

本集内容

Trains powered by the Sun 太阳能火车

学习要点

有关“power（动力）”的词汇

边看边答

Which country's railway system plans to be carbon neutral by 2030?

文字稿

Railways are one of the greenest forms of transport, but they still use huge amounts of electricity. So why not run trains on **solar power**?

铁路是最环保的运输方式之一，但仍需消耗大量的电力。那么，为什么不利用太阳能发电来驱动火车呢？

These look like ordinary commuter trains, but near this station something unusual is happening. They're getting a little bit of power directly from this trackside solar farm.

这些火车看起来像普通的通勤列车，但在这个车站附近却发生着一些不同寻常的事情。这些火车直接从轨道旁的太阳能农场获取一些电力。

Leo Murray, Riding Sunbeams

This is 123 solar panels, taking energy straight from the Sun, and **feeding** it directly into the rail traction system via the inverters you see on the wall over there. What this means is that, so long as the Sun is shining, every train that passes this section of track is picking up a little bit of the energy that it needs to move, directly from the Sun.

利奥·穆雷 Riding Sunbeams 公司

“这里有 123 块太阳能电池板，直接从阳光中获取能量，然后通过那面墙上安装的逆变器将能量直接**输入**铁路牵引系统。这意味着，只要阳光灿烂，每一列经过这段轨道的火车就会直接从阳光中获取一些运行所需的能量。”

Many railways are replacing diesel trains with cleaner electric ones. But in the UK, rail is the biggest single consumer of electricity. So there's a **push** to get more from renewable **sources**.

许多铁路系统都在用更清洁的电力火车取代柴油火车。但在英国，铁路是电力的最大单一消耗源。因此，人们正在**推进**从可再生**能源**中获取更多电力的做法。

Gareth Dennis, Rail Engineer and writer

The grid is decarbonising and the railway needs to exploit that. And so you are looking at wind as a good example of providing clean energy, nuclear is certainly a part of the mix as well. But also you've also got solar, which is continuing to get cheaper as a source of electricity. Solar energy is a really easy thing to deploy next to infrastructure on embankments, wherever you like.

加雷斯·丹尼斯 铁路工程师、作家

“**输电网**正致力于脱碳，而铁路正需要利用这一点。比如，风能就是提供清洁能源的一个很好的例子，核能当然也是清洁能源中的一种。但同时，太阳能也是一种清洁能源，作为一种电力来源，价格越来越便宜。太阳能板是一种非常便于安装在堤坝等任何基础设施旁的装置。”

And how about countries with even more Sun than the UK?

那么，在比英国更加阳光明媚的国家，情况如何？

Nearly 1,000 stations in India have solar panels on their rooves. And Indian Railways plan to be carbon neutral by 2030.

印度近 1000 个火车站的屋顶上都装有太阳能电池板。印度铁路（Indian Railways）计划到 2030 年实现碳中和。

Australia already has a train run entirely on solar power. Its batteries are charged by panels on the train roof and at the station. It actually exports 75% of the energy it creates back to the grid. But this train only goes a short distance and battery storage is limited.

澳大利亚已经拥有一列完全靠太阳能驱动火车。该车的电池靠车顶上和车站内的太阳能电池板充电。它还能把自己产生的 75% 的能量输回到电网中。但这辆火车的行驶距离很短，而且电池的容量也有限。

Gareth Dennis, Rail Engineer and writer

I don't think we are going to see trains with lots of solar panels on the top of the roof whizzing around any time soon. However, in terms of solar panels either trackside or as part of the wider grid mix – I see that as being quite a major part of the electricity that will power trains in the future.

加雷思·丹尼斯 铁路工程师、作家

“我认为在短期内，我们不会看到车顶上装有大量太阳能电池板的火车呼啸而过。然而，无论是轨道旁的太阳能电池板，还是作为更大范围的混合电网中的一部分，我认为太阳能是未来为火车提供电力的重要组成部分。”

词汇

solar power 太阳能

feeding 输入（电力）

a push 推进

sources （能量的）来源

the grid 输电网

视频链接

<https://bbc.in/37aM6nb>

问题答案

Indian Railways plan to be carbon neutral by 2030.