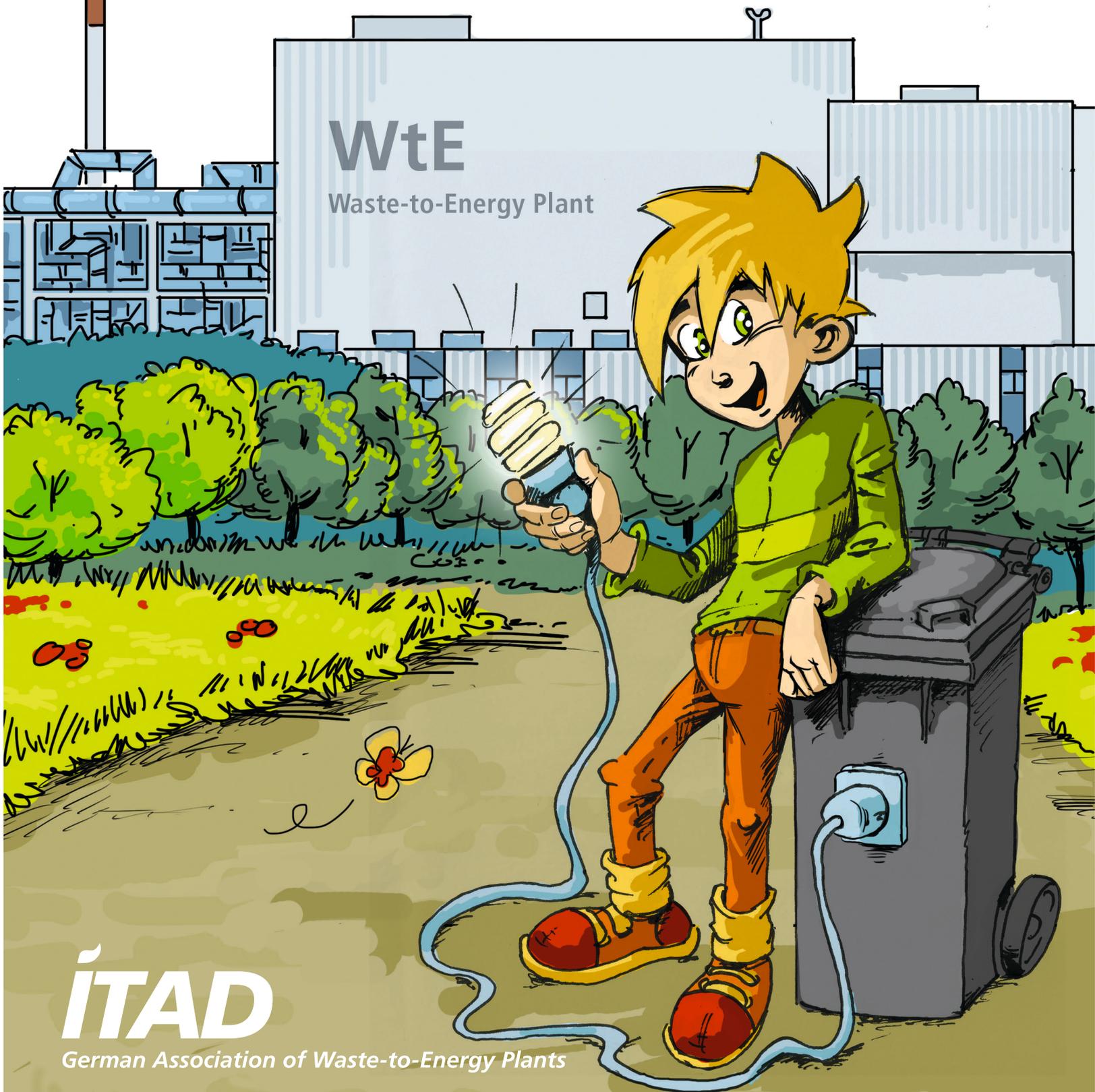


# TURNING WASTE INTO ENERGY? HOW DOES THAT WORK?

THOMAS' ADVENTURE IN  
A WASTE-TO-ENERGY PLANT



**ITAD**

German Association of Waste-to-Energy Plants



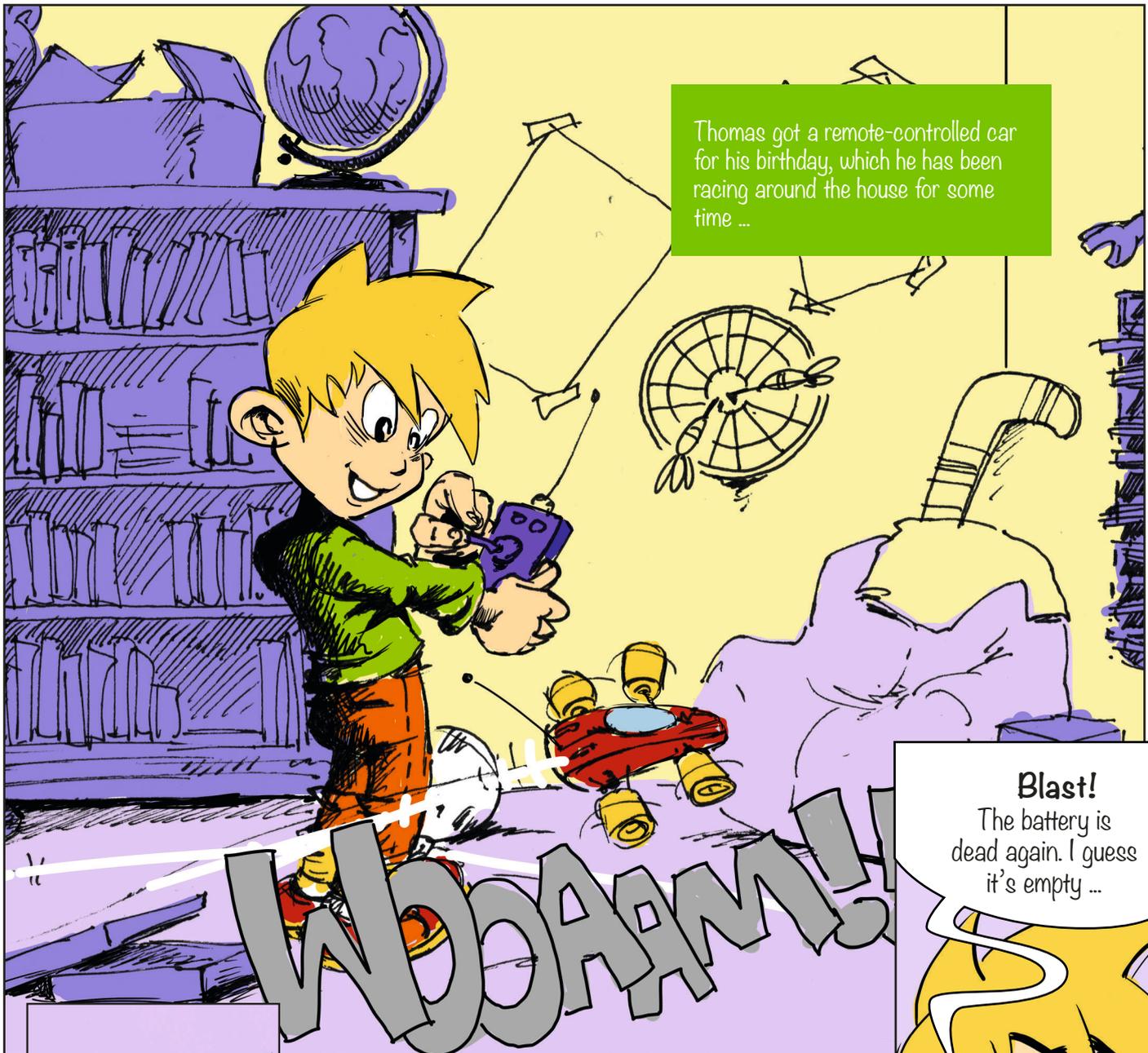
This is Thomas. He is the hero of our story and is interested in everything to do with technology and environmental protection. On top of that, he is incredibly curious and always on the lookout for new adventures.

**Turning Waste into Energy? How does that work?  
Thomas' adventure in a Waste-to-Energy Plant**

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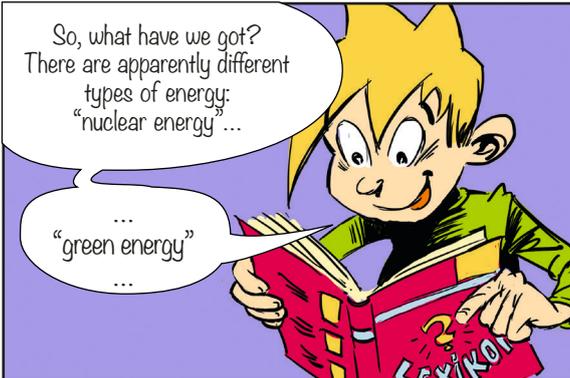
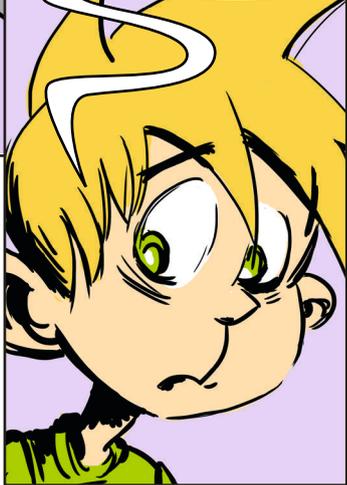
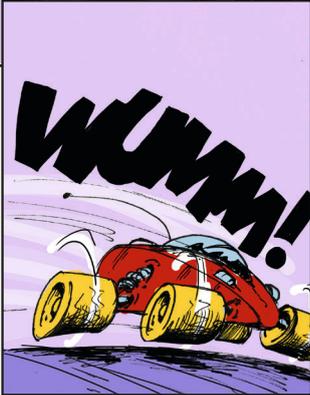
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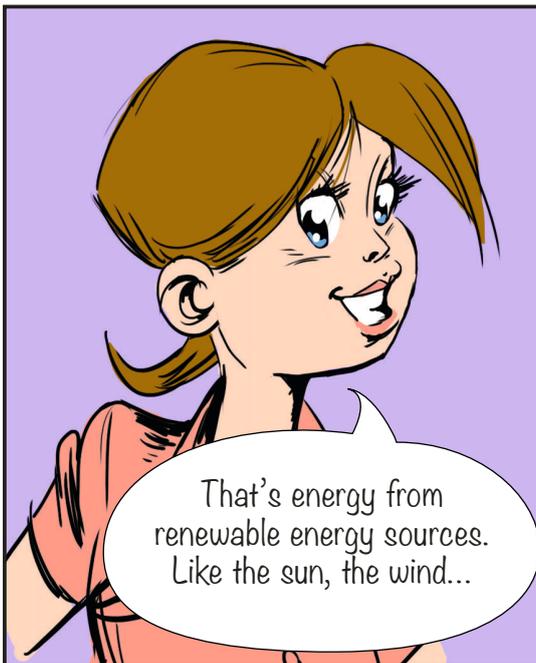
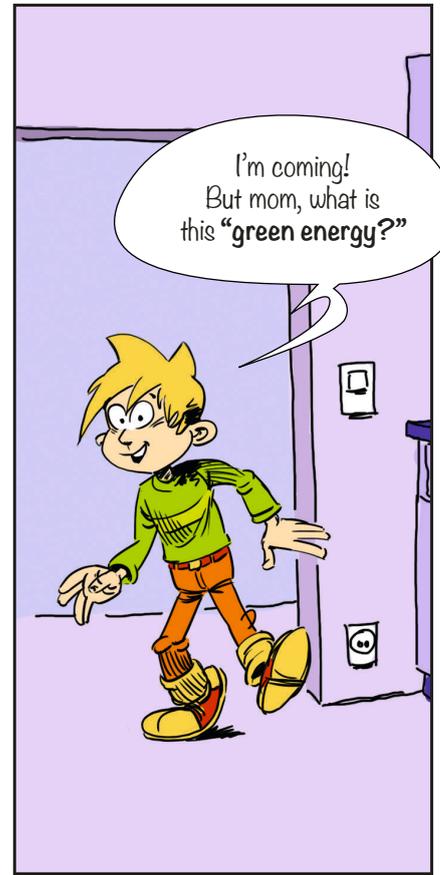
Courtesy of ITAD  
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European Suppliers of Waste to Energy Technology  
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Thomas got a remote-controlled car for his birthday, which he has been racing around the house for some time ...

**Blast!**  
The battery is dead again. I guess it's empty ...

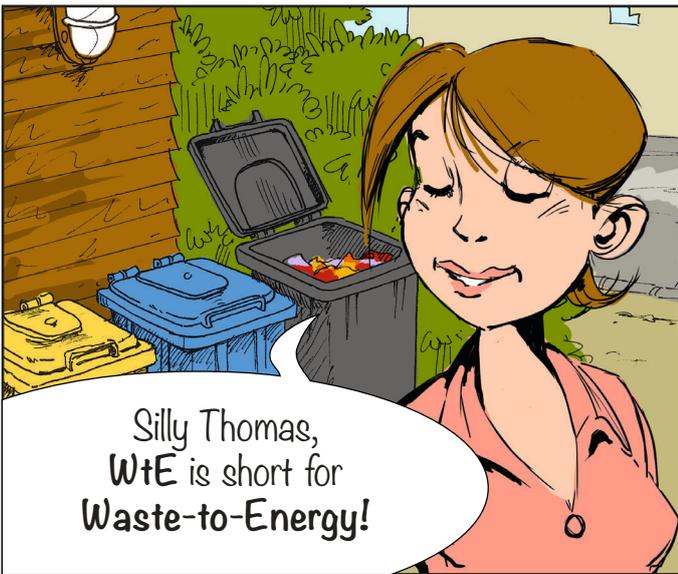






Well, Thomas, it's actually really simple. How about you come along with me to the WtE plant? If your mom's okay with it, I'll show you how it all works.

...to the whatta plant !?



Silly Thomas, WtE is short for Waste-to-Energy!



Really? Waste-to-Energy? That sounds super exciting!



Can I please go along, mom? I've always wanted to know what happens to all the waste!



Alright, Thomas. But, as you're so interested, why don't you help sorting the waste a bit? After all, not everything goes in the residual waste bin!



Ok! But I have to hurry! Can you help me sort the waste?



Do you know what waste really is?

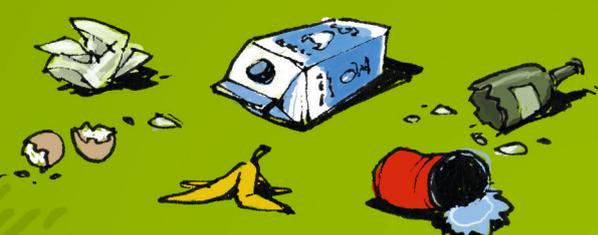
When we talk about **Waste**, we are talking about all the leftovers we no longer need. It's also called **rubbish** or **garbage**.

Do you know what kind of waste we produce at home?

For example: food leftovers, garden waste, paper, plastic wrappers, old clothes, batteries, ...

... old furniture, drink cartons and so on and so forth ...

If you want to do something useful with the waste, you should **always sort it first!**



... and those are just a few of the many types of waste that can be recycled

### Bio-Waste

Waste from the garden and the kitchen can be turned into compost and energy.

### Scrap Waste

The different kinds of metal waste can be used to produce new metal products.

### Waste Glass

Glass bottles can be recycled countless times. Most new bottles are largely made from old bottles.

### Textile Waste

Clothes that people don't want any more - because they are, for example, too small - are collected and given to people who cannot afford new ones.

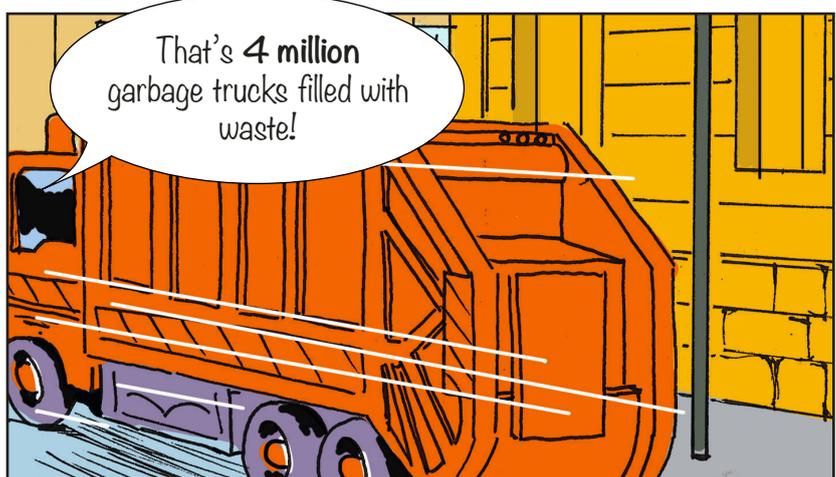
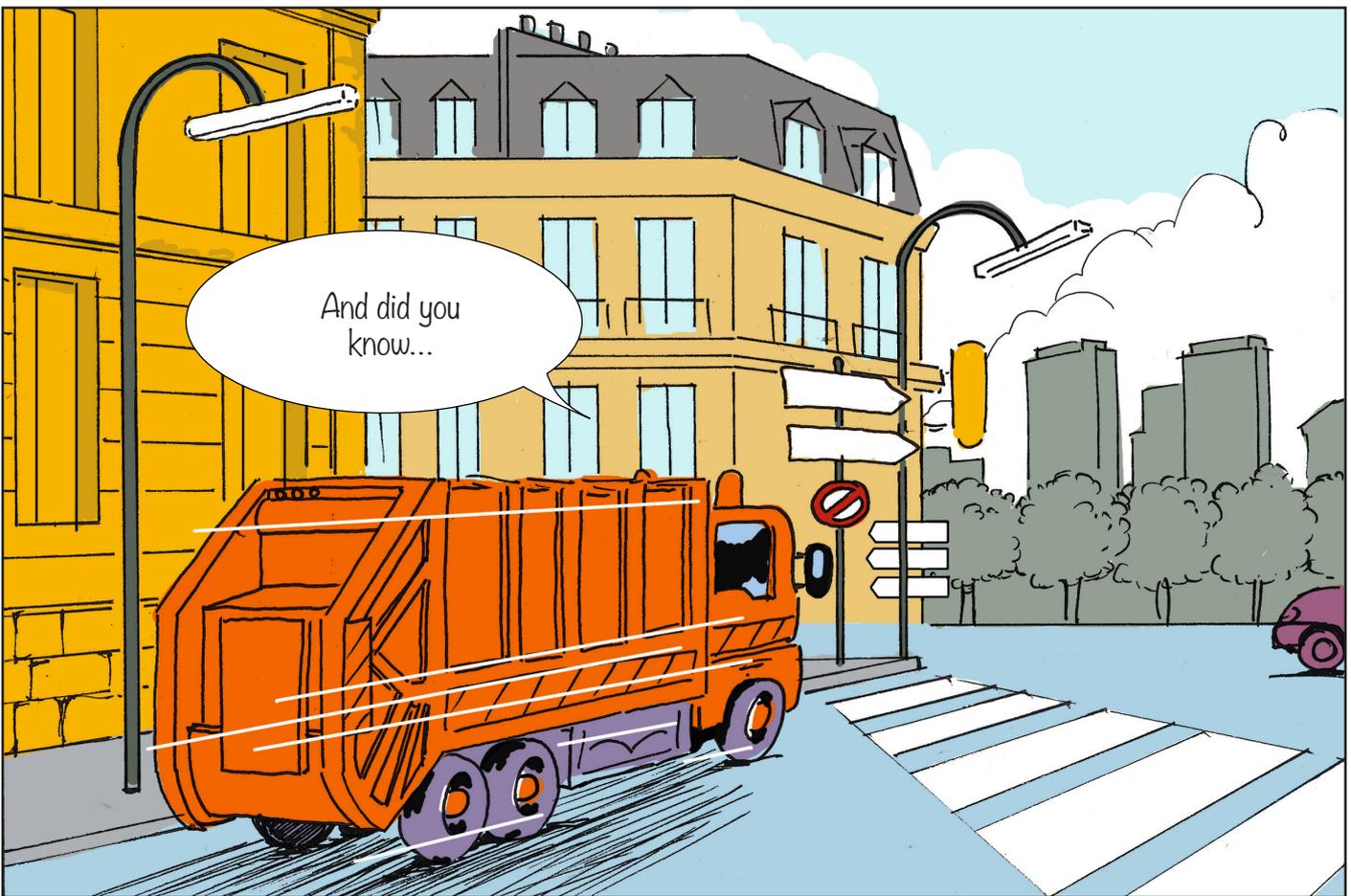
### Waste Paper

Old newspapers and cardboards can be recycled they're times.

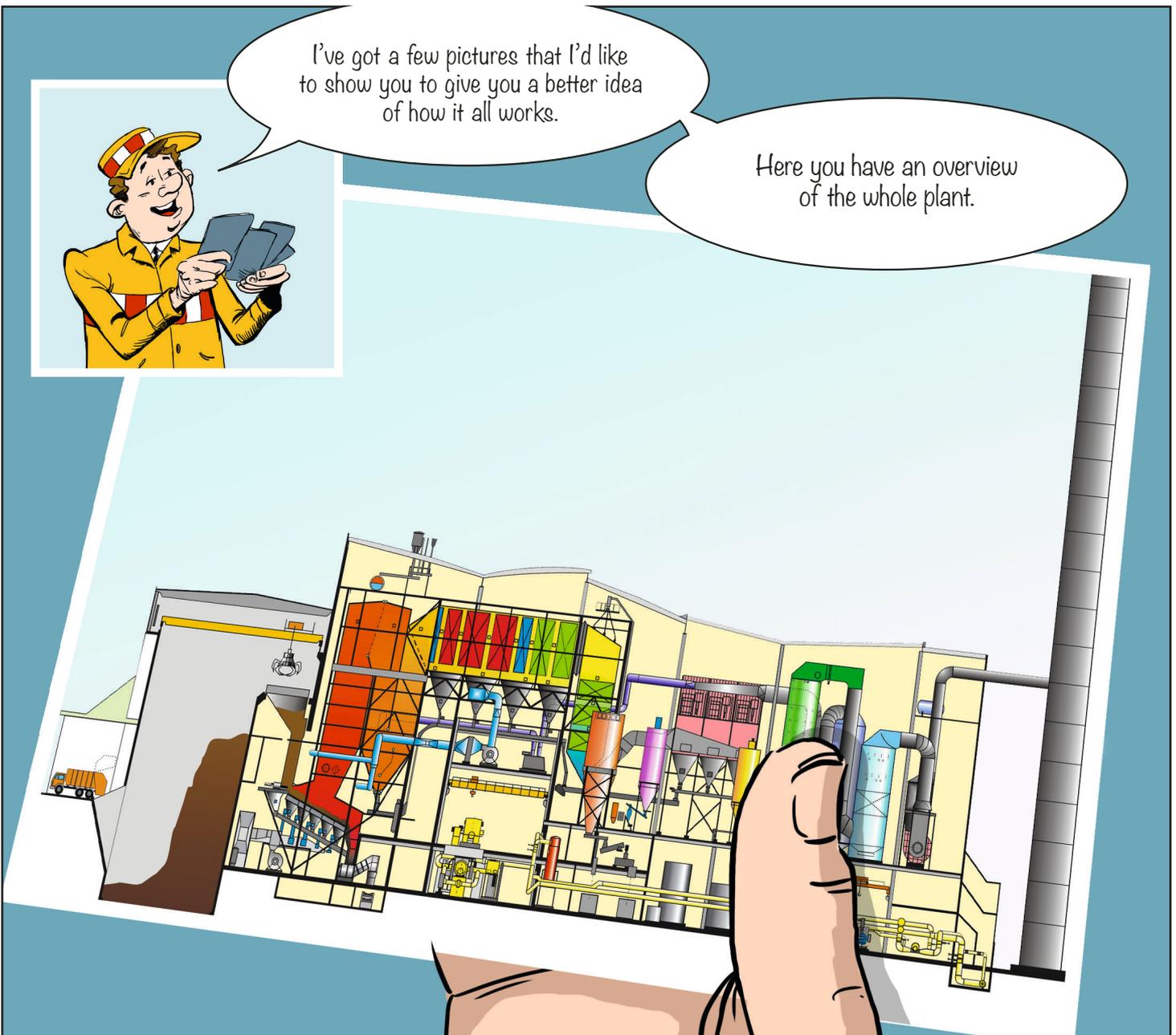
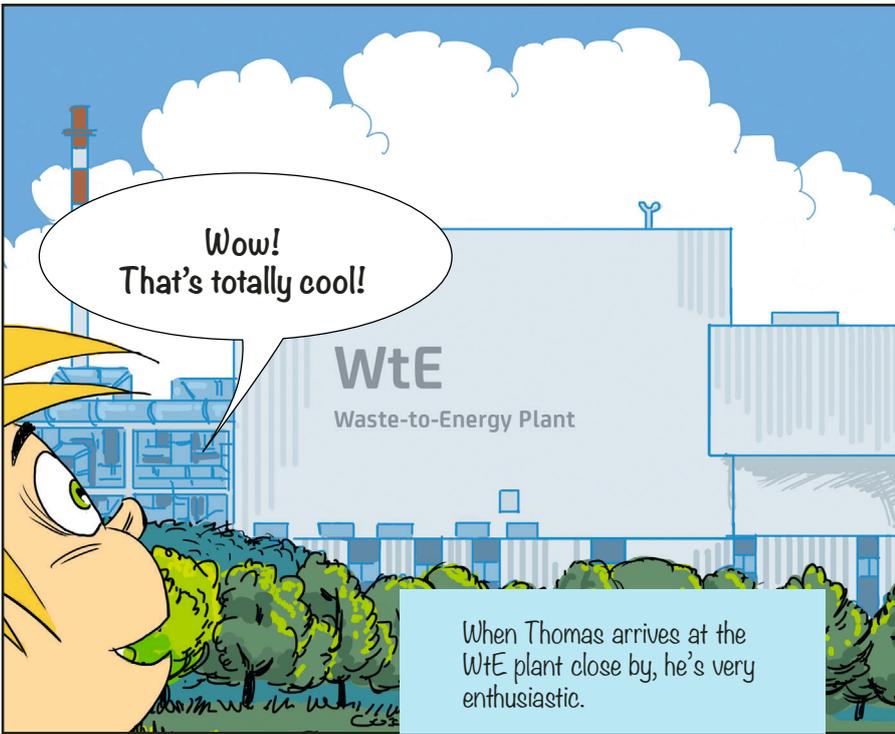


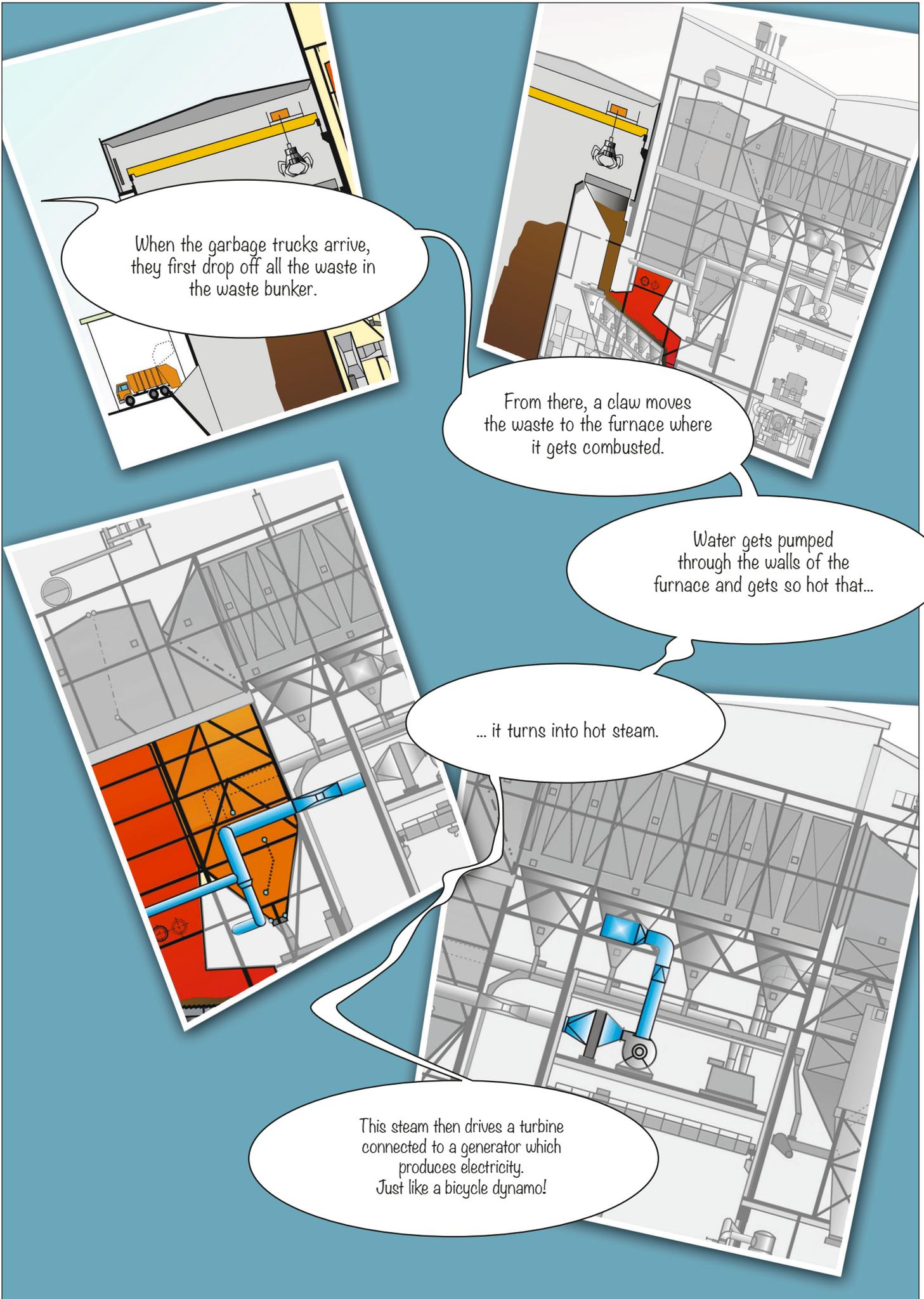
... Recycling's a great thing. Now let's go to the WtE plant and see what happens there.

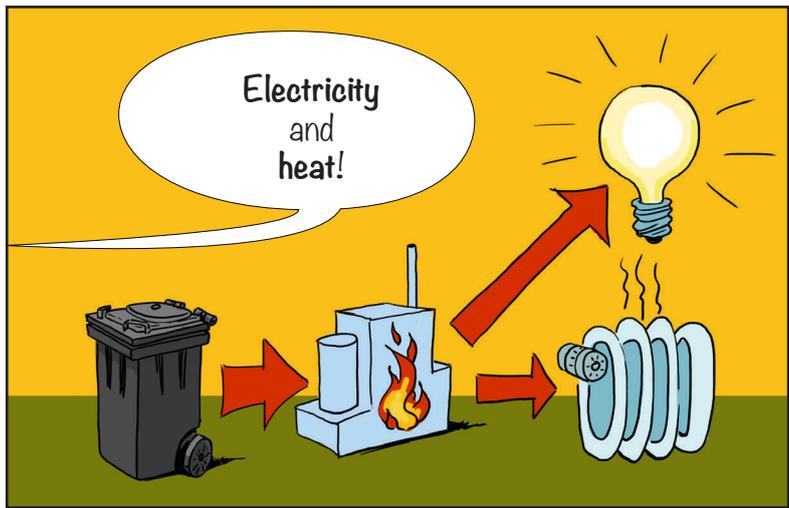












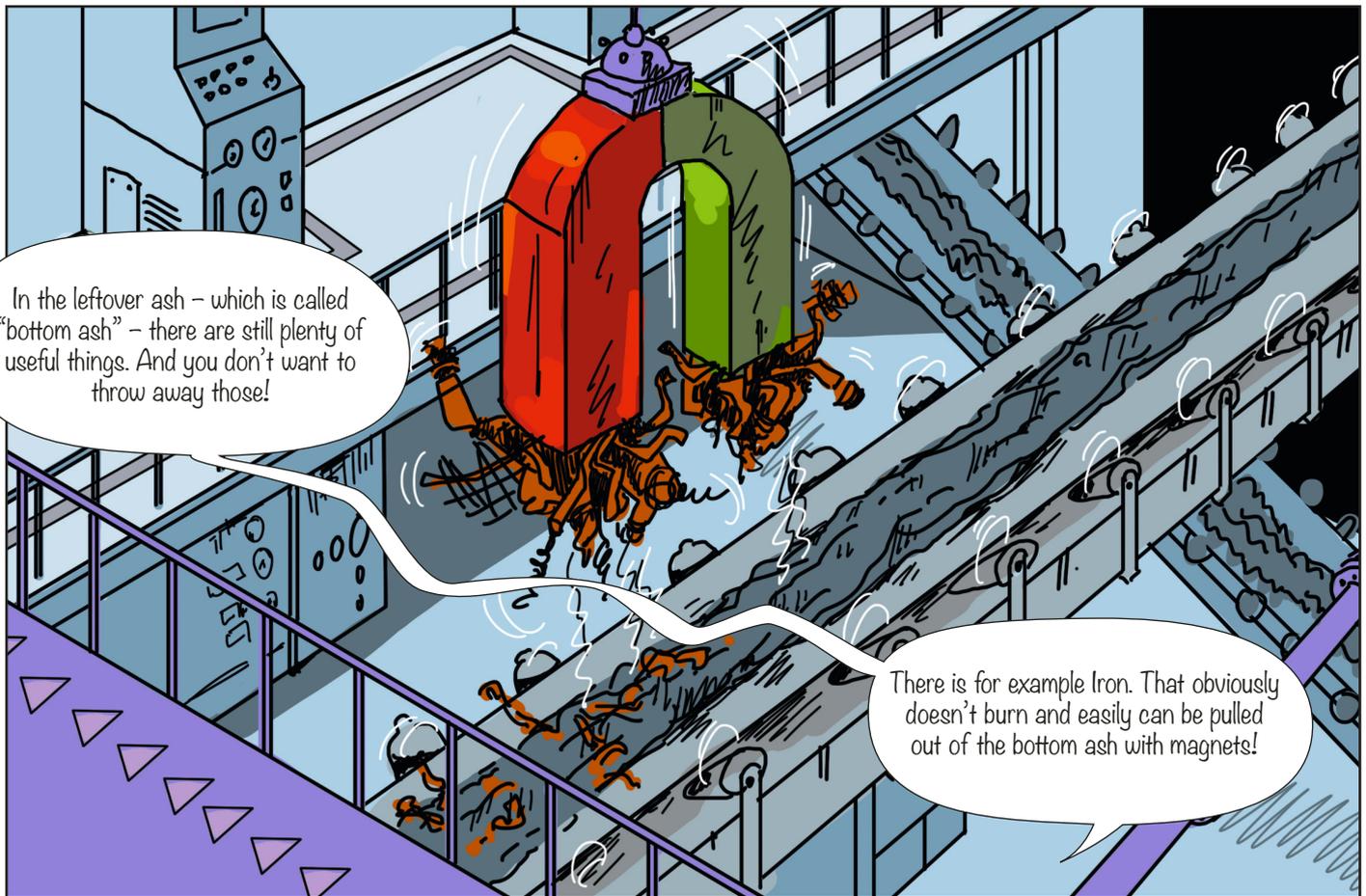
Sure, but don't you get dirty smoke when you burn waste?

You do! And that's why it's not just released into the air ...

... But first all the pollutants are taken out.

To do this, the smoke gets sucked through giant filters. All the dirty particles get stuck in the filter walls - also called membranes. These particles then get taken care of later.

Yeah... but when you burn something don't you always have ash left over...?



In the leftover ash – which is called “bottom ash” – there are still plenty of useful things. And you don’t want to throw away those!

There is for example Iron. That obviously doesn’t burn and easily can be pulled out of the bottom ash with magnets!



Recyclable iron gets recovered out of the garbage. The iron extracted from the garbage of one Million-City weight as much as a whole train.

And then there are the so-called “non-ferrous metals”. These are also regained by special procedures.

Ah, like aluminium! which you can use to make new bikes!

Exactly, it can be used for that! And what is left over from the bottom ash ....



# ITAD

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