

ENGLISH LEARNING FOR CURIOUS MINDS



Episode #634
Nuclear Power's Unlikely Comeback
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Transcript	3
Key vocabulary	21
Language spotlight	26
Quiz	29
Listening Comprehension Multiple Choice Questions	29
True or False	31
Fill in the Blank	32
Vocabulary Practice	32
Answers	35

Transcript

[00:00:05] Hello, hello, hello, and welcome to English Learning for Curious Minds, by Leonardo English, the show where you can listen to fascinating stories and learn weird and wonderful things about the world at the same time as improving your English.

[00:00:21] I'm Alastair Budge, and today we are going to be talking about the unexpected return of nuclear power.

[00:00:28] It's a story about technology, energy, politics, and the question of how to power the future.

[00:00:36] OK then, let's not waste a minute and get right into it.

[00:00:43] Politicians don't tend to be particularly good at admitting they were wrong.

[00:00:49] When your career depends on voters believing that you are the best person to lead the country, saying that you should have done something differently is hard. It's uncomfortable.

[00:01:01] Sometimes, though, it happens.

[00:01:04] In January of this year, January of 2026, the German Chancellor, Friedrich Merz, stood in front of the Chamber of Industry and Commerce in Dessau and admitted, [in no uncertain terms¹](#), that his country, Germany, had made a mistake.

¹ in a very clear and direct way

Nuclear Power's Unlikely Comeback

[00:01:25] To quote him exactly, "It was a serious strategic mistake to exit nuclear energy... we simply don't have enough energy generation [capacity](#)²."

[00:01:36] As you may know, Germany now has no active nuclear power plants.

[00:01:43] In the 1990s, around 30% of Germany's electricity came from nuclear sources. Today, that number is zero.

[00:01:53] And many countries, especially in Europe, have gone a similar route: initial excitement in the post-war period about this "new" and revolutionary technology, and then a turn towards protest and opposition.

[00:02:09] In many ways, it was hardly surprising.

[00:02:12] There were question marks over what to do with [nuclear waste](#)³.

[00:02:16] In 1986, there was Chernobyl.

[00:02:19] And twenty-five years later, in 2011, came Fukushima. Nuclear power was for many people simply too dangerous. A risk not worth taking.

[00:02:33] But then, in the past couple of years, something has changed.

² the amount that can be produced

³ dangerous waste left after nuclear energy is produced

Nuclear Power's Unlikely Comeback

[00:02:39] People have started talking about a new nuclear age, a nuclear [renaissance](#)⁴, where nuclear energy is treated not as "the answer" to how we power the planet, but as "part of the answer".

[00:02:53] And in some cases, this has resulted in some spectacular [U-turns](#)⁵.

[00:03:00] Belgium is one example.

[00:03:03] In 2003, Belgium passed a law committing itself to shutting down every nuclear [reactor](#)⁶ in the country. It was broadly the same story as Germany: public fear after Chernobyl, a strong Green movement, and a political [consensus](#)⁷ that nuclear power belonged to the past.

[00:03:26] By last year, Belgium was most of the way there. Plants had been scheduled for closure. Engineers had already begun the paperwork for [decommissioning](#)⁸, which is the long, careful process of shutting a [reactor](#) down for good and making it safe.

⁴ a time when it becomes popular or active

⁵ complete changes in plans, opinions, or decisions

⁶ a machine where a nuclear reaction was used to produce energy

⁷ general agreement

⁸ the process of safely closing a nuclear reactor

Nuclear Power's Unlikely Comeback

[00:03:44] And then, in May 2025, the Belgian parliament did something people weren't expecting. It [repealed](#)⁹ the law completely, cancelling it as if it had never existed.

[00:03:58] And the government didn't just decide to keep the remaining [reactors](#)¹⁰ running. It announced it wanted to extend the lifespans of the ones that had already been prepared for shutdown, and it started looking at building new ones.

[00:04:14] In other words, a full reversal: from "we're shutting it all down" to "we're not doing that AND we're building new ones".

[00:04:24] Belgium wasn't even the most extreme example.

[00:04:27] Italy banned nuclear power after Chernobyl, and confirmed that ban again after Fukushima, when 94% of voters rejected building new [reactors](#). Its last two [reactors](#) had already closed, back in 1990.

[00:04:45] But in October of last year, October 2025, Italy's government approved a new bill to bring nuclear power back: small modular [reactors](#), new-generation designs, and even fusion. The whole [shebang](#)¹¹.

[00:05:03] And it's a similar change of mood in the US, in Japan, the world over.

⁹ officially cancelled

¹⁰ machines where nuclear reactions are used to produce energy

¹¹ everything that is involved in it

Nuclear Power's Unlikely Comeback

[00:05:10] Even in countries that haven't reversed course entirely, the tone has changed. In many countries, nuclear power has become a [non-partisan](#)¹² issue: something those on the right and the left agree on, and even something that some Green parties have started to [come round to](#)¹³ as an important tool in the fight against climate change.

[00:05:35] So what changed? Well, first, there's the question of [energy security](#)¹⁴. After the Russian invasion of Ukraine, it became clear that relying on cheap Russian gas hadn't been the smartest move. Or in fact relying on anyone else [for that matter](#)¹⁵. To maintain acceptable prices and reliable supply, countries started to admit that being able to produce your own energy was extremely important.

[00:06:07] Second, there's the climate question. For a long time, the assumption was that [renewables](#)¹⁶ like wind and solar could be enough. Enough wind [turbines](#)¹⁷ and solar panels could deliver all the energy a country needed. It's a nice idea, but for most countries, it doesn't quite work.

¹² not connected to or supported by one political party

¹³ slowly start to agree with or support

¹⁴ having a safe and reliable supply of energy

¹⁵ used to add another similar thing to what you have said

¹⁶ sources of energy that can be used again, such as wind and sunlight

¹⁷ machines with large blades that turn to produce energy

Nuclear Power's Unlikely Comeback

[00:06:28] Wind and solar are cheap, and they are quick and easy to build, relative to nuclear at least. But the sun doesn't always shine, and the wind doesn't always blow. Solar might be able to power the entire [grid](#)¹⁸ in the middle of the day, but not at night or on a dark winter's day. And while batteries are getting cheaper every year, storing enough electricity to keep a country running for days at a time is still [a long way off](#)¹⁹.

[00:07:00] Nuclear power, on the other hand, doesn't care whether the sun is shining or the wind is blowing.

[00:07:07] [Grid](#) engineers call this [baseload power](#)²⁰: a steady, reliable supply that is always there, whatever the weather. And increasingly, governments have concluded that nuclear and [renewables](#) need to work together, with nuclear providing the steady [backbone](#)²¹ that a [renewable](#)²²-heavy [grid](#) needs to actually function.

¹⁸ the system of power lines that carries electricity to homes and businesses

¹⁹ not likely to happen for a long time

²⁰ a steady supply of electricity that is available all the time

²¹ the main and most important part

²² energy able to be replaced naturally and used again

Nuclear Power's Unlikely Comeback

[00:07:32] And after it's [up and running](#)²³, nuclear power produces almost no carbon [emissions](#)²⁴.

[00:07:39] Now, not all Green parties agree with nuclear yet, but it's starting to change. In Finland, the Green party voted back in 2022 to formally support nuclear power as part of its climate strategy, and the tone has started to change in several other countries too.

[00:08:00] So you have the [energy security](#) question and the environmental one, but there's another factor: demand for electricity is [booming](#)²⁵, and this is largely coming from the technology sitting in your pocket.

[00:08:16] Data centres in the United States now use more than 4% of the country's entire electricity supply.

[00:08:23] A data centre is a huge building full of computer servers, the machines that store and process information for the internet. They've been around for decades, and despite what the [fear mongering](#)²⁶ might have you believe, most of what they do has nothing to do with artificial intelligence. They're where your Netflix movies are stored, your Spotify playlists are saved, and where the tens of billions of hours of YouTube

²³ working and ready to be used

²⁴ gases released into the air

²⁵ growing or increasing very quickly

²⁶ people trying to make people very afraid of them

Nuclear Power's Unlikely Comeback

videos are held. And yes, this episode and my voice today are brought to you courtesy of your local data centre.

[00:09:01] They are what companies talk about when they say "the cloud". It's not a cloud, it's a huge warehouse in Arizona or somewhere like that.

[00:09:11] And for most of the last twenty years, these buildings have been growing steadily but predictably.

[00:09:19] Then came [generative AI](#)²⁷ which, as I'm sure you know, or might remember from episode 585, has much more [intensive](#)²⁸ energy requirements. And with billions of people using AI, well, you get a level of electricity demand that didn't really exist five years ago.

[00:09:40] To put it in real terms, Goldman Sachs now projects that electricity demand from data centres will grow by 160% by 2030, driven largely by AI. It means that within a few years, the amount of power these buildings need could be more than double what it is today, on top of everything else the [grid](#) has to supply.

[00:10:06] These data centres need reliable, 24/7 energy. Technology companies have actually been some of the world's biggest buyers of wind and solar power for years, but [renewables](#) alone cannot promise power at every hour of every day.

²⁷ AI that can create new text, pictures, audio, or other content

²⁸ needing a lot of energy

Nuclear Power's Unlikely Comeback

[00:10:24] And, one more thing. Even once a data centre is built and ready to be turned on, you don't just plug it into the [grid](#). There are long waiting lists to ensure that a new customer won't overload the local network, and in some parts of the United States, these waiting lists [stretch](#)²⁹ to eight years, which is eight years too long if you're a technology company racing to build the next generation of AI.

[00:10:53] So the world's biggest technology companies did something unexpected, or I guess rather obvious when you understand that electricity is their biggest [constraint](#)³⁰. They decided to become energy companies themselves.

[00:11:09] And here, [enter stage right](#)³¹, nuclear power.

[00:11:13] Microsoft, for example, signed a deal back in 2024 to bring one of the two [reactors](#) at Three Mile Island, in Pennsylvania, back to life.

[00:11:24] As you may remember, Three Mile Island was the site of a famous partial [meltdown](#)³² back in 1979, but that happened in the other [reactor](#). This one ran safely for decades, and only closed in 2019, for ordinary financial reasons.

²⁹ continue for a particular period of time

³⁰ something that limits what they can do

³¹ used humorously when someone or something appears at an important moment

³² a serious accident in which the material inside the nuclear reactor became too hot and melted

Nuclear Power's Unlikely Comeback

[00:11:44] The plant's owner, an energy company called Constellation, is spending \$1.6 billion to [refurbish](#)³³ it,

[00:11:53] and Microsoft has agreed to buy 100% of the electricity the plant produces for the next twenty years. In other words, it effectively gets its own nuclear [reactor](#), and all of the energy it produces is [earmarked](#)³⁴ for data centres.

[00:12:11] And it's a similar thing with Meta, Amazon, Google, all the big tech companies.

[00:12:17] Some are restarting old plants, others are buying [capacity](#) from existing plants, others are investing in companies building small modular [reactors](#), which are, as the name suggests, smaller [reactors](#) that are built off-site and then assembled, a bit like IKEA furniture, but with, I trust, slightly more helpful instructions.

[00:12:39] Add it all together, and the nuclear [capacity](#) now committed to data centres by these companies is up to 13 [gigawatts](#)³⁵, and that is just in the United States. To put it in context, this is more electricity than the entire Netherlands uses in a year.

[00:12:58] I'm not sure if that sounds like a lot or not. It's a lot when you think that it's like the electricity used by 18 million people, but if you think that this is powering

³³ repair and improve it so that it can be used again

³⁴ kept or planned for this particular purpose

³⁵ units used to measure a very large amount of electrical power

Nuclear Power's Unlikely Comeback

products used by a large proportion of the world's population, perhaps it seems more reasonable.

[00:13:15] In any case, never before has so much private money been committed to nuclear energy, and we are only six years into the decade.

[00:13:26] For decades, nuclear power depended almost entirely on governments: government funding, government regulation, government risk-taking, because private investors found it too expensive and too slow.

[00:13:41] Now it's Microsoft, Meta, Amazon, and Google that are [bankrolling](#)³⁶ [reactors](#), providing the money that governments once did. These are companies whose main business has nothing to do with electricity. But the alternative is running out of power to sell their own products.

[00:14:00] Of course, not everyone is comfortable with that shift. Critics point out that decisions made about something as [safety-critical](#)³⁷ as nuclear power are increasingly being made by companies whose main interest is keeping their data centres running, not public [accountability](#)³⁸.

[00:14:18] Now, there are a few more things to talk about.

³⁶ providing the money needed to pay for them

³⁷ extremely important for keeping people safe

³⁸ responsibility for their actions and decisions

Nuclear Power's Unlikely Comeback

[00:14:22] Firstly, the financing of nuclear plants. One of the big criticisms of nuclear power, historically at least, is that it is expensive. Sure, once you get a plant up and running, it's cheap to run, but the build of it is incredibly expensive, and costs almost always [overrun](#)³⁹, or perhaps [spiral out of control](#)⁴⁰ would be a better way of putting it.

[00:14:47] That is still true, but there are a few things worth mentioning. A large cost of building a full-scale nuclear plant is the cost of financing it, the [cost of capital](#)⁴¹. If banks and investors provide you with €1 billion in financing at a 10% [interest rate](#)⁴², let's say, that's €100 million in [interest payments](#)⁴³ every year. Let's say, for the sake of example, a nuclear power plant takes 10 years to build, you will pay €1 billion in [interest payments](#) on a €1 billion loan.

[00:15:28] And the numbers are often much worse than that.

[00:15:32] In 2016, the UK approved a nuclear power station called Hinkley Point C, in the south-west of England. Now, plans had actually started for this plant as early as 1981, but that's another issue.

³⁹ become more expensive or take longer than planned

⁴⁰ become worse, larger, or more expensive very quickly

⁴¹ the amount of money it costs to borrow money for it

⁴² the percentage charged for borrowing money

⁴³ money paid regularly for borrowing money

Nuclear Power's Unlikely Comeback

[00:15:49] Anyway, its initial projected cost was £18 billion, and it was expected to come online in 2025.

[00:15:59] As of today, mid-2026, its projected cost is £48 billion in [inflation-adjusted](#)⁴⁴ terms, and it's not scheduled to come online before 2030.

[00:16:14] There are a few things to talk about here then. The first is that big technology companies are still investing in nuclear energy despite these frequent [cost overruns](#)⁴⁵, which gives you some idea of just how desperate they are for power.

[00:16:30] And the second is that governments are now [stepping in](#)⁴⁶ to help the financing of new nuclear power stations, guaranteeing the price for a set period, or offering a more manageable [interest rate](#).

[00:16:44] And small modular [reactors](#), which I mentioned a few minutes ago, are another way to fight the issues that have [plagued](#)⁴⁷ the construction of these large nuclear power plants.

⁴⁴ changed to show what a price would be worth after considering rising prices

⁴⁵ extra costs because a project costs more than planned

⁴⁶ becoming involved in order to help or deal with the problem

⁴⁷ caused repeated problems for it

Nuclear Power's Unlikely Comeback

[00:16:56] The fact that they are smaller means they are cheaper to build, faster to put up, and easier to place close to where the electricity is actually needed, like right next to a data centre.

[00:17:08] At least, that's the idea. This is still new technology, largely a technology of [blueprints](#)⁴⁸ and [prototypes](#)⁴⁹ rather than working power stations.

[00:17:19] But 2026 has been the year SMRs, the small modular [reactors](#), they started to look real. There's an SMR in China which is scheduled to start commercial operation in the next 12 months, and others being built in Canada and America.

[00:17:39] Still, we've heard this kind of story before. Nuclear power has a long history of projects that were promised on time and on budget, and then arrived years late and billions over. [Sceptics](#)⁵⁰ point out that SMRs are, so far, mostly a story told in [press releases](#)⁵¹ and government funding announcements, not in electricity actually flowing onto the [grid](#).

⁴⁸ detailed plans showing how it should be built

⁴⁹ early versions of it, made for testing

⁵⁰ people who doubt that they will work

⁵¹ official statements given to newspapers, websites, or other media

Nuclear Power's Unlikely Comeback

[00:18:04] And there's also the question that has [haunted](#)⁵² nuclear power for seventy years: [nuclear waste](#).

[00:18:12] Anyone who grew up watching The Simpsons probably remembers Homer walking into his job at a nuclear power plant, and there being big drums of fluorescent green slime that gives fish three eyes.

[00:18:27] Of course, [spent](#)⁵³ nuclear fuel is dangerous, and it remains radioactive for thousands of years. But there has been significant investment and progress in solving this issue.

[00:18:41] Recently, Finland has shown that the problem can be solved. It is in the final stages of opening a nuclear storage site deep underground that will be able to safely store [nuclear waste](#) for 100,000 years.

[00:18:58] And there is also the promise, or at least the [allure](#)⁵⁴, of nuclear fusion, the other kind of nuclear power, the one that works by [fusing](#)⁵⁵ atoms together rather than splitting them apart.

⁵² continued to cause problems or worries for a long time

⁵³ already used

⁵⁴ the quality of being very attractive or interesting

⁵⁵ joining them together

Nuclear Power's Unlikely Comeback

[00:19:11] Fusion has been "twenty years away" for about seventy years, and 2026 hasn't quite broken that pattern.

[00:19:20] But something has changed here too. More than fourteen billion dollars in investment has gone into fusion companies, and almost a third of that arrived in the past year alone. Microsoft has signed a deal to buy fusion electricity from a company called Helion by 2028. And regulators in the US have started treating fusion as a properly separate category from traditional nuclear power, with lighter rules, because a fusion [reactor](#) can't [melt down](#)⁵⁶ the way a [fission](#)⁵⁷ [reactor](#) can.

[00:19:57] If nuclear fusion can work, and clearly there is a lot of [smart money](#)⁵⁸ betting that it can, the economics of nuclear power change significantly.

[00:20:09] In a traditional nuclear power station, the fuel keeps producing heat even after the [reactor](#) has been switched off, and it has to be kept cool at all times. At Fukushima, the [reactors](#) had already shut themselves down, but the cooling failed, and the fuel melted. This is why [fission](#) plants need so many layers of safety systems, and those layers are a big part of what makes them so expensive to build.

[00:20:39] A fusion reaction has the opposite problem: it is incredibly difficult to keep going. It only happens under extreme conditions, and there is only ever a tiny amount

⁵⁶ turn into a liquid because of heat

⁵⁷ a process in which the centre of an atom is split to produce energy

⁵⁸ money invested by people or companies who are believed to know what they are doing

Nuclear Power's Unlikely Comeback

of fuel in the machine. If anything goes wrong, the conditions collapse and the reaction simply stops. There is nothing that can [melt down](#).

[00:21:02] That's a large part of why people are so excited about fusion: in theory, it offers something close to nuclear power's upside, of [abundant](#)⁵⁹, low-carbon electricity, without its biggest danger.

[00:21:17] So, to wrap things up, even a couple of years ago, nuclear power was a story about a fight between the past and the future: old [reactors](#) closing in Europe while new ones opened in Asia.

[00:21:31] Today, it's a story about the environment and about energy [sovereignty](#)⁶⁰, not just for governments but for big tech too.

[00:21:39] The promise is [alluring](#)⁶¹: cheap, clean, [abundant](#) electricity for everyone.

[00:21:45] Whether that can really be delivered, well, that is the trillion-dollar question.

[00:21:52] OK, then, that is it for today's episode on the unexpected return of nuclear power.

[00:21:58] I hope it's been an interesting one and that you've learnt something new.

⁵⁹ existing in large amounts

⁶⁰ a country's right to control itself and make its own decisions

⁶¹ very attractive or appealing

[00:22:01] As always, I would love to know what you thought of this episode.

[00:22:05] Let me know in the comments below, if you're listening to this somewhere where you can comment, and for the members among you, you can head right into our community forum, which is at community.leonardoenglish.com and get chatting away to other curious minds.

[00:22:19] You've been listening to English Learning for Curious Minds by Leonardo English.

[00:22:25] I'm Alastair Budge, you stay safe, and I'll catch you in the next episode.

[END OF EPISODE]

Key vocabulary

Word	Definition
In no uncertain terms	in a very clear and direct way
Capacity	the amount that can be produced
Nuclear waste	dangerous waste left after nuclear energy is produced

Nuclear Power's Unlikely Comeback

Renaissance	a time when it becomes popular or active
U-turns	complete changes in plans, opinions, or decisions
Reactor	a machine where a nuclear reaction was used to produce energy
Consensus	general agreement
Decommissioning	the process of safely closing a nuclear reactor
Repealed	officially cancelled
Reactors	machines where nuclear reactions are used to produce energy
Shebang	everything that is involved in it
Non-partisan	not connected to or supported by one political party
Come round to	slowly start to agree with or support
Energy security	having a safe and reliable supply of energy
For that matter	used to add another similar thing to what you have said
Renewables	sources of energy that can be used again, such as wind and sunlight
Turbines	machines with large blades that turn to produce energy
Grid	the system of power lines that carries electricity to homes and businesses

Nuclear Power's Unlikely Comeback

A long way off	not likely to happen for a long time
Baseload power	a steady supply of electricity that is available all the time
Backbone	the main and most important part
Renewable	energy able to be replaced naturally and used again
Up and running	working and ready to be used
Emissions	gases released into the air
Booming	growing or increasing very quickly
Fear mongering	people trying to make people very afraid of them
Generative ai	AI that can create new text, pictures, audio, or other content
Intensive	needing a lot of energy
Stretch	continue for a particular period of time
Constraint	something that limits what they can do
Enter stage right	used humorously when someone or something appears at an important moment
Meltdown	a serious accident in which the material inside the nuclear reactor became too hot and melted

Nuclear Power's Unlikely Comeback

Refurbish	repair and improve it so that it can be used again
Earmarked	kept or planned for this particular purpose
Gigawatts	units used to measure a very large amount of electrical power
Bankrolling	providing the money needed to pay for them
Safety-critical	extremely important for keeping people safe
Accountability	responsibility for their actions and decisions
Overrun	become more expensive or take longer than planned
Spiral out of control	become worse, larger, or more expensive very quickly
Cost of capital	the amount of money it costs to borrow money for it
Interest rate	the percentage charged for borrowing money
Interest payments	money paid regularly for borrowing money
Inflation-adjusted	changed to show what a price would be worth after considering rising prices
Cost overruns	extra costs because a project costs more than planned
Stepping in	becoming involved in order to help or deal with the problem
Plagued	caused repeated problems for it

Nuclear Power's Unlikely Comeback

Blueprints	detailed plans showing how it should be built
Prototypes	early versions of it, made for testing
Sceptics	people who doubt that they will work
Press releases	official statements given to newspapers, websites, or other media
Haunted	continued to cause problems or worries for a long time
Spent	already used
Allure	the quality of being very attractive or interesting
Fusing	joining them together
Melt down	turn into a liquid because of heat
Fission	a process in which the centre of an atom is split to produce energy
Smart money	money invested by people or companies who are believed to know what they are doing
Abundant	existing in large amounts
Sovereignty	a country's right to control itself and make its own decisions
Alluring	very attractive or appealing

Language spotlight

1. In no uncertain terms

- **Meaning:** in a very clear, direct, and strong way
- **Synonyms:** clearly, directly, firmly, bluntly
- **Antonyms:** indirectly, vaguely, uncertainly
- **Examples:**
 - The manager told us **in no uncertain terms** that we must finish the project by Friday.
 - She made it clear **in no uncertain terms** that she would not accept the offer.

2. Come round to

- **Meaning:** to gradually change your opinion and start to agree with an idea
- **Synonyms:** agree with, accept, change your mind about, warm to
- **Antonyms:**
reject, disagree with, oppose, resist

Nuclear Power's Unlikely Comeback

- **Examples:**

- At first, I didn't like the idea, but I eventually **came round to** it.
- My parents were against me studying abroad, but they eventually **came round to** the idea.

3. For that matter

- **Meaning:** used when adding another person or thing that is also included in what you have just said
- **Synonyms:** similarly, also, likewise, too
- **Antonyms:** unlike, differently
- **Examples:**
 - I don't like coffee, and I don't like tea **for that matter**.
 - Nobody knew where he was, and I didn't know either **for that matter**.

4. A long way off

- **Meaning:** something that is not likely to happen or be ready for a long time
- **Synonyms:** far away, far in the future, distant, not close

Nuclear Power's Unlikely Comeback

- **Antonyms:** close, near, soon, imminent
- **Examples:**
 - The new shopping centre is still **a long way off**, so we will have to wait another year.
 - A solution to the problem is **a long way off**, despite the scientists' recent progress.

5. Spiral out of control

- **Meaning:** to become worse, larger, or more expensive very quickly and become difficult to control
- **Synonyms:** get out of hand, worsen rapidly, escalate, snowball
- **Antonyms:** remain under control, stabilise, improve, settle down
- **Examples:**
 - The cost of the building project **spiralled out of control** after several delays.
 - If we don't deal with the problem now, it could **spiral out of control**.

Quiz

Listening Comprehension Multiple Choice Questions

1. What does the podcast say caused electricity demand from data centres to increase more quickly?

- a) The growth of generative AI
- b) The increase in Netflix subscriptions
- c) The closure of nuclear power plants
- d) The development of electric cars

2. Why did Belgium originally decide to shut down its nuclear reactors?

- a) Nuclear power had become too expensive to operate
- b) There was public fear after Chernobyl and strong political opposition
- c) The country had discovered large amounts of cheap gas
- d) The reactors were too old to continue working

Nuclear Power's Unlikely Comeback

3. Why is nuclear power attractive to countries that use a lot of renewable energy?

- a) It can produce electricity regardless of the weather
- b) It is faster to build than solar panels
- c) It does not require a national electricity grid
- d) It produces more electricity at night than during the day

4. Why can new data centres face long waiting lists before connecting to the electricity grid?

- a) There are not enough buildings available
- b) Companies need permission from technology firms
- c) The network must make sure that new customers will not overload it
- d) Data centres can only be connected during the winter

5. What is one major advantage of nuclear fusion compared with traditional nuclear fission?

- a) Fusion reactors use much more fuel

Nuclear Power's Unlikely Comeback

- b) Fusion can produce electricity without any special equipment
- c) A fusion reaction stops if the conditions needed to continue it disappear
- d) Fusion reactors are already operating in most countries

True or False

- 6. Germany currently has no active nuclear power plants. (True/False)
- 7. Belgium completely cancelled its plan to shut down its nuclear reactors in 2025.
(True/False)
- 8. Microsoft agreed to buy all the electricity produced by one reactor at Three Mile Island for twenty years. (True/False)
- 9. Nuclear fusion works by splitting atoms apart, just like traditional nuclear fission.
(True/False)
- 10. Small modular reactors are already widely used around the world. (True/False)

Fill in the Blank

11. Grid engineers call this _____ power: a steady, reliable supply that is always there, whatever the weather.
12. And after it's up and _____, nuclear power produces almost no carbon emissions.
13. And here, enter _____ right, nuclear power.
14. If banks and investors provide you with €1 billion in financing at a 10% _____ rate, let's say, that's €100 million in interest payments every year.
15. As of today, mid-2026, its projected cost is £48 billion in inflation-_____ terms, and it's not scheduled to come online before 2030.

Vocabulary Practice

16. What does “**renaissance**” mean in the context of the podcast?
- a) A complete end to something
 - b) A period when something becomes popular or successful again
 - c) A period when something becomes more expensive

d) A disagreement between different groups

17. What does “**earmarked**” mean?

a) Marked as dangerous

b) Sold to another company

c) Kept or planned for a particular purpose

d) Removed from a list

18. What does “**plagued**” mean in the sentence “the issues that have plagued the construction of these large nuclear power plants”?

a) Caused repeated problems for

b) Made something cheaper

c) Helped something develop

d) Completely stopped something

Nuclear Power's Unlikely Comeback

19. What does “**allure**” mean in the context of nuclear fusion?

- a) Danger or risk
- b) The quality of being attractive or exciting
- c) A scientific mistake
- d) A type of nuclear fuel

20. What does “**abundant**” mean in the phrase “abundant, low-carbon electricity”?

- a) Very expensive
- b) Difficult to produce
- c) Dangerous to use
- d) Available in large amounts

Answers

1. a) The growth of generative AI
2. b) There was public fear after Chernobyl and strong political opposition
3. a) It can produce electricity regardless of the weather
4. c) The network must make sure that new customers will not overload it
5. c) A fusion reaction stops if the conditions needed to continue it disappear
6. True
7. True
8. True
9. False
10. False
11. baseload
12. running
13. stage
14. interest
15. adjusted
16. b) A period when something becomes popular or successful again
17. c) Kept or planned for a particular purpose
18. a) Caused repeated problems for
19. b) The quality of being attractive or exciting
20. d) Available in large amounts