



National Institutes for
Quantum Science and Technology
Naka Institute for Fusion Science and Technology



ITER Japan Domestic Agency

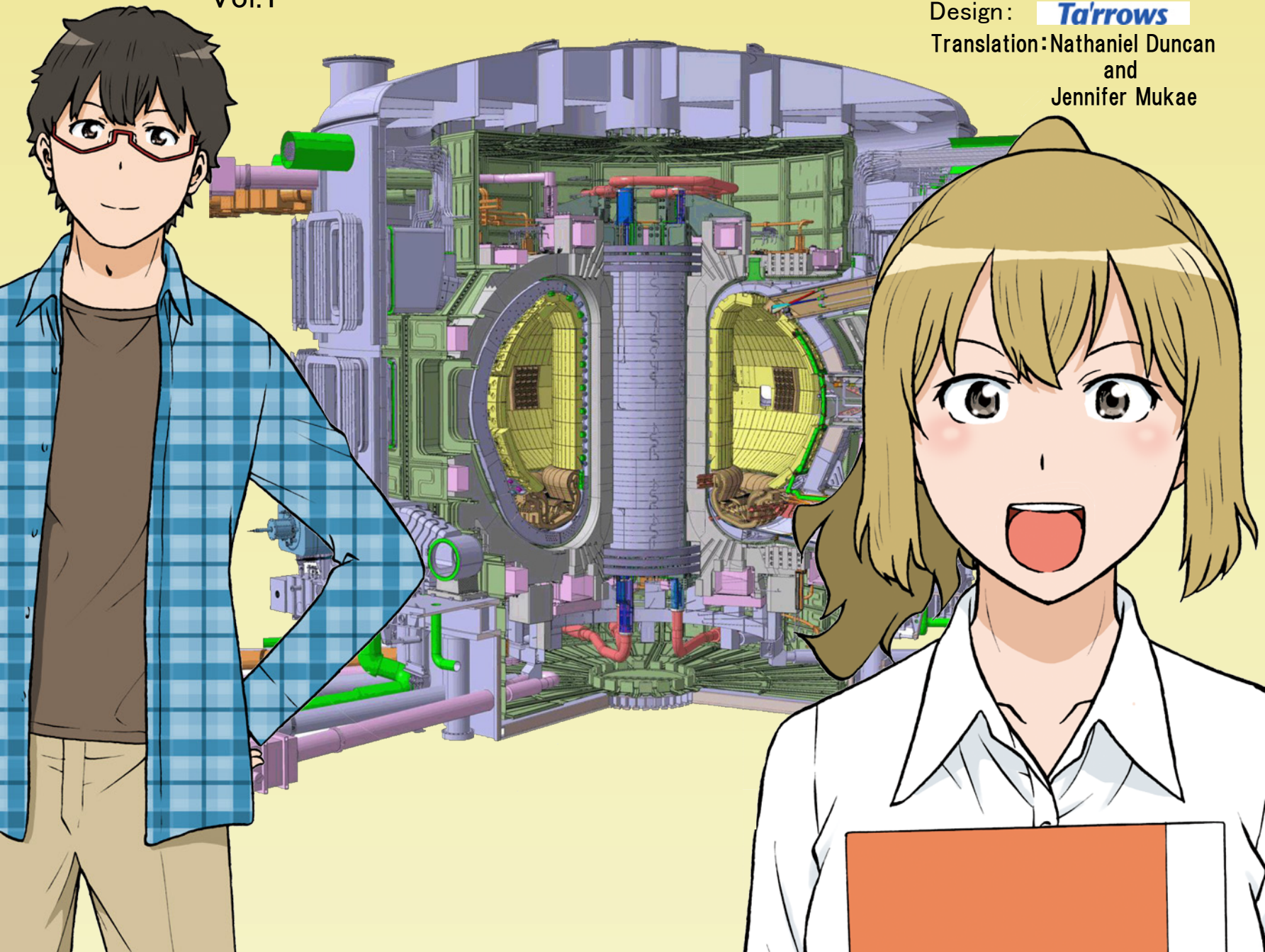
ITER

A Small Sun on Earth

Vol.1

Design: **Ta'rows**

Translation: Nathaniel Duncan
and
Jennifer Mukae



ITER Japan website & SNS

Web : www.fusion.qst.go.jp/ITER/



Web



@iterjapan



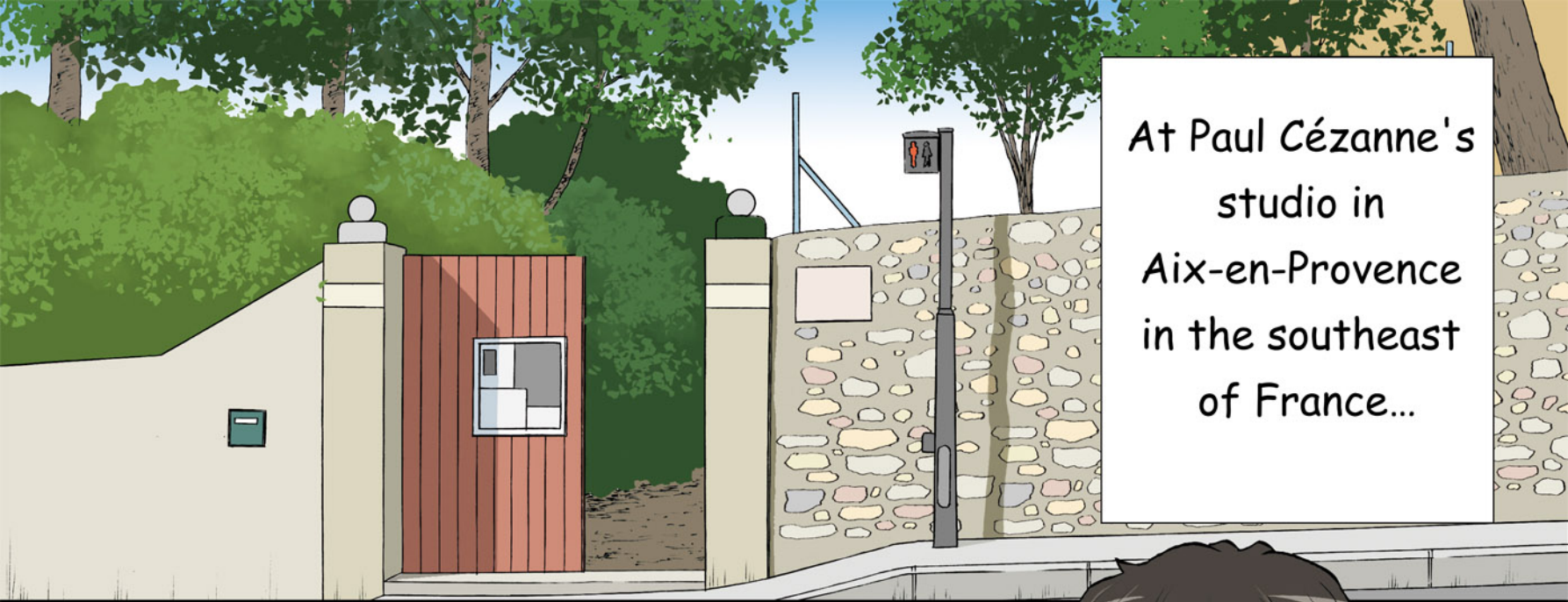
@iterjapan



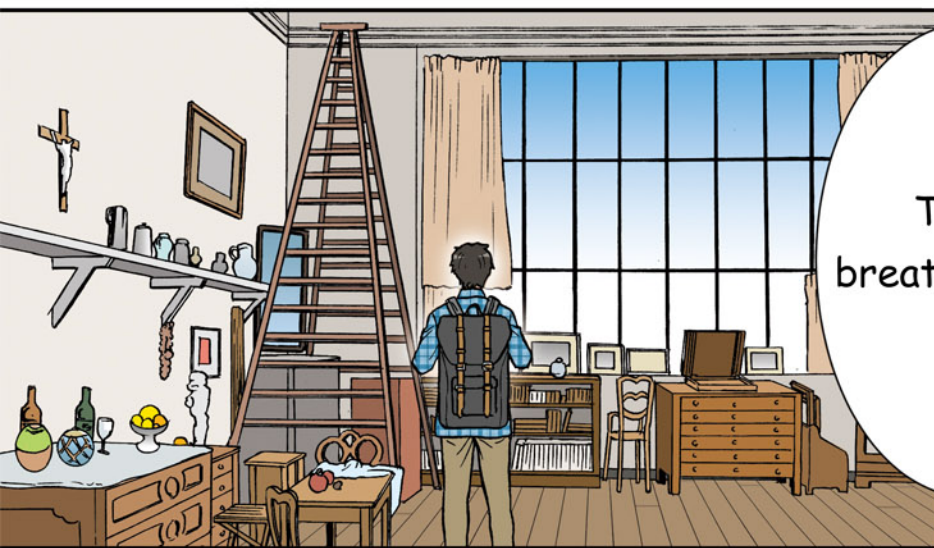
@iterjapan_qst



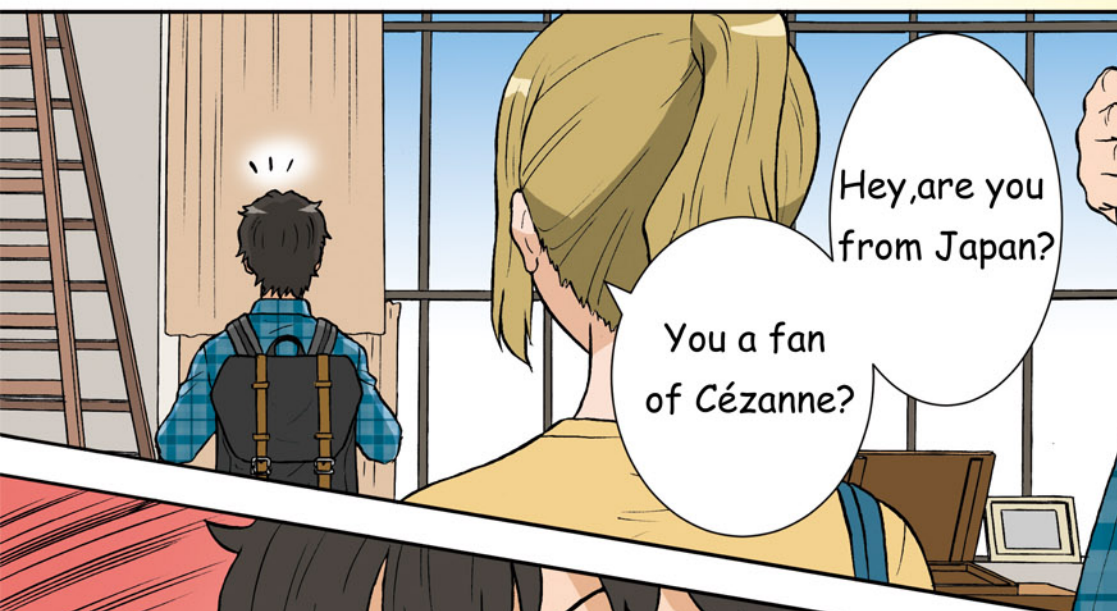
@iterjapanQST



At Paul Cézanne's
studio in
Aix-en-Provence
in the southeast
of France...



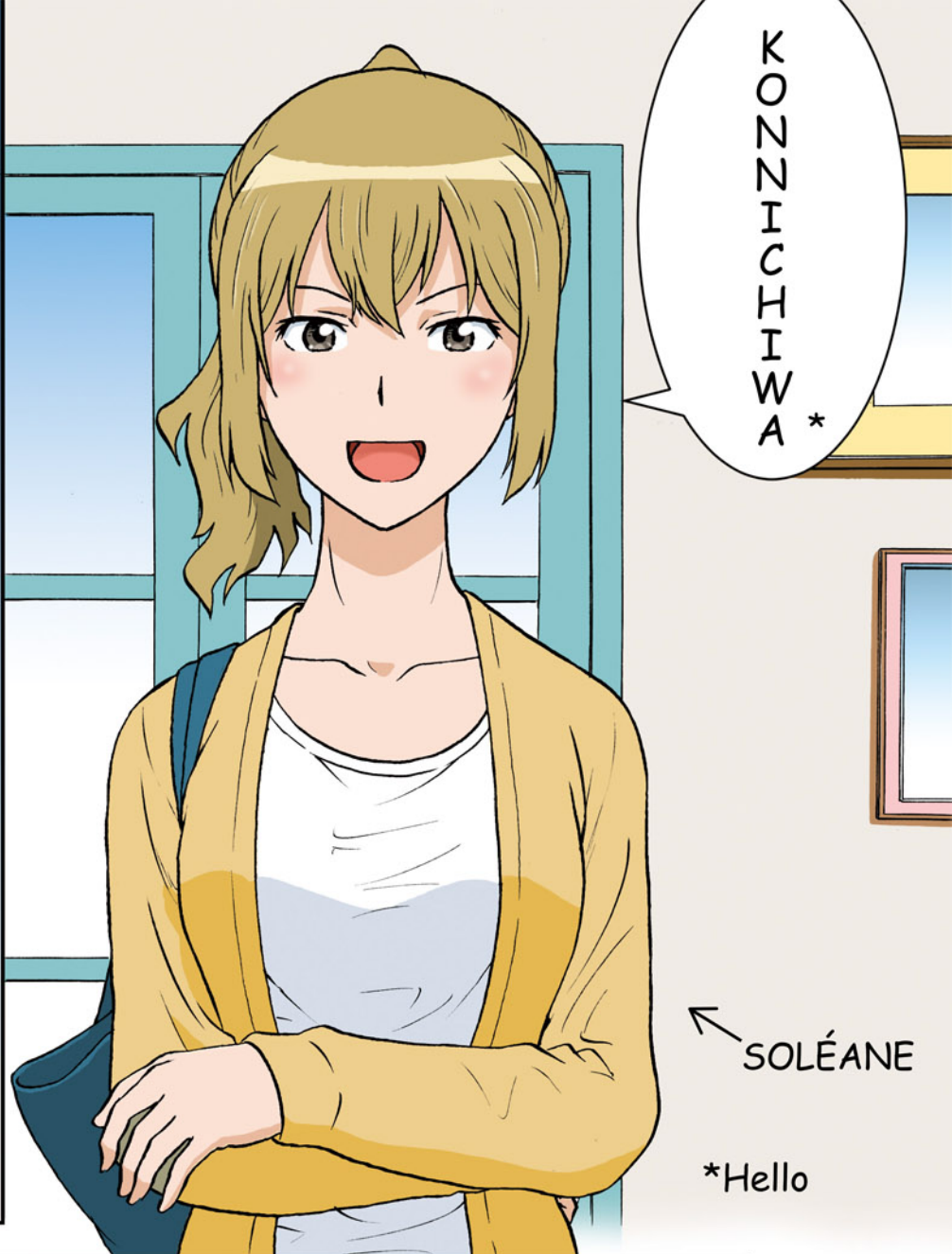
Truly
breathtaking...

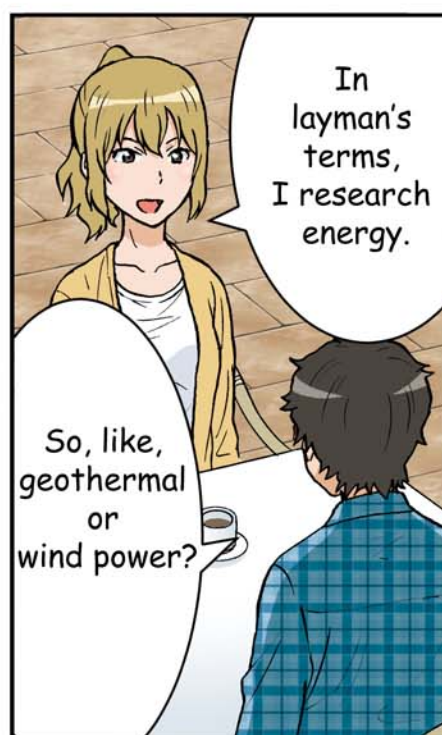
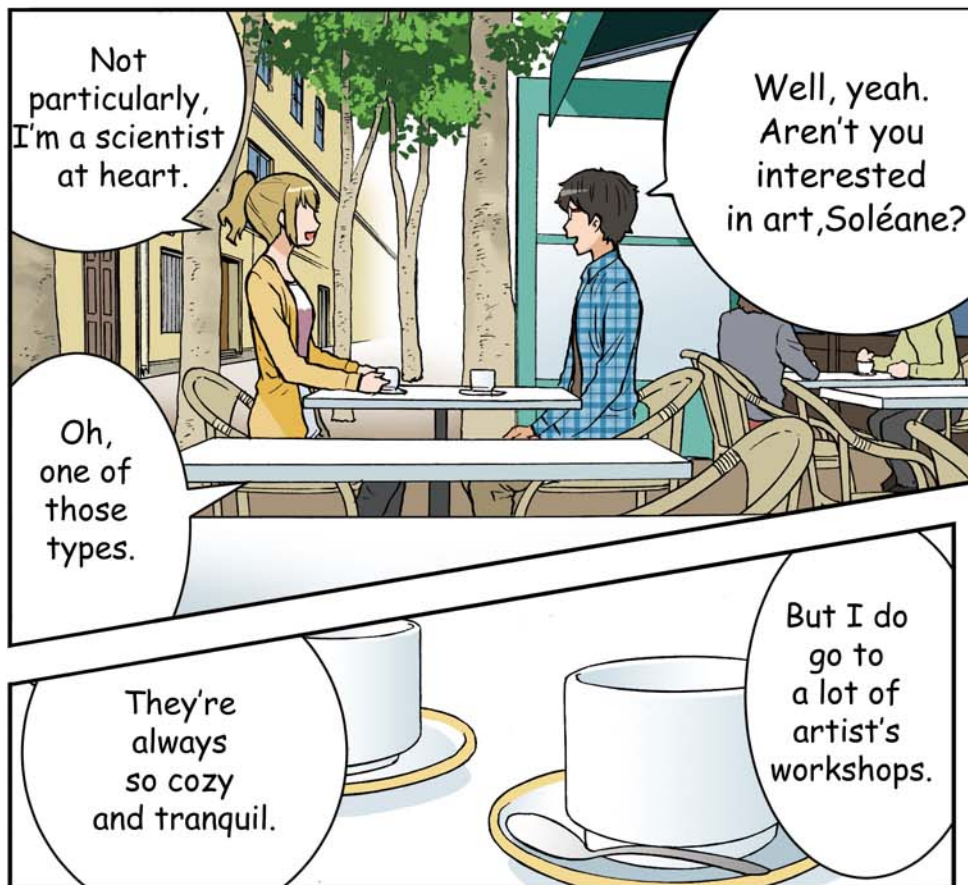


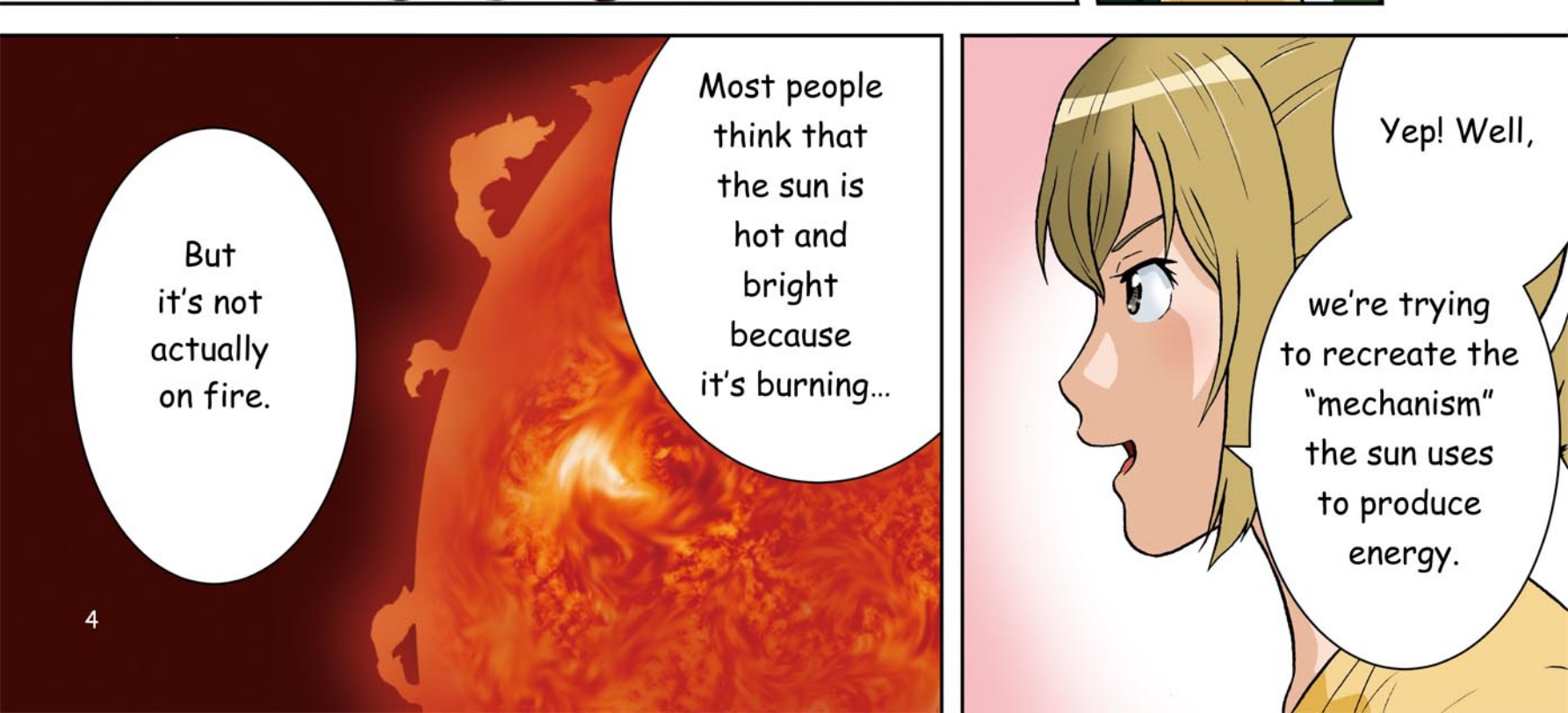
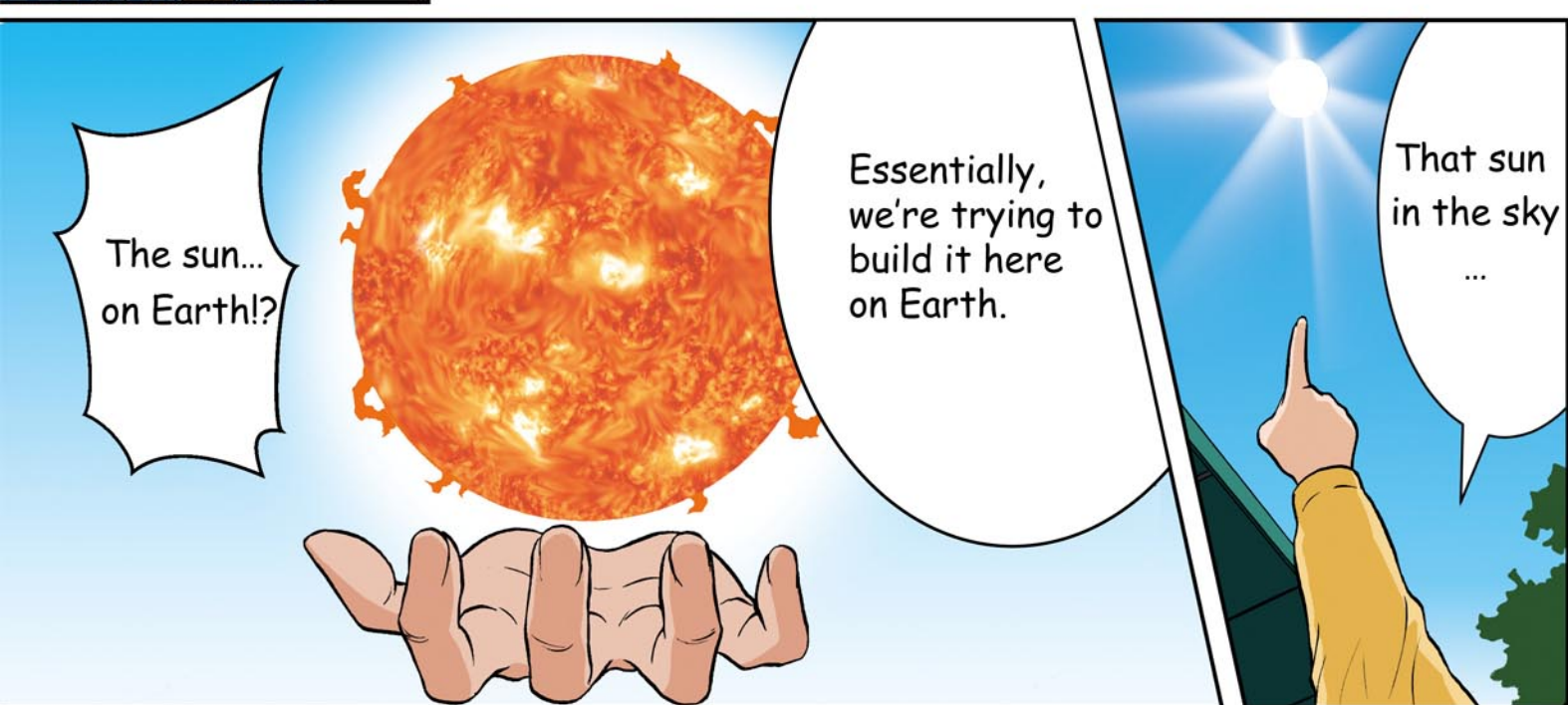
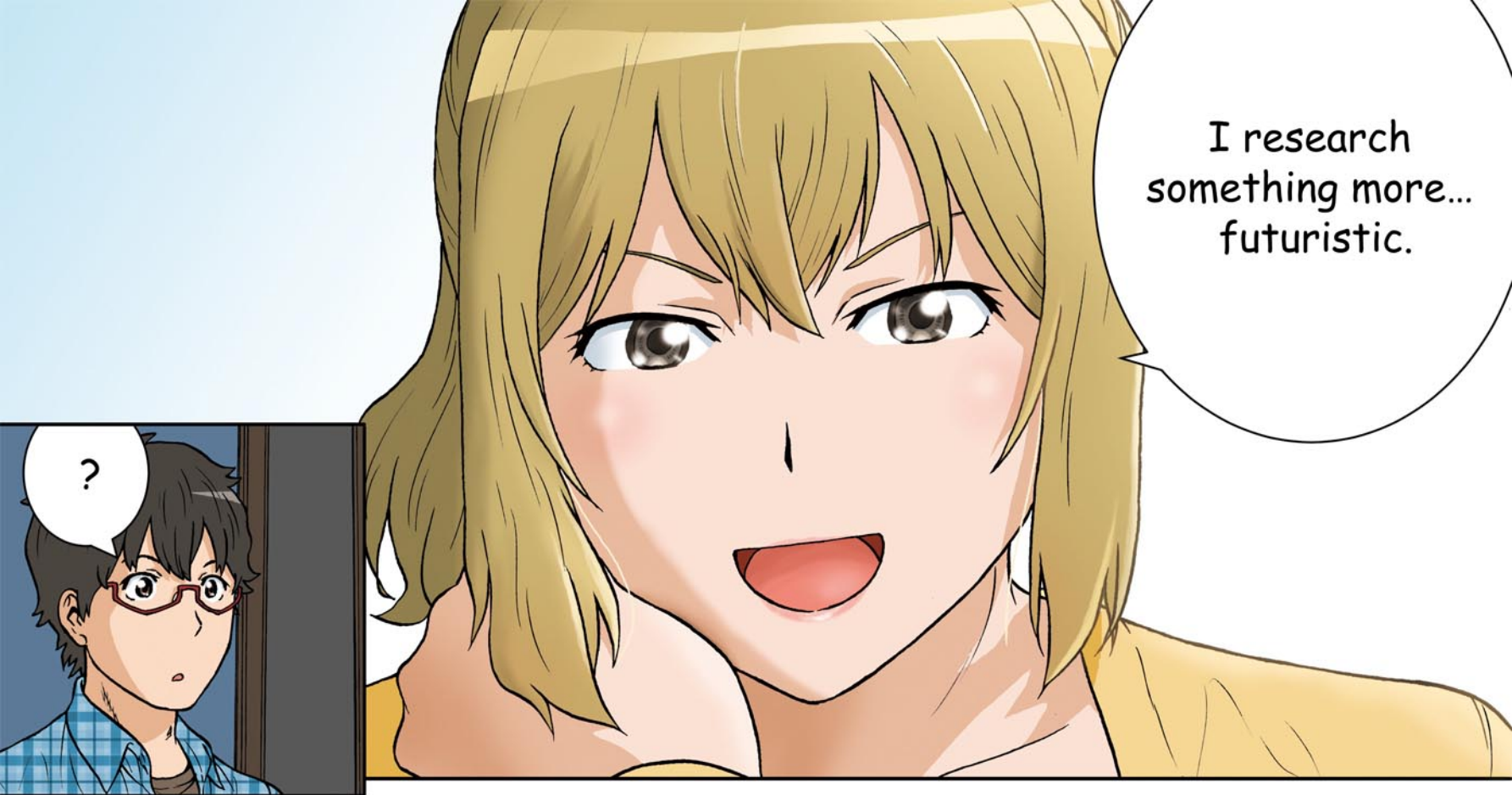
Hey, are you
from Japan?

You a fan
of Cézanne?







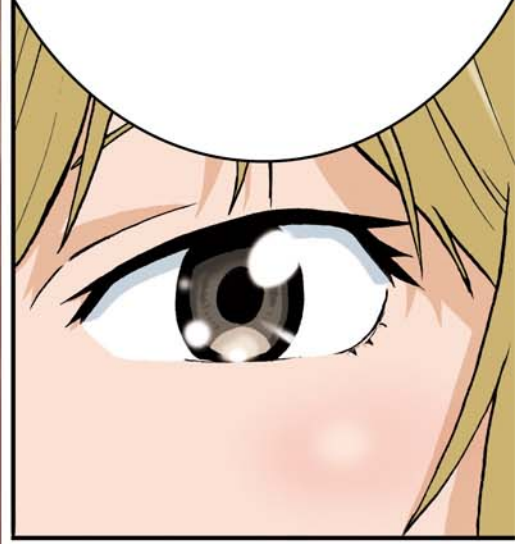


Nuclear...
fusion?



NUCLEAR FUSION!

So,
if it's not on fire,
how does the sun
keep on shining?



The sun gets
its energy
by smashing
small light elements
together to make
heavier elements

in
a process
called
nuclear
fusion.



Deuterium (D)

Neutrons (n)



Fusion



Tritium (T)

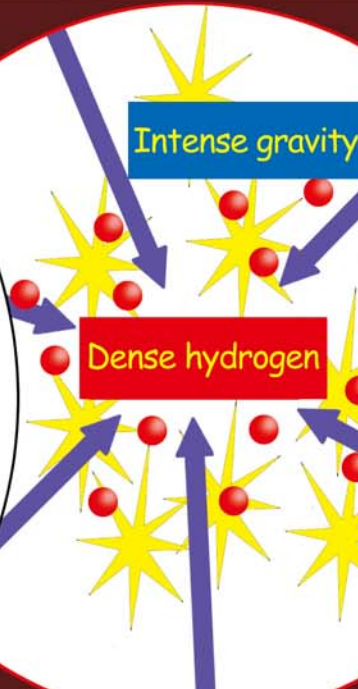
Helium (He)

Put simply,



*The figure above depicts the reaction that would occur on Earth.
In the Sun, a proton-proton chain reaction occurs.

the hydrogen
atoms present
in its core
—in the physical
state called plasma—
start getting
excited
and collide
into each other,
which generates
A LOT of
energy.



Under extremely
high temperatures
and immense pressure
caused by the Sun's
own gravity,

The loss of a small amount
of mass when forming
these heavier elements
produces a tremendous
amount of energy.

Energy generated Speed of light

$$E=mc^2$$

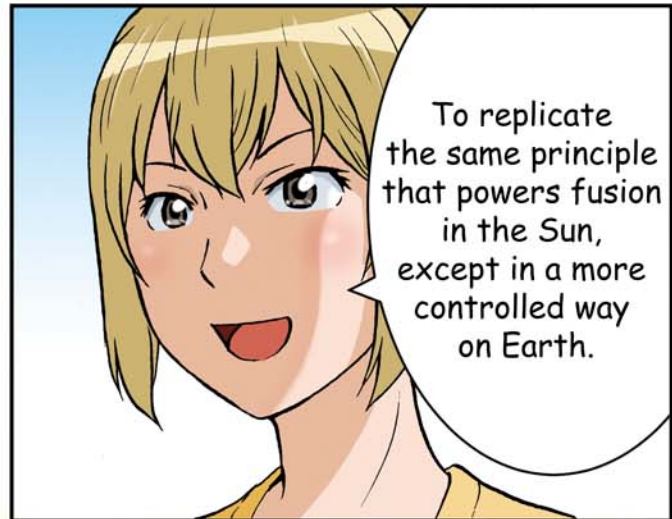
Mass lost



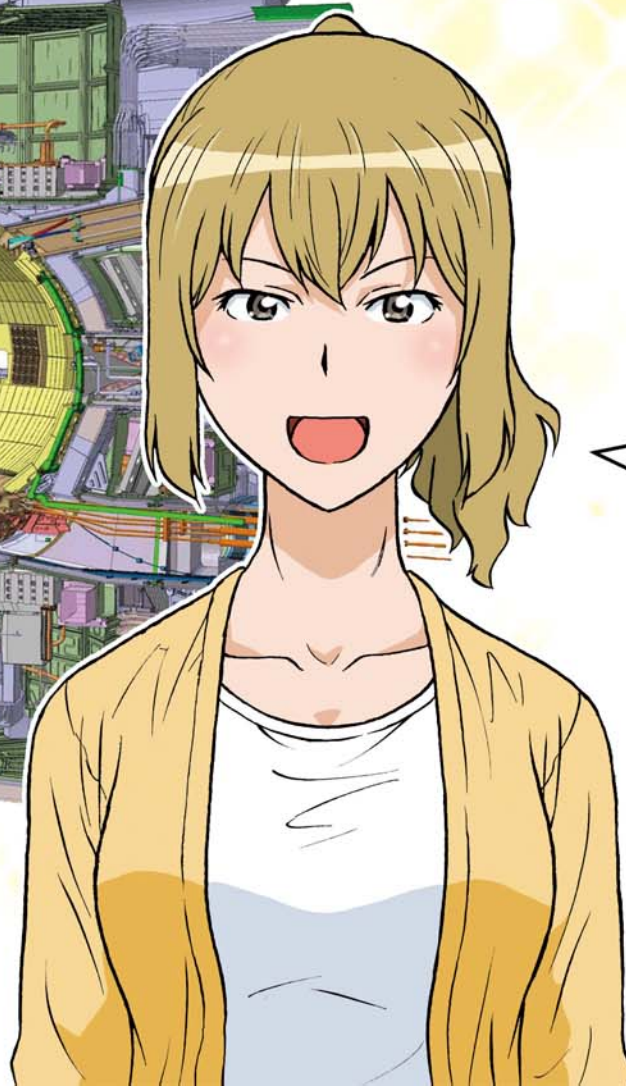
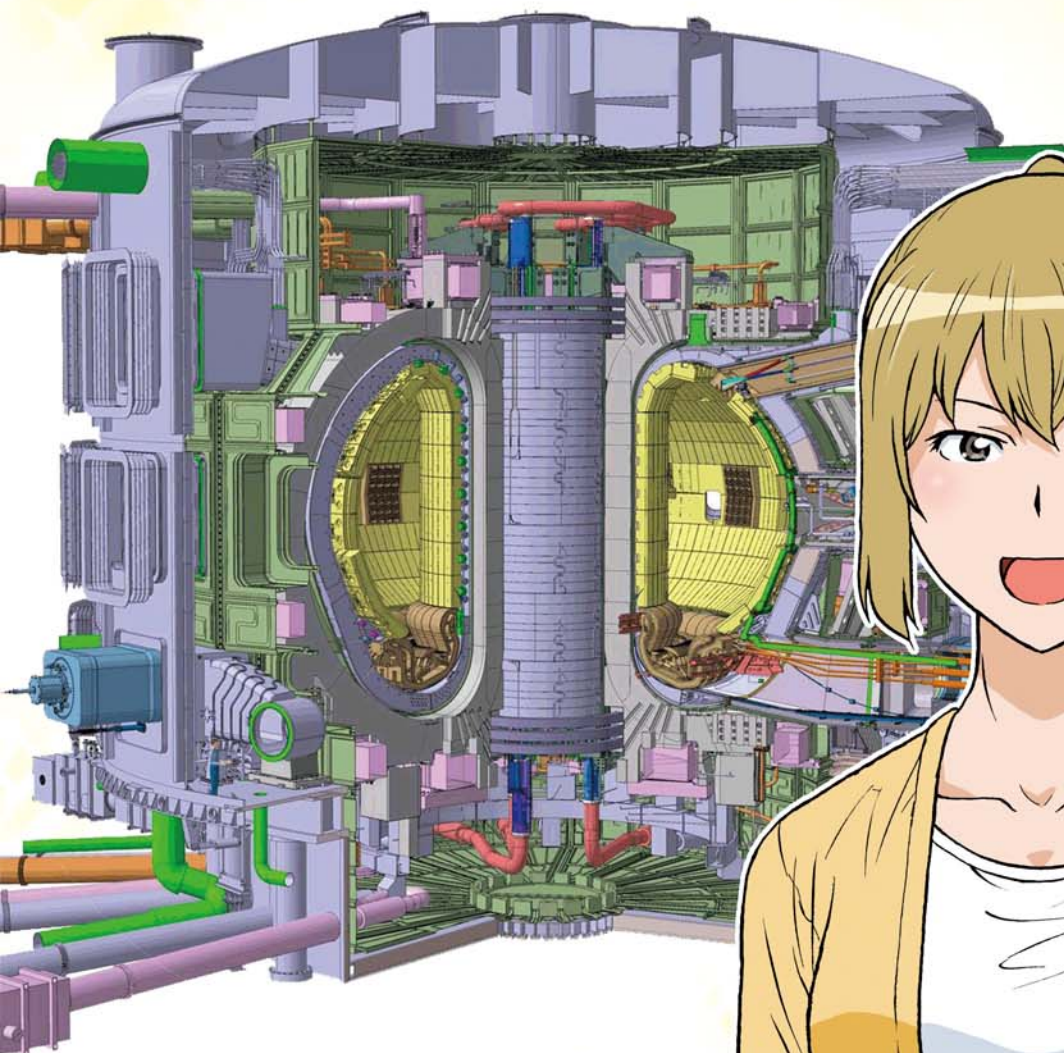
That's why
the sun
has continued
to shine for
as long as it has.



That is what I
and people from
all over the world
are working on
for the global
energy research
project called...

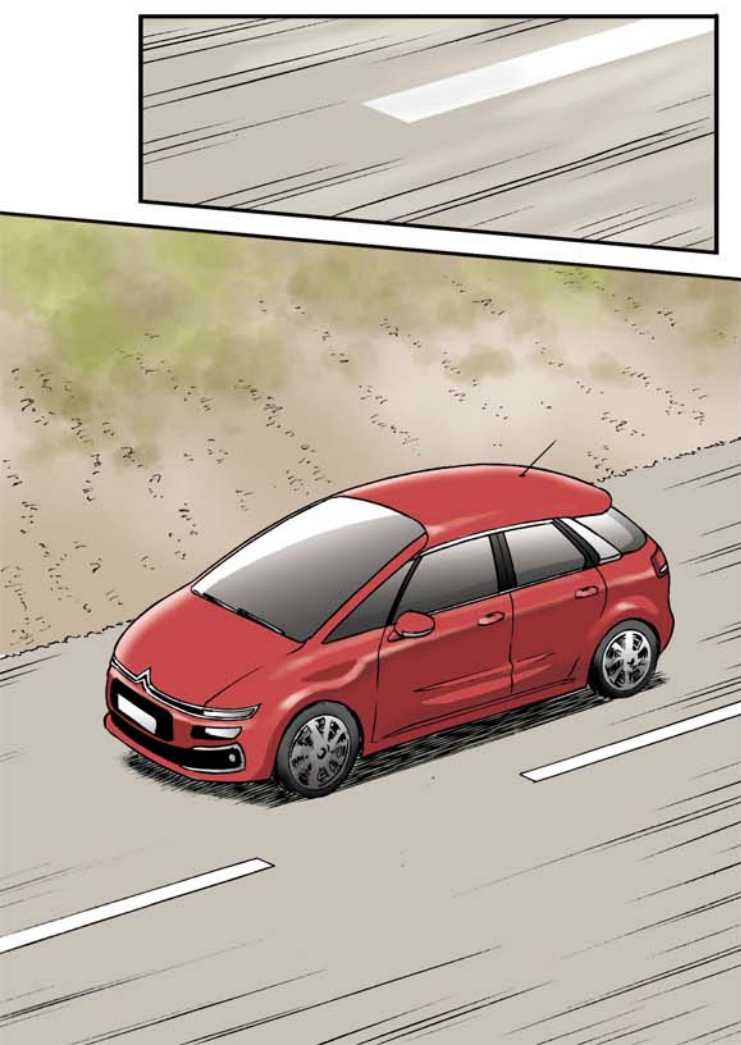
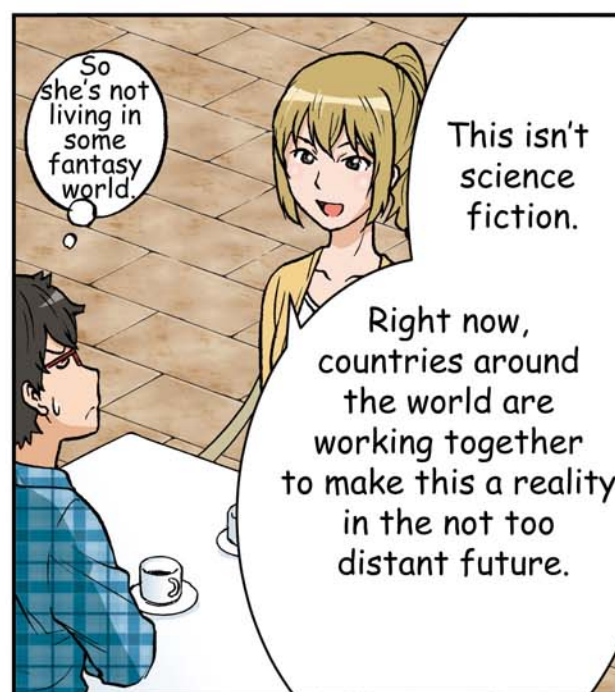


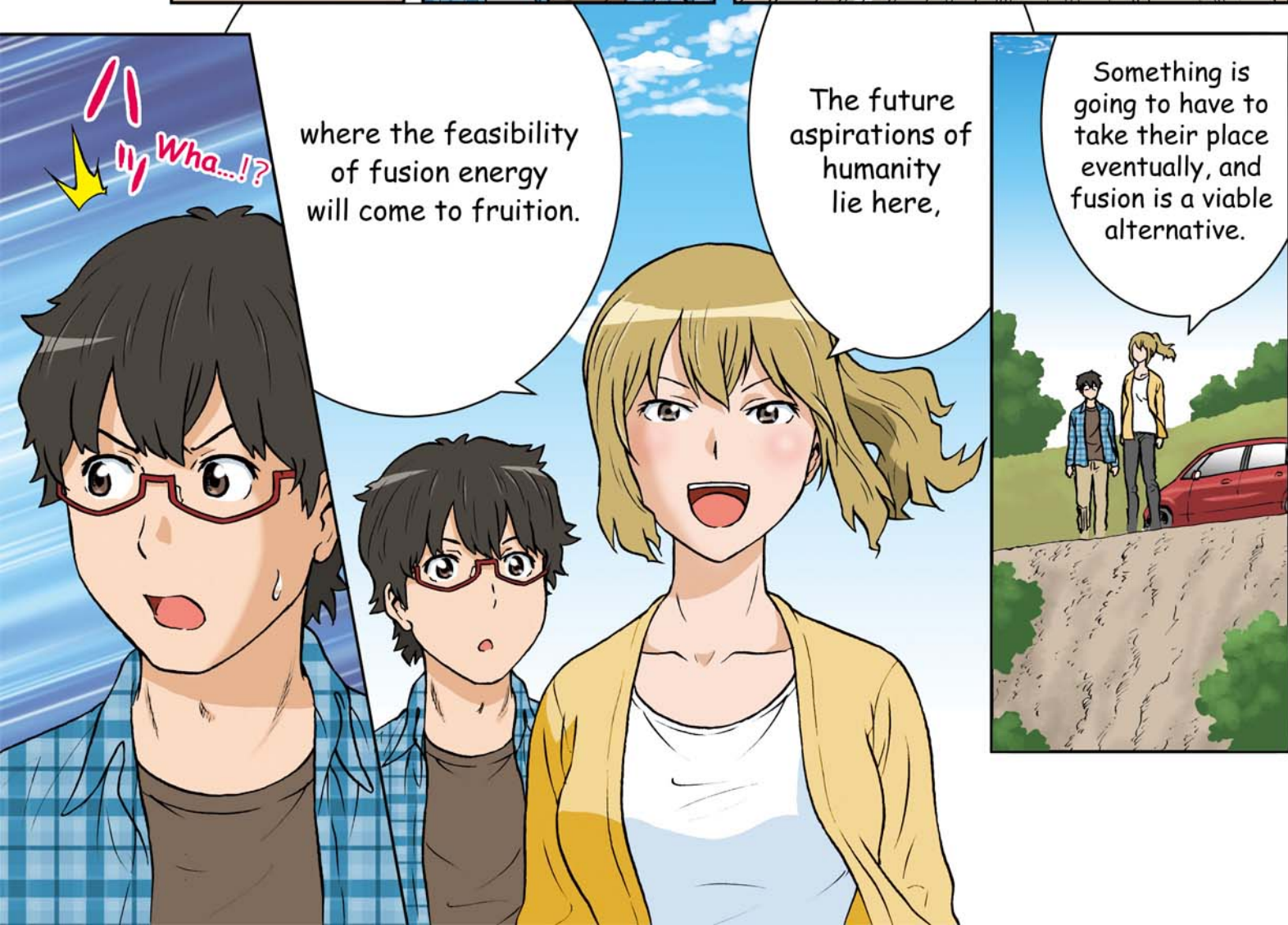
To replicate
the same principle
that powers fusion
in the Sun,
except in a more
controlled way
on Earth.

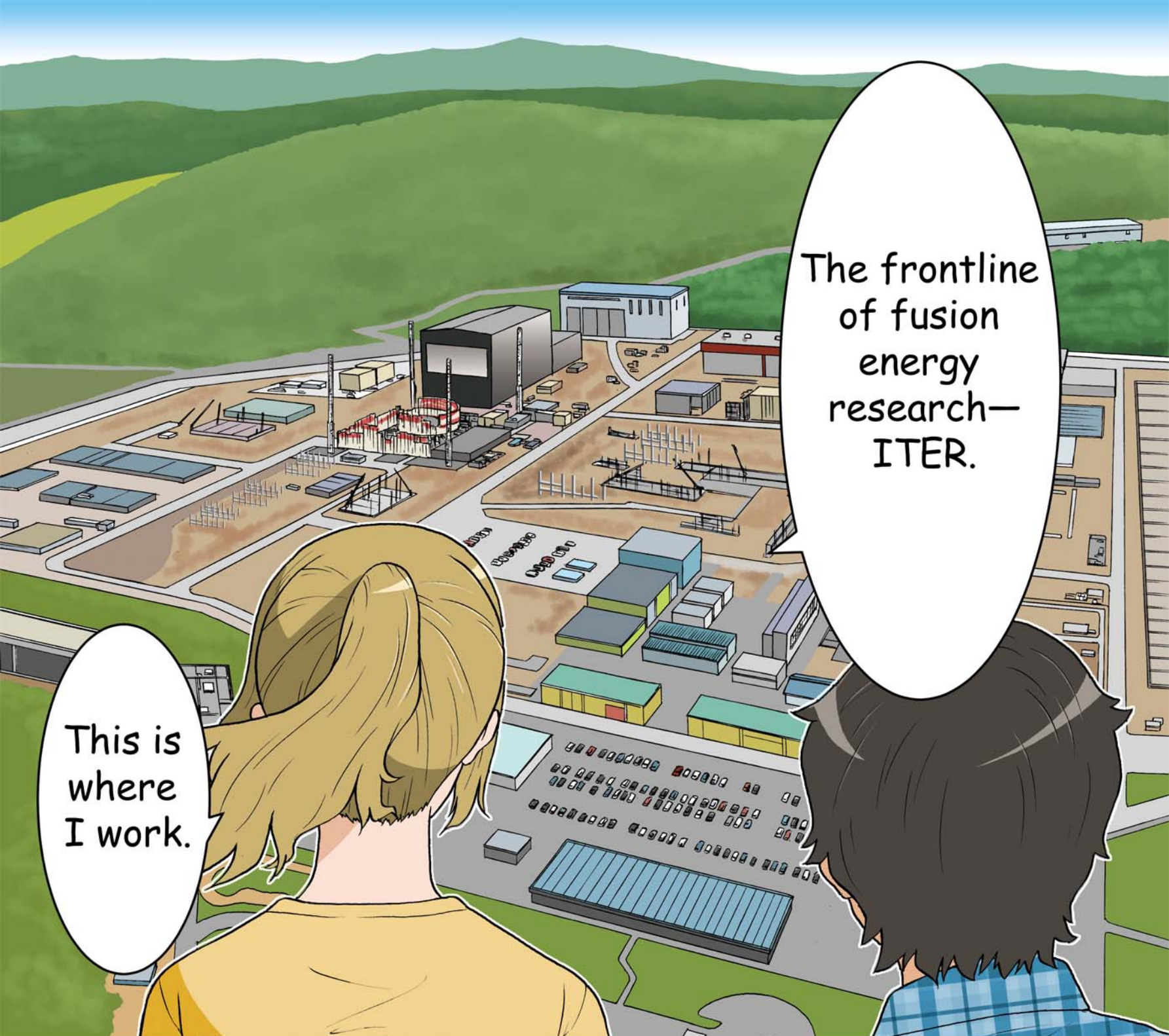


ITER

-An international
project for
the realization
of Fusion Energy.







The frontline
of fusion
energy
research—
ITER.

This is
where
I work.

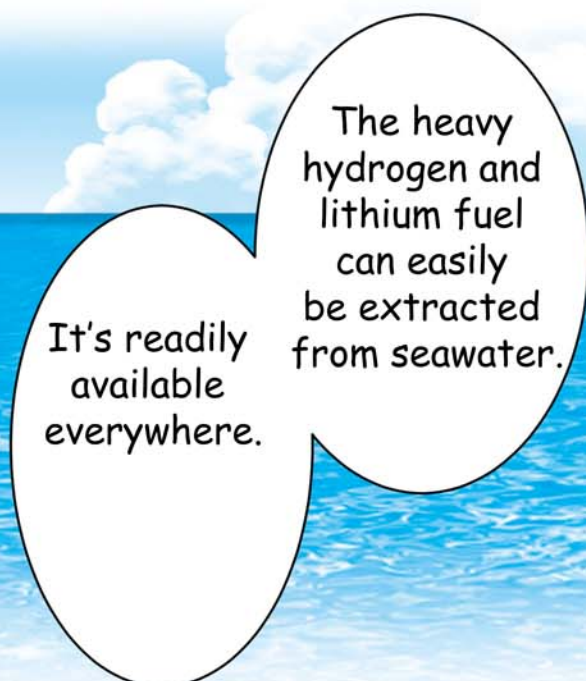
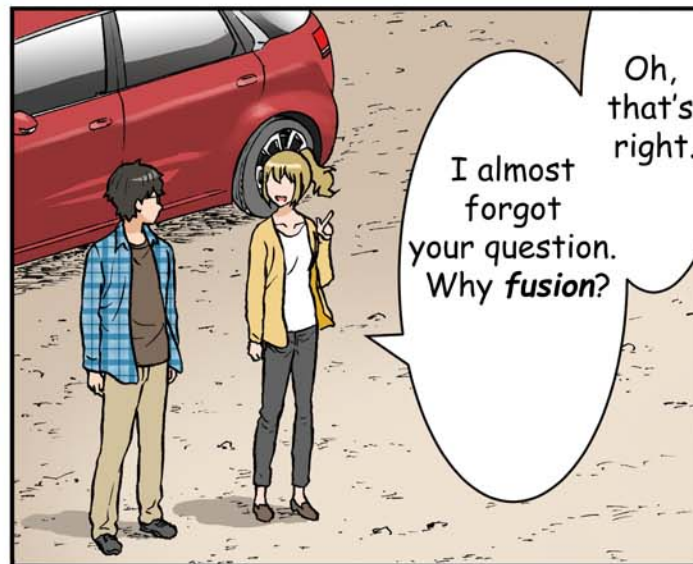


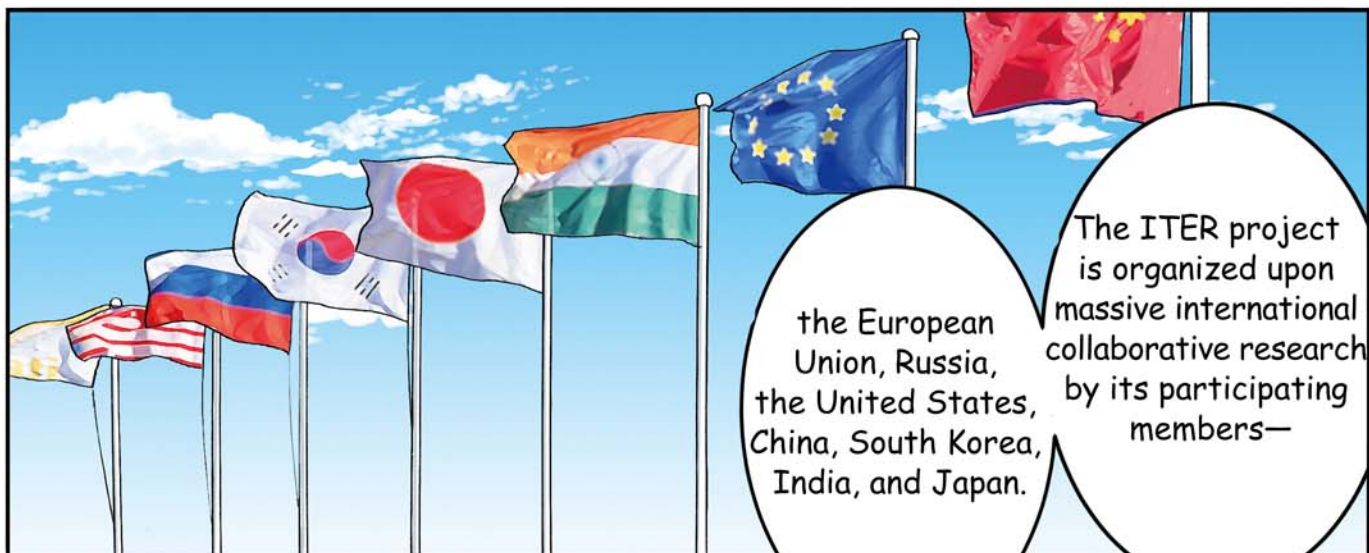
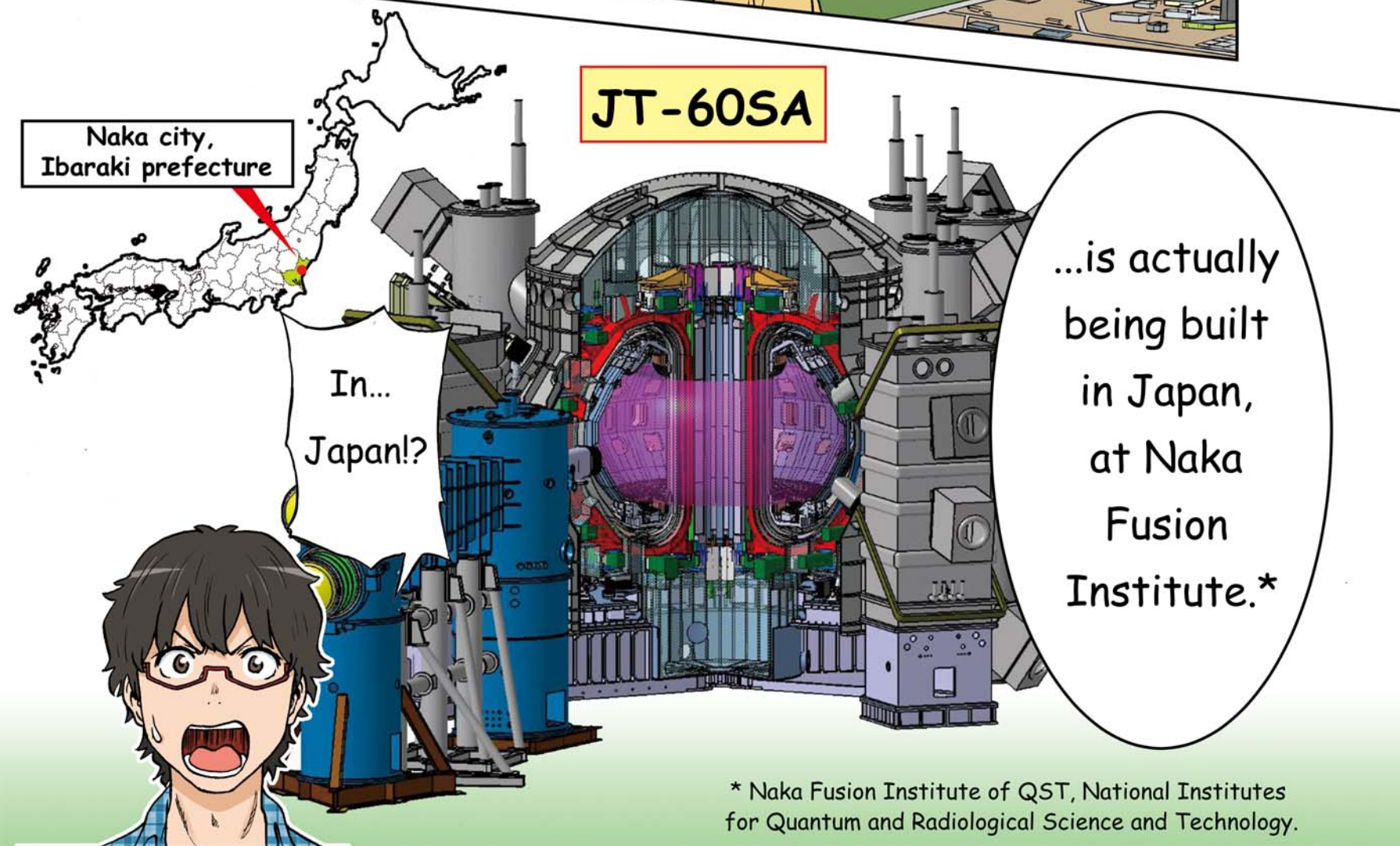
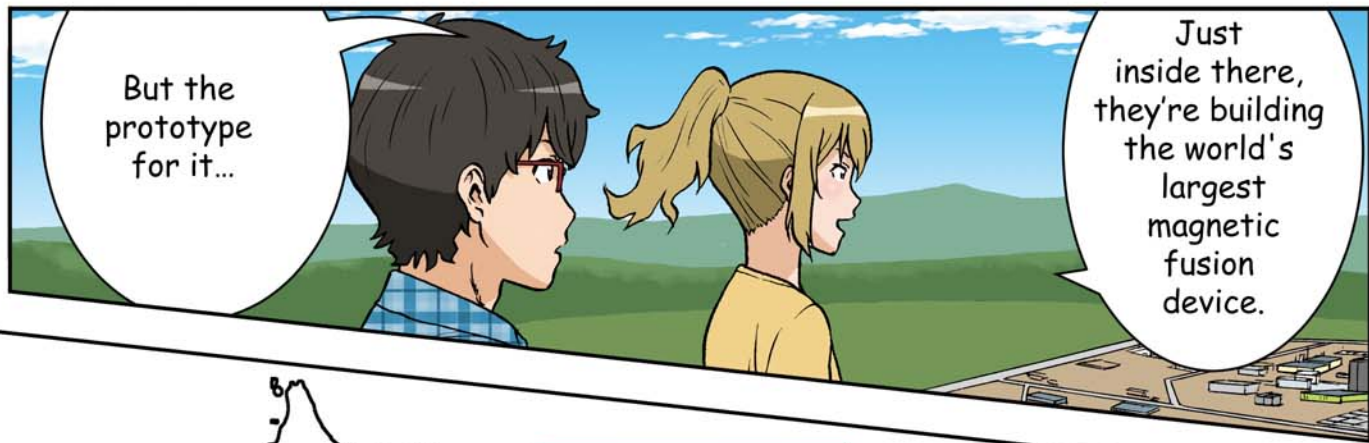
A lot of
Japanese
researchers
work here,
too.



Whoa...

It's
bigger
than
I
thought!







population and
more than
three-quarters
of global
GDP*.

The countries
involved in this
project make up
more than half
the world's

* GDP (Gross Domestic Product)



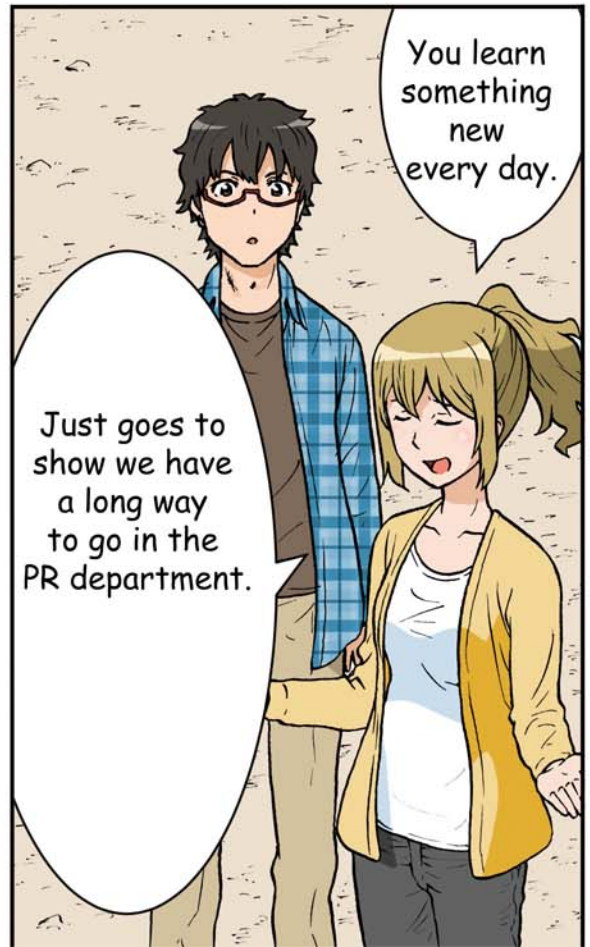
had
no idea.

I...



To know that
Japan is playing
an important role
at the forefront
of future energy
technologies
that could change
the world!
...That's awesome!

Wow!!



You learn
something
new
every day.

Just goes to
show we have
a long way
to go in the
PR department.

