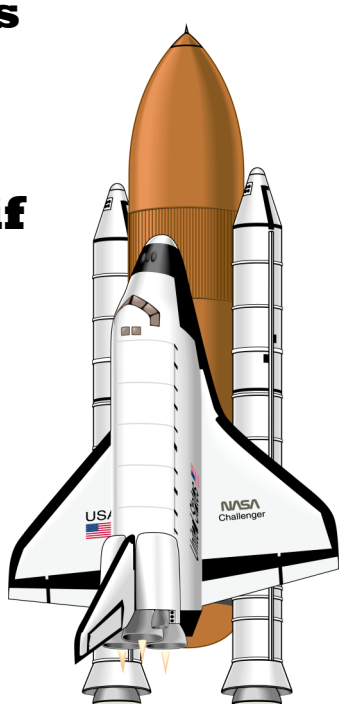
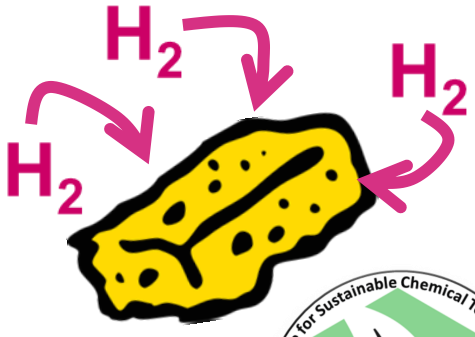
Well, Hello Hydrogen

Hydrogen is a super-cool gas which is used to power space shuttles! If you burn it in an engine it also produces only water. So, how great would it be if you could use it to fuel your car?



- **The problem is…as a gas hydrogen takes up a lot of space.**
- **You would need 600 party balloons of hydrogen to power your car from Cheltenham to London!**

That is why at Bath we are researching materials which absorb hydrogen like a sponge.



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Brush Up on Biofuels

Biofuels are renewable and carbon neutral, making them a great alternative to petrol.

There are three kinds of biofuel we can use:

1st Gen

- Crops we can eat
- Food vs. Fuel?
- Grow in UK
- Take up lots of space
- Easiest biofuel to produce

- Expensive
- Anything we do not eat
- Can make from waste
- Avoid using food crops
- Difficult to produce fuel

2nd Gen

3rd Gen

- Algae!
- We research this at Bath!
- Grow on waste water
- Modify algae to produce more oil
- Need lots of space
- Do not produce much oil

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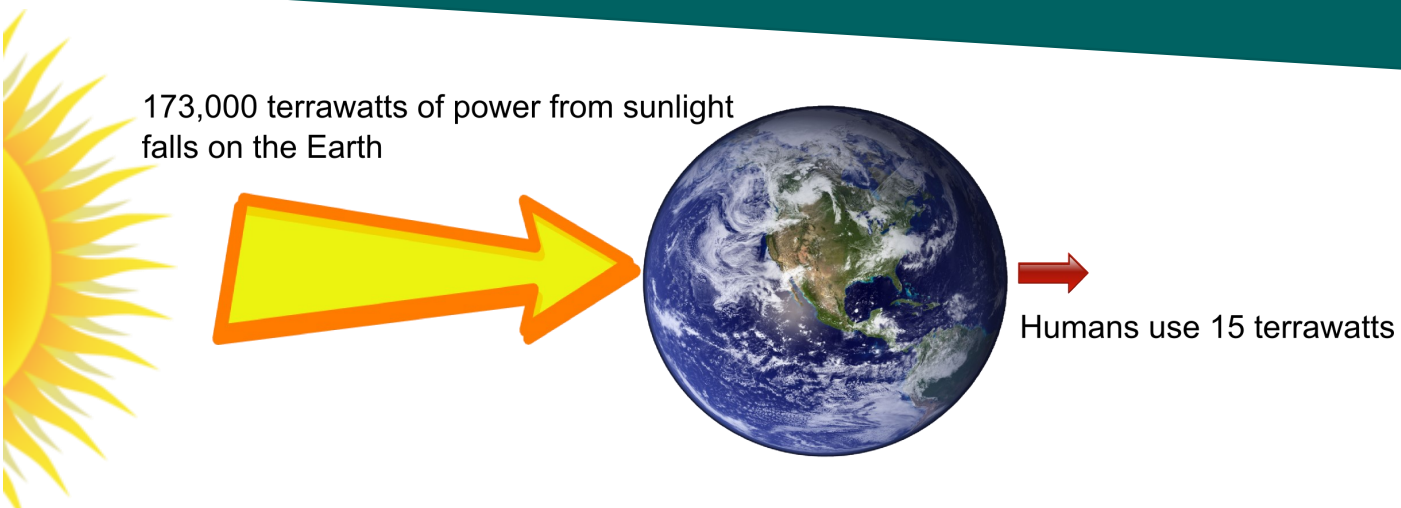
See the Bright Side with Solar



The Sun sits happily in sky shining enough energy to last the human race 32 years, in one day!

But...how do we capture it?

- **We capture the Sun's energy by using solar panels.**
- **They can convert up to 20% of the light they receive into electricity.**
- **But...they are expensive and use lots of elements which are in short supply.**

What happens at night when there is no Sun?

- **No sunlight = no electricity.**
- **So we need to store it when the Sun's out!**

At Bath, we do lots of research on solar:

Better batteries to store solar

Cheaper panels

Plentiful materials

Thin films

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