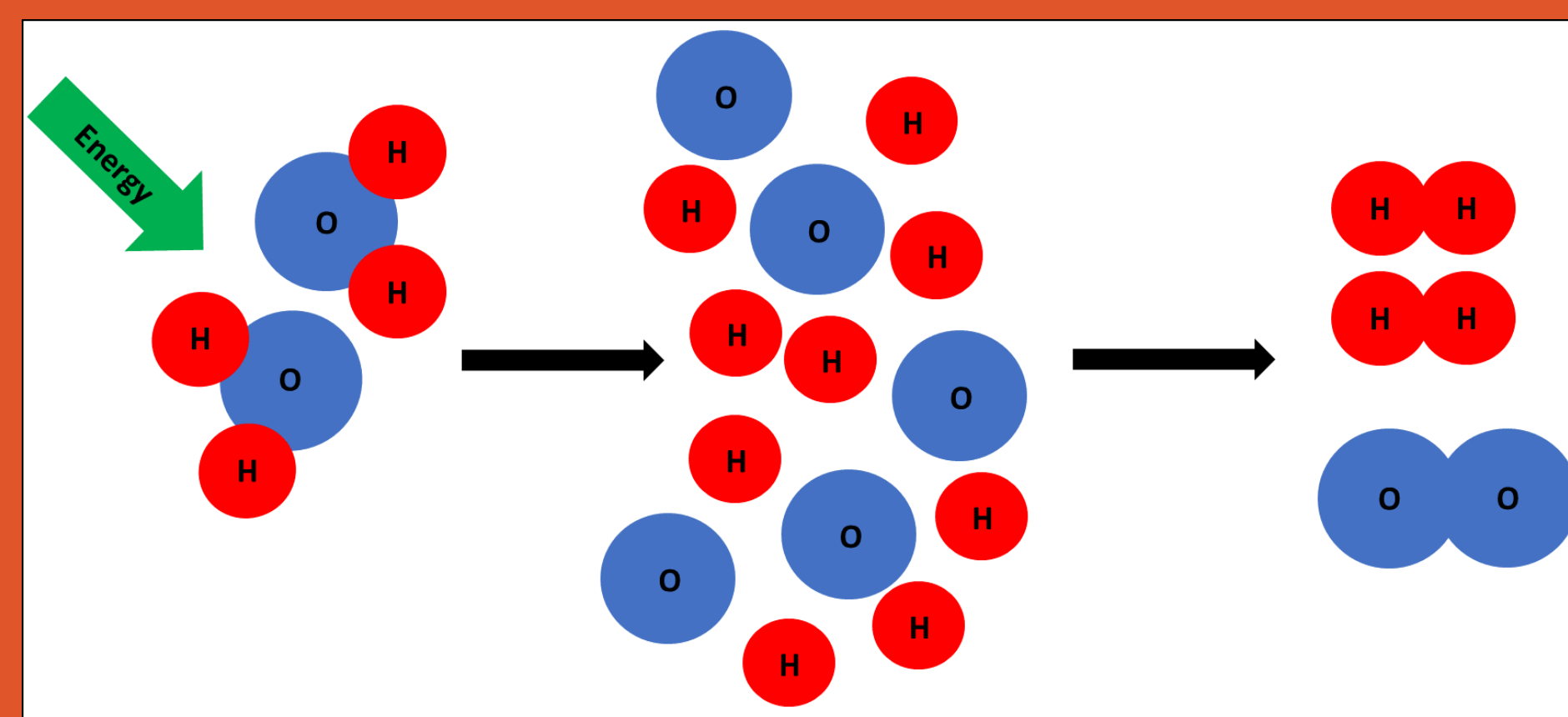
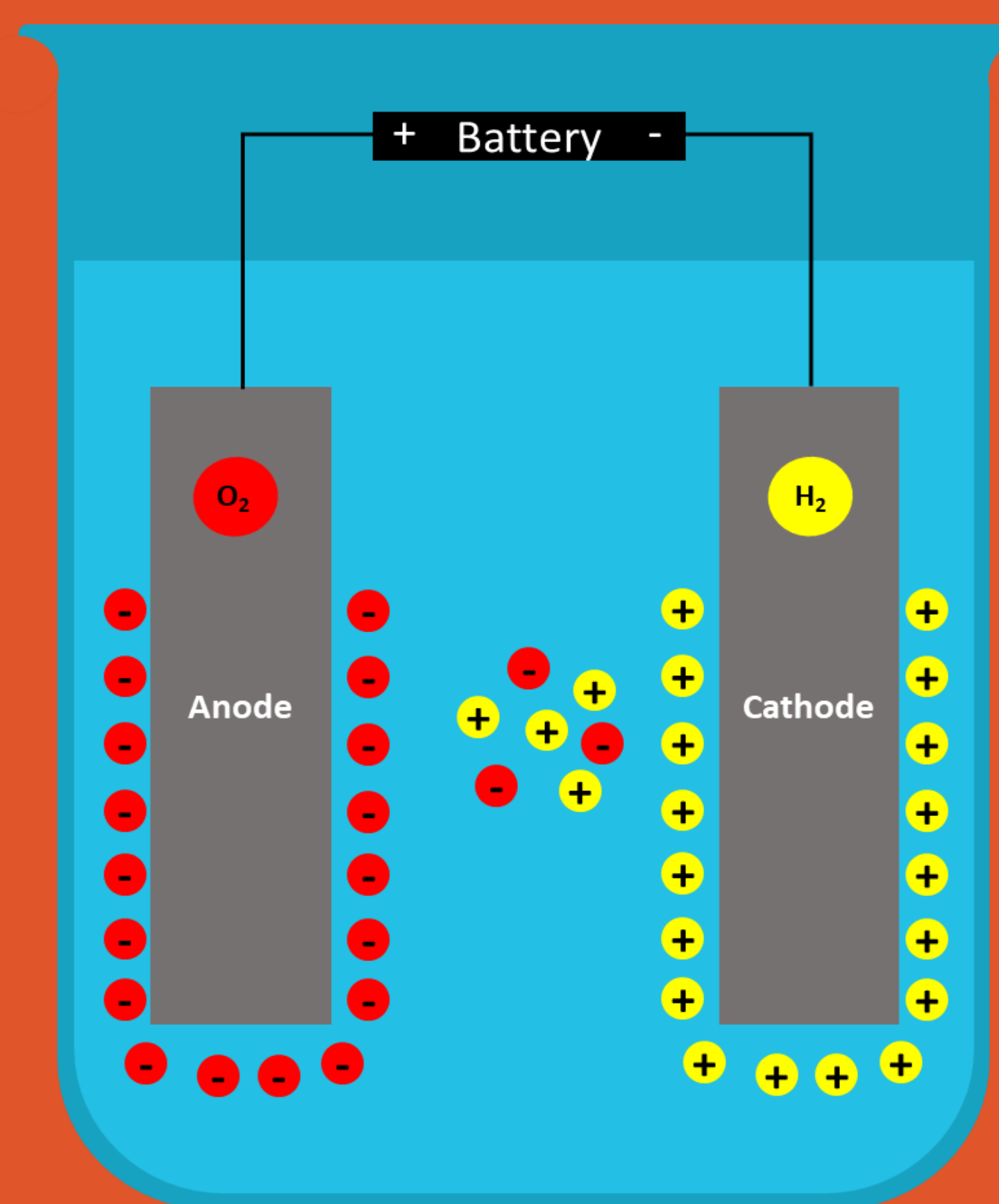


WHY HYDROGEN?

- Hydrogen can be used as a combustible fuel or electricity source
- Hydrogen is a high energy dense source of energy
- Could help modulate electricity from renewables
- Green hydrogen does not produce any CO₂
- Blue hydrogen produces CO₂ which is scrubbed
- Grey hydrogen produces CO₂ which is released into the atmosphere



ELECTROLYSIS



MODULAR HYDROGEN GENERATION

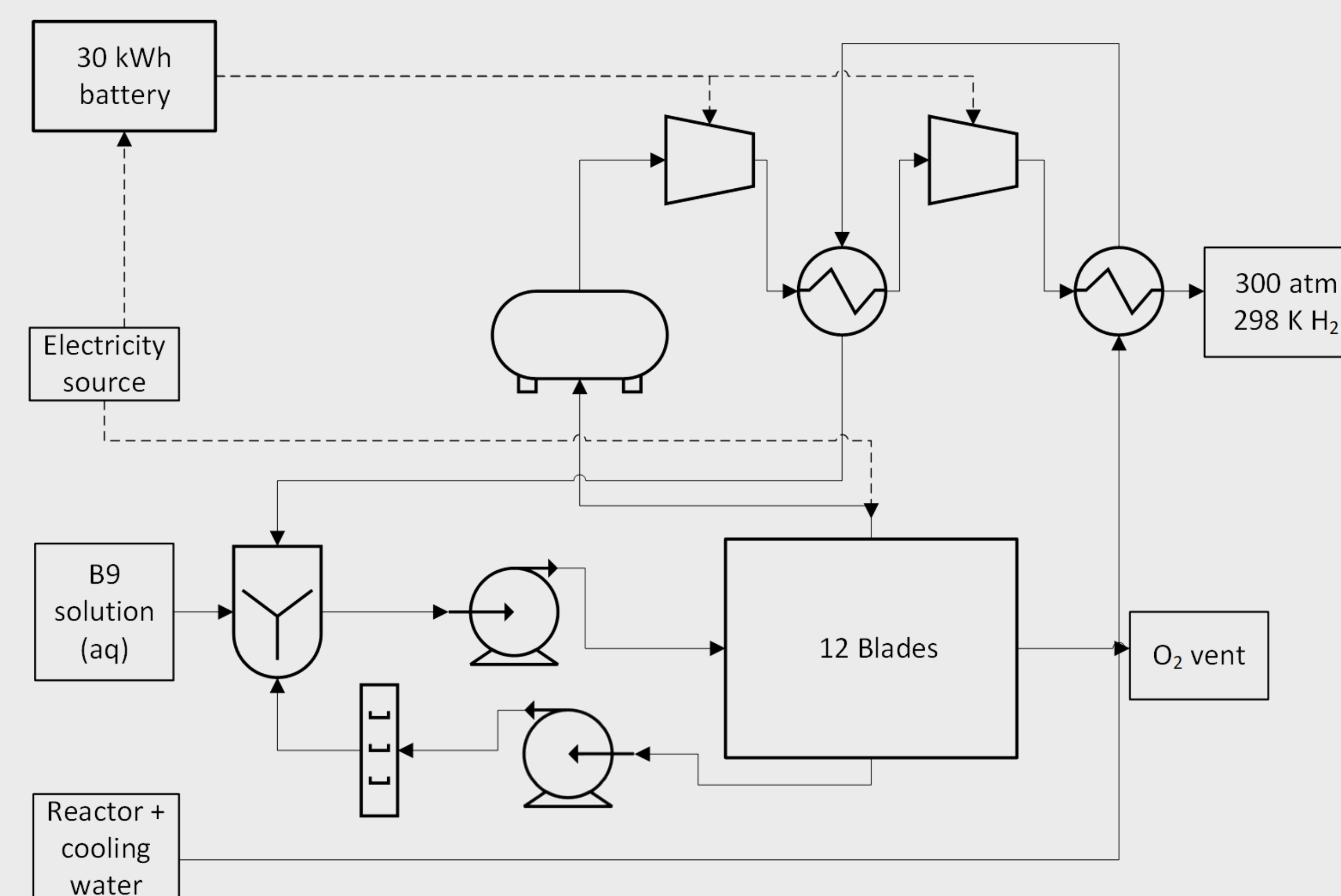
Modular green hydrogen production using membrane-less electrolysis with renewable energy sources

- Small, inexpensive electrolysis reactors
- Creates pure hydrogen stream using fluid dynamics
- Cassette of 36 reactors
- Pressurized to increase energy efficiency
- Blade of 4 cassettes
- Contains 144 total reactors
- Pod of 12 blades and compression equipment
- Total of 1728 Reactors
- Built into a shipping container

DESIGN HIGHLIGHTS

- Inlet water pressurized to 10 atm
- Two compressors to achieve 300 atm
- Maximum temperature below 300 °C
- Non-corrosive electrolyte
- Using inlet water as cooling stream
- Recycled B9 reduces cost & environmental impact
- 12 blades per pod
- 2.9kg H₂ per hour

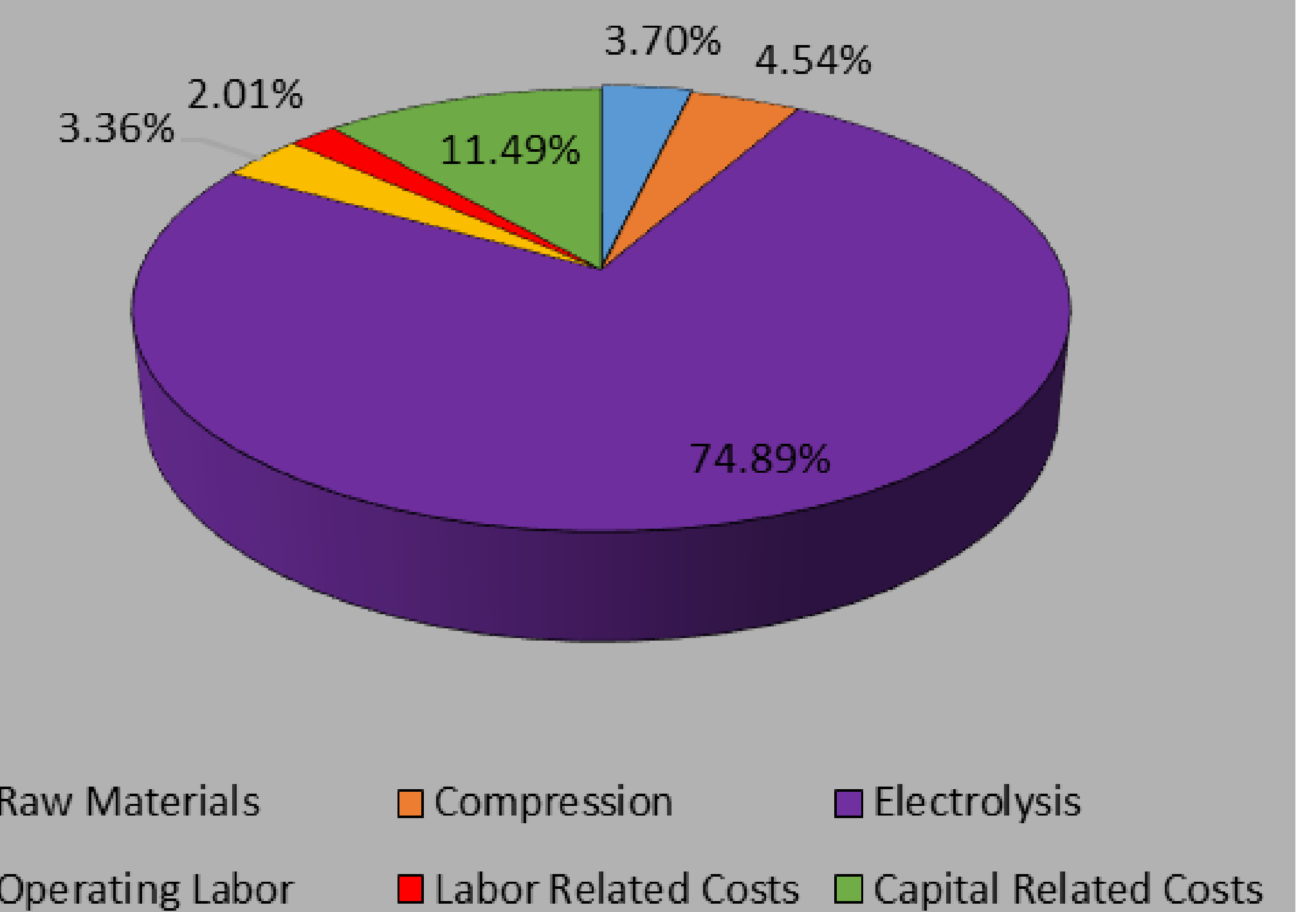
PROCESS FLOW DIAGRAM



COSTING

- Hydrogen cost per kg is \$6.89
- Each pod will cost \$102,000
- Over 74% of cost comes from electrolysis electricity

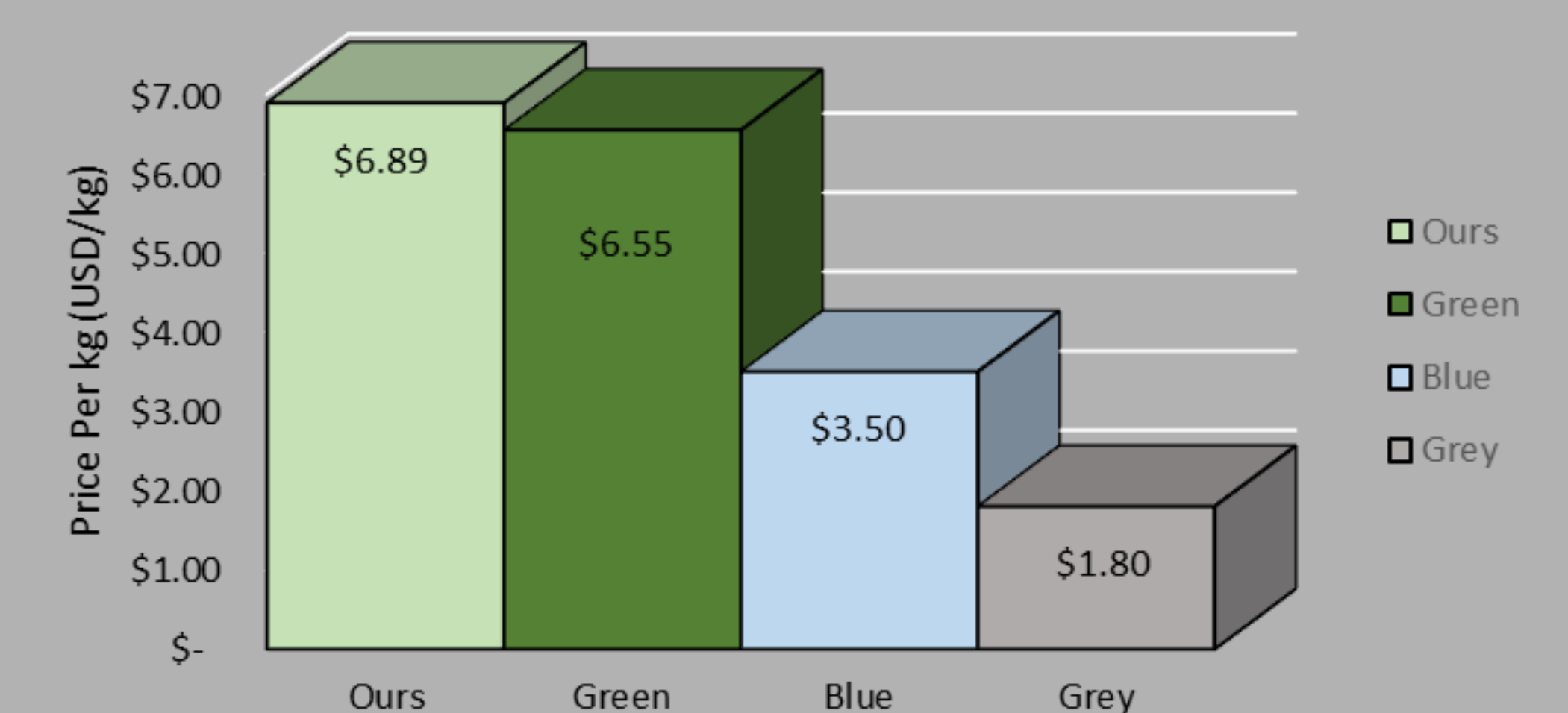
Cost of Hydrogen by Category



CURRENT COST COMPARISON

- Fossil fuel-based hydrogen costs \$1.80 per kg
- Blue hydrogen costs \$2.40 per kg
- Our hydrogen would cost 282% more than fossil fuel hydrogen

Comparison against Industry Averages



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