



TYCA

Toshiba Youth Club Asia

Vol.6

Students:

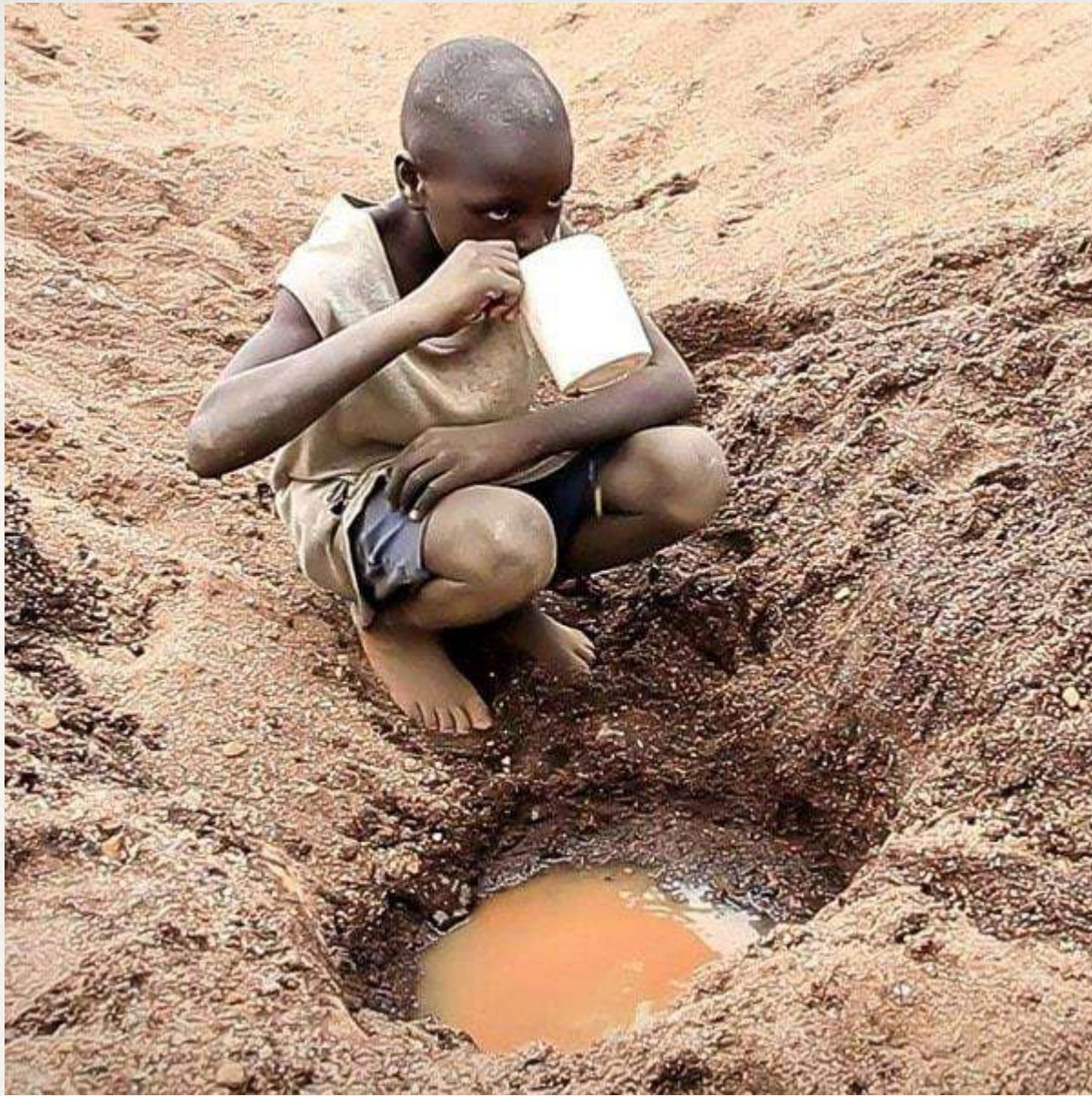
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TYCA Asian Vision 2040

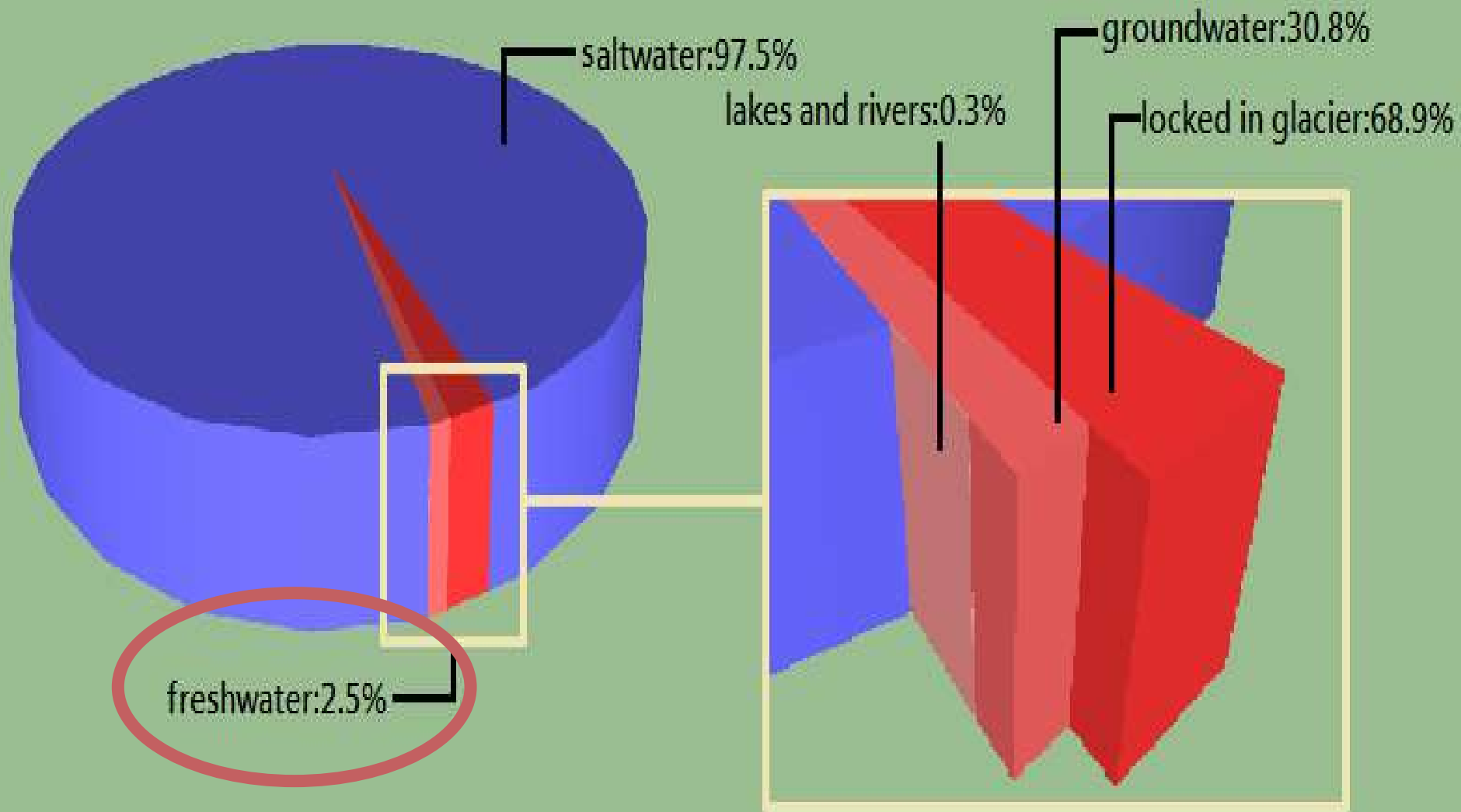


All water is hygienic, sanitary and appropriate for human health.

Pioneer of sustainable, clean water.



Global Water Sources



Current Issues

Indonesia

264 Million

Indonesian population

71 Million

People lack access in improved sanitation

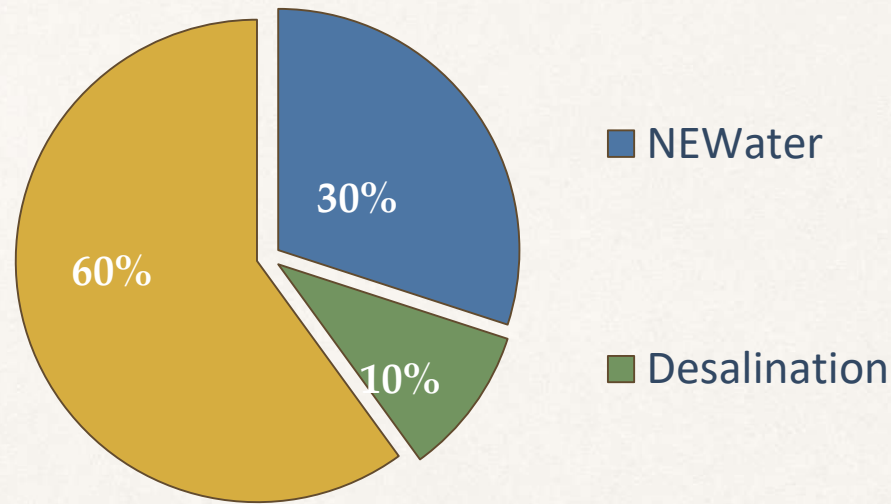
28 Million

People lack safe water

Source: Water.org

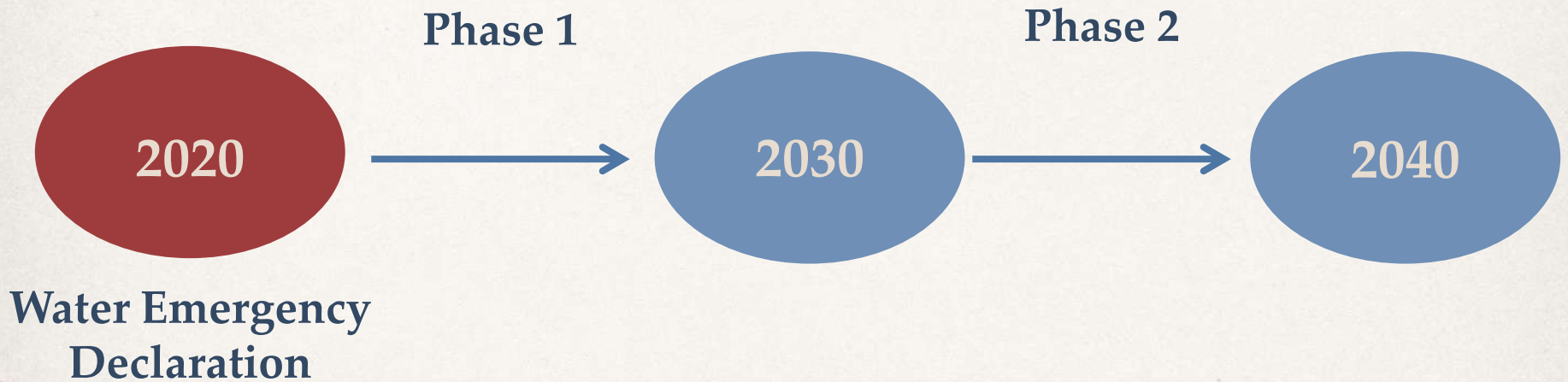
Current Issues

Singapore Water Source

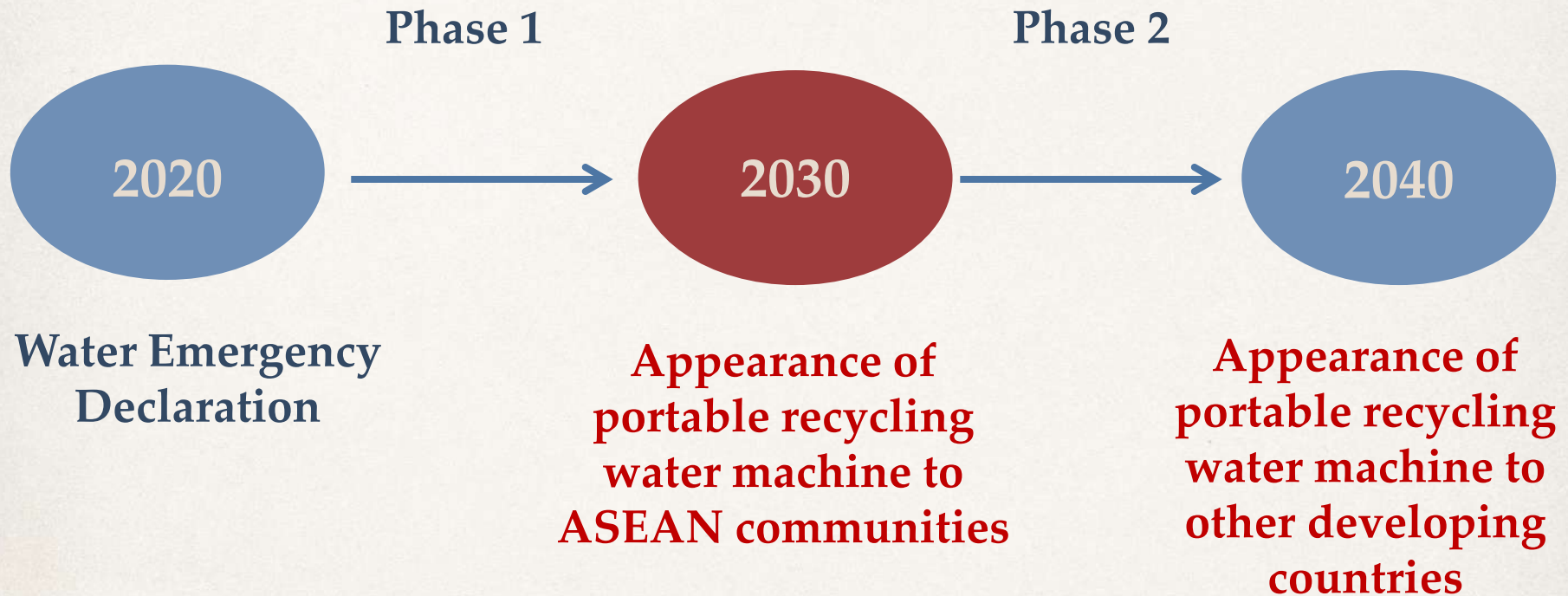


Source: Straits Times

Our Proposed Steps For Innovation



Our Proposed Steps For Innovation



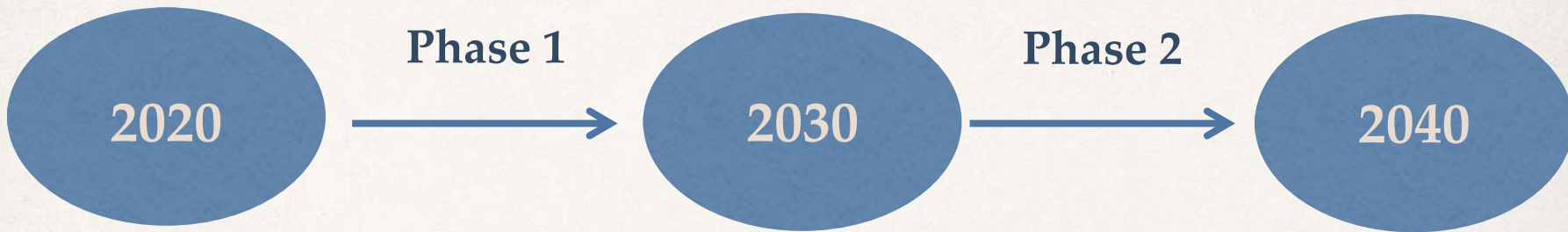
Innovation Goals I

Phase 1

- Japanese and Singaporean scientists form a joint project team to develop the world's most advanced water recycling system, by combining each other's strengths.

Phase 2

- By 2030, 1st commercial portable water recycling machine to be launched in ASEAN countries.



**Water Emergency
Declaration**

**Appearance of improved
portable water filtration in
homes**

**Advancement of Biohydrogen
technology**



Innovation Goals II

Oxygen (O₂)



Reinhardtii Algae

Photosynthesis



Sunlight

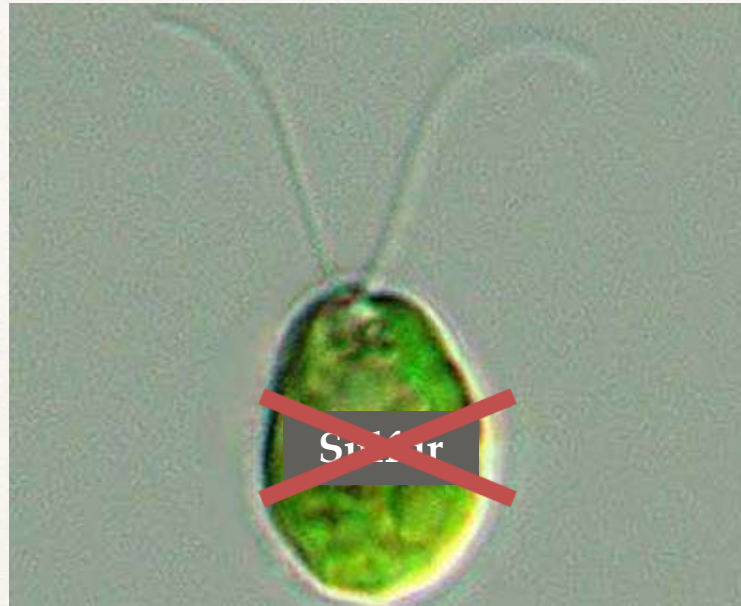


Carbon Dioxide
(CO₂)

Production of Biohydrogen

Innovation Goals II

Hydrogen (H₂)



Reinhardtii Algae

Photosynthesis



Sunlight

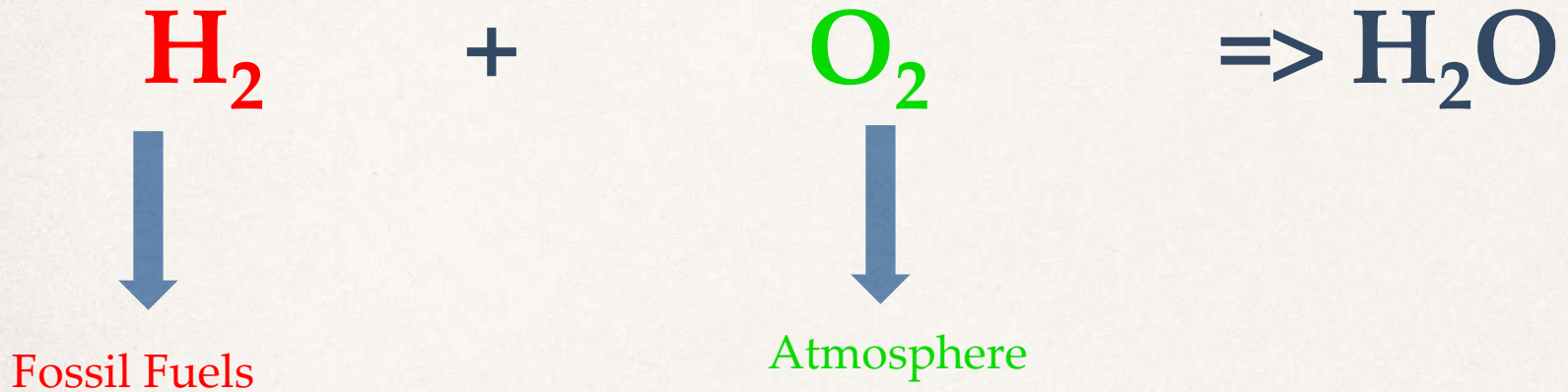


Carbon Dioxide
(CO₂)



Production of Biohydrogen

Production of Water



Production of Water



+



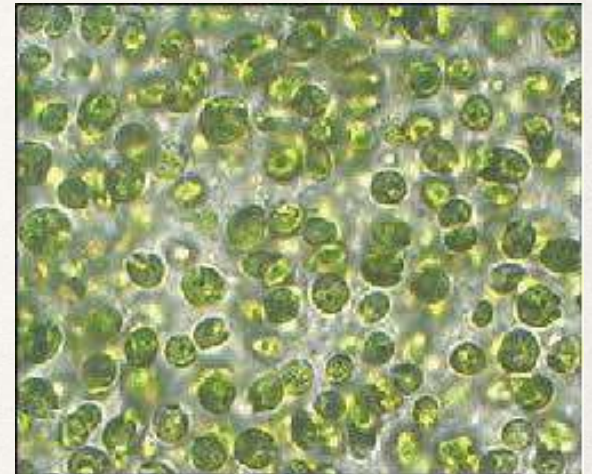
Reinhardtii algae

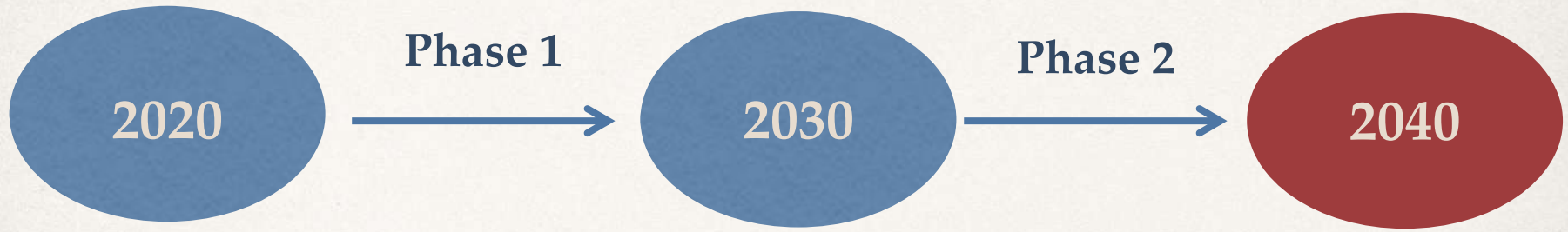


Atmosphere



Biohydrogen



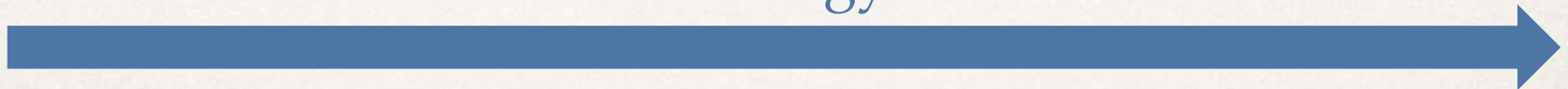


Water Emergency Declaration

Appearance of improved portable water filtration in homes

Obtaining water from space

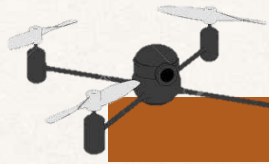
Advancement of biohydrogen technology



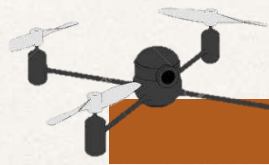
Innovation Goals III

Obtaining water from space

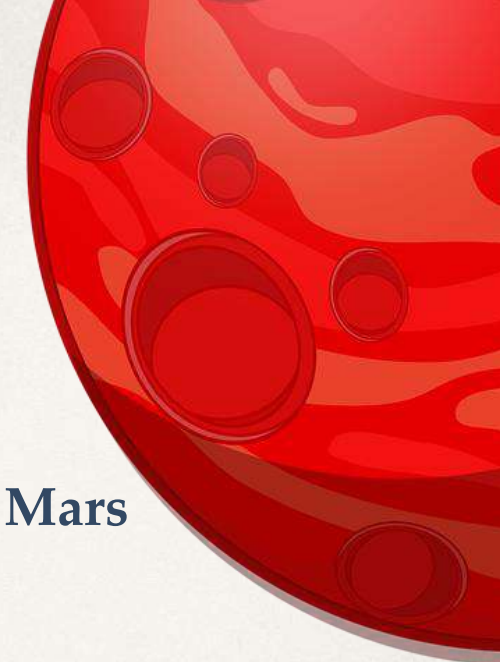
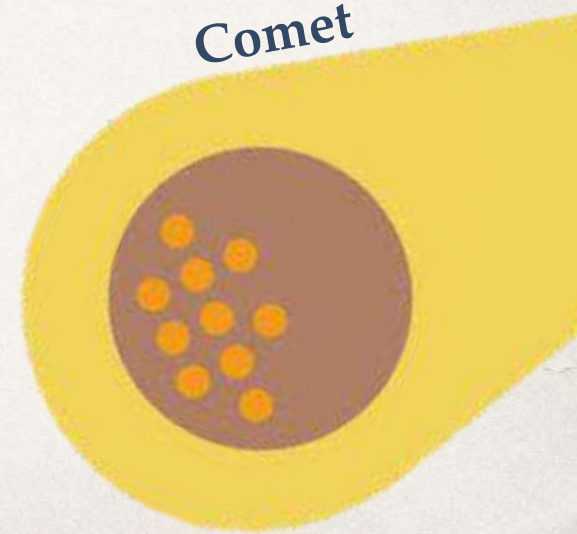
Mars



Earth



Comet



Conclusion

1. Current Issues
2. Water Emergency Declaration
3. A machine that recycles water at home
4. Biohydrogen Technology
5. Obtain water from space (planets, comets, etc.)

Conclusion

- Indonesia: labour force and resources
- Japan: scientists and engineers
- Singapore: scientists and engineers



TYCA Asian Vision 2040

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Pioneer of sustainable, clean water.

THANK YOU

*'CLEAN DRINKING WATER IS THE FIRST
AND MOST IMPORTANT STEP TO LIFTING
COMMUNITIES OUT OF CYCLES OF ILLNESS
AND POVERTY.'*