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Welcome to this session:

Open Session:

Identifying and Assessing Operational Risks in Energy Supply

The session will start shortly...

Any Questions?
Drop them in the questions section.

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*Leadership & Management/**Open Session***

Safeguarding & Welfare

We are committed to all our students and staff feeling safe and happy; we want to make sure there is always someone you can turn to if you are worried about anything.

If you are feeling upset or unsafe, are worried about a friend, student or family member, or you feel like something isn't right, speak to our safeguarding team:

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Designated Safeguarding Lead

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Democracy
Every person's opinions matter.
Respect
We look after each other.
Tolerance
We accept each other's differences.
British Values
Rule of Law
We keep to the rules.
Liberty
We are free to make choices.

HOUSEKEEPING

Leadership & Management Live Lectures – Housekeeping

- The use of disrespectful language is prohibited in the questions, this is a supportive, learning environment for all - please engage accordingly.
    - ***(Fundamental British Values: Mutual Respect and Tolerance)***
- No question is daft or silly - **ask them!**
- Should you have a question during the lecture, please feel free to **post in the Questions section** and I will respond throughout.

Leadership & Management Live Lectures – Housekeeping

- Activating **live captions** in your browser's accessibility settings is a helpful option for better understanding, especially for those with hearing impairments or challenges with accents.
- For all **non-academic questions**, please submit a query: ***www.hyperiondev.com/support***
- Report a safeguarding incident: ***www.hyperiondev.com/safeguardreporting***
- Should you have any further questions or want to provide us with feedback, please feel free to post them **here.**
- **GitHub Link to access L&M Presentation Slides.**

LEARNING OBJECTIVE

Learning Objective

- Understand **how to identify, categorise, and assess project risks**, with a focus on energy supply systems under strain.
- Learn **practical steps for mitigating operational risks** related to resource availability and demand forecasting.

BACKGROUND

BACKGROUND

Setting The Scene

Britain is grappling with a gas supply crisis. The **combination of unusually cold temperatures and a spike in demand has left storage levels alarmingly low** compared to the same time last year.

Imagine you're responsible for ensuring energy supply. *"How would you feel? What does this scenario tell us about risk in energy projects?"*

BACKGROUND

Interactive Q&A

"Why do you think storage levels are lower than usual?"

- Maybe demand was underestimated during planning.
- Could be linked to over-reliance on mild winters in recent years.
- They might not have replenished reserves fully after last winter.

BACKGROUND

Interactive Q&A

“How might cold weather exacerbate operational challenges?”

- Pipelines and equipment could freeze or fail.
- Transporting gas becomes harder in severe conditions.
- Increased demand puts extra pressure on already stretched systems.

BACKGROUND

Interactive Q&A

"What could have been done differently to prepare for this situation?"

- They could've invested in better forecasting tools.
- Maintaining higher storage levels as a buffer might have helped.
- Diversifying energy sources could've reduced reliance on gas.

IDENTIFYING PROJECT RISKS

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IDENTIFYING PROJECT RISKS

Strategic Risks: are the **big-picture issues** that arise from long-term planning missteps.

You **base your storage levels on the last five years of mild winters**, expecting the trend to continue. Then bam, you're hit with the coldest winter in a decade. Suddenly, your reserves aren't enough to meet the demand. This isn't just a bad day at work; it's **a strategic miscalculation with long-term consequences**, like strained public trust and increased financial losses.

Strategic risks remind us to plan for variability, not just the most likely scenario. Forecasting isn't about predicting the future perfectly; it's about **preparing for possibilities**.

IDENTIFYING PROJECT RISKS

Operational Risks: are the day-to-day challenges that can disrupt operations.

Even if you've got plenty of gas in reserve, a single operational hiccup; like a frozen pipeline, can bring everything to a standstill. Think of it as having a full pantry but no way to get into the kitchen because the door's jammed. Operational risks often snowball, so one small failure can lead to big problems.

Operational risks highlight the importance of maintenance, backup systems, and real-time monitoring. When the stakes are high, even small issues can have massive impacts.

IDENTIFYING PROJECT RISKS

Financial Risks: relate to **costs spiraling out of control** due to unexpected changes.

When demand skyrockets unexpectedly, so do prices. It's not just companies that feel the pinch; customers do too. **Imagine trying to balance a budget while energy prices double or triple overnight**. It's not sustainable, and it creates pressure across the board.

Financial risks underscore the need for flexibility in budgeting and pricing strategies. Companies that **anticipate price volatility can better protect themselves**, and their customers.

IDENTIFYING PROJECT RISKS

Compliance Risks: arise when regulations aren't met, either intentionally or accidentally.

Let's say the cold snap forces you to fire up old coal plants as backup. It might get the job done in the short term, but if those plants don't meet emissions standards, you're suddenly facing hefty fines and reputational damage. Non-compliance isn't just a legal issue; it's a trust issue."

Compliance risks highlight why staying ahead of regulations is critical. Proactively aligning with standards can prevent crises from escalating into legal battles or public backlash.

RULE OF LAW

Adherence to regulations demonstrates the **critical role of legal frameworks in energy projects**. Failing to meet emissions standards or regulatory requirements can lead to broader societal impacts.

ASSESSING PROJECT RISKS

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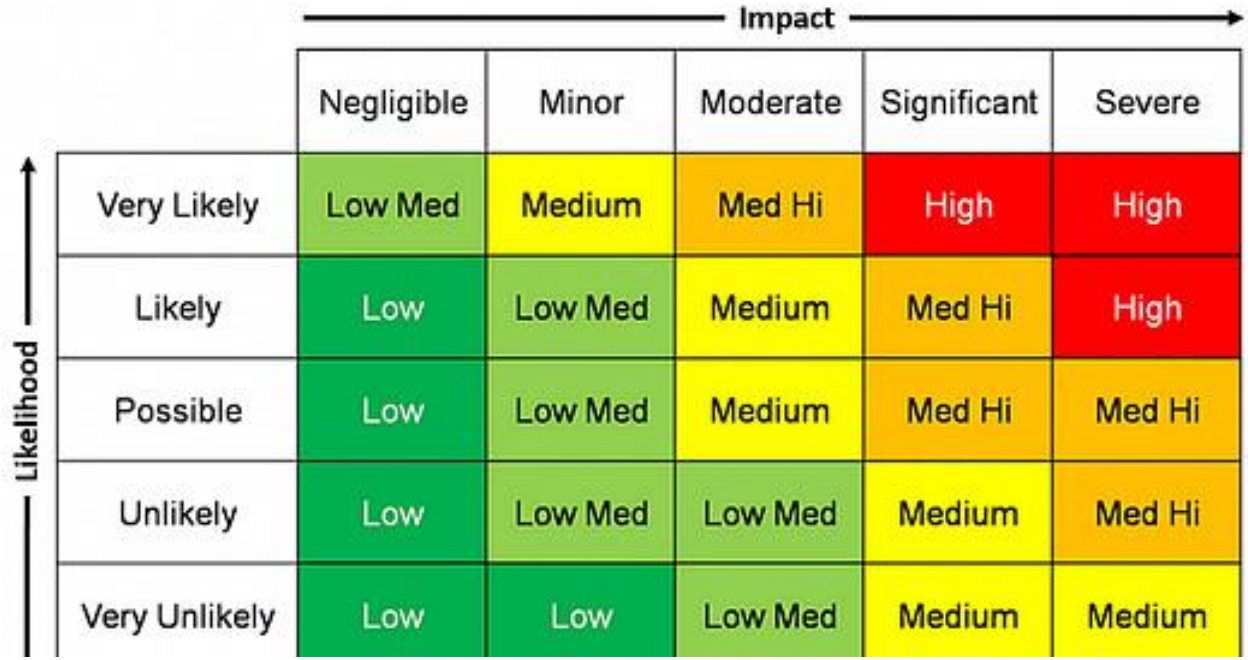
ASSESSING PROJECT RISKS

Risk Matrix



Likelihood	Negligible	Minor	Moderate	Significant	Severe
Very Likely	Low Med	Medium	Med Hi	High	High
Likely	Low	Low Med	Medium	Med Hi	High
Possible	Low	Low Med	Medium	Med Hi	Med Hi
Unlikely	Low	Low Med	Low Med	Medium	Med Hi
Very Unlikely	Low	Low	Low Med	Medium	Medium

ASSESSING PROJECT RISKS

Example Application

High likelihood, high impact: Think about a **severe cold snap**. It's not just a possibility; it's a probability during certain seasons. The impact? Massive supply shortages that could leave millions without energy.

Low likelihood, high impact: Now consider a **sudden regulatory tariff** on imported gas. It's less likely to occur but could disrupt budgets and operations significantly if it does.

ASSESSING PROJECT RISKS

Probing Questions

“Where would you place a pipeline breakdown? It might be moderately likely during extreme weather, and its impact could be severe. Would that land in the high-risk zone?”

“How about financial strain from volatile gas prices? Likely during periods of high demand but with variable impacts depending on mitigation strategies; medium to high risk?”

Driving the Key Point Home

Here's the beauty of tools like the risk matrix; they don't just highlight risks; they help us focus our efforts where it matters most.

Instead of panicking over everything, you can prioritise and develop strategies to manage the biggest threats. It's about turning uncertainty into actionable strategies.

RISK MITIGATION STRATEGIES

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RISK MITIGATION STRATEGIES

The Problem

It’s early January, and the forecasts are in. An unusually cold winter is on the horizon.

However, your **gas storage is only 70% full**; well below the safety threshold.

As the energy manager, the responsibility of mitigating this risk falls squarely on your shoulders. *“What would you do?”*

RISK MITIGATION STRATEGIES

Propose Mitigation Steps

Diversifying Energy Sources

First things first: reduce reliance on a single source. Ask yourself, *"Can renewable energy step in to lighten the load?"*

Solar, wind, and hydropower might not fully replace gas, but they **can help offset demand spikes**.

Plus, renewables often have lower operational costs once established, and they **reduce compliance risks** tied to emissions standards.

RISK MITIGATION STRATEGIES

Propose Mitigation Steps

Partnering with Neighbouring Regions for Reserves

Next, think beyond your immediate resources. **Collaboration is key**.

"What if you could tap into reserves from neighbouring regions?"
For example, countries with surplus storage might be willing to lend or sell at competitive rates.

Building partnerships now can save you from scrambling later. Think of it as creating a safety net.

RISK MITIGATION STRATEGIES

Propose Mitigation Steps

Investing in Predictive Demand Analytics

Finally, look to the future. *“What if you had forecasting tools so accurate they could’ve predicted this crisis months ago?”*

Predictive analytics uses historical data and AI to model scenarios, helping you plan storage and procurement more effectively.

It’s an investment that pays for itself by reducing uncertainty in future planning.

RISK MITIGATION STRATEGIES

Mitigation isn't about waiting for a crisis to happen and reacting to it.

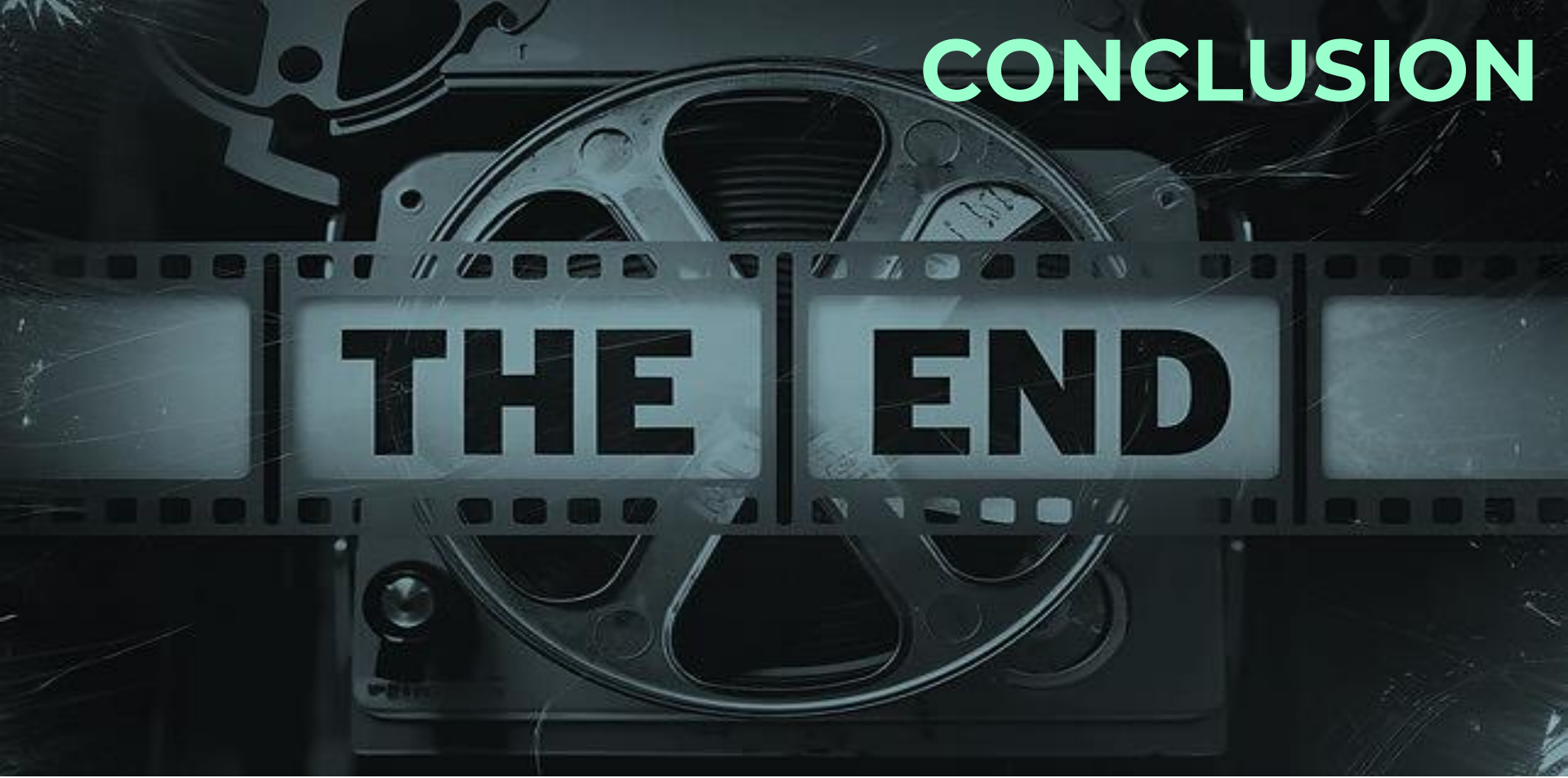
It's about being proactive, anticipating challenges, and building robust strategies to tackle them head-on.

Think of it as playing chess instead of checkers; **planning several moves ahead instead** of reacting to what's right in front of you.

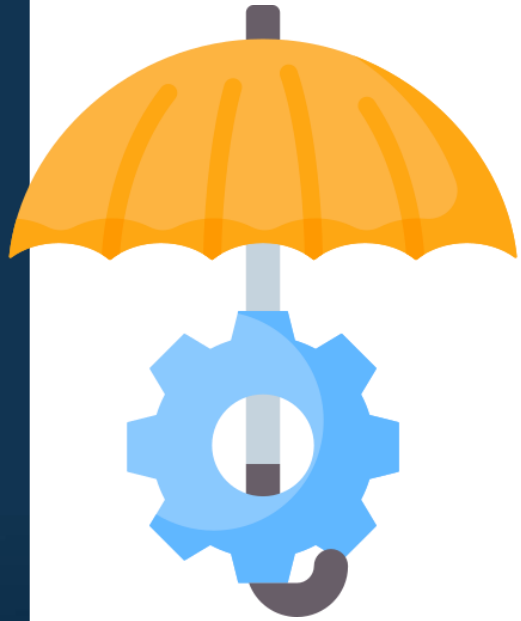
INDIVIDUAL LIBERTY

Highlight the value of **empowering individuals and teams to take initiative** in diversifying energy sources or investing in predictive analytics.

CONCLUSION



CONCLUSION



Key Points

Risks must be categorised; strategic, operational, financial, and compliance.

Use tools like risk matrices to assess their impact and likelihood.

Mitigation requires innovative thinking and cross-functional collaboration.

CONCLUSION

Risk management isn’t just for energy projects.

It’s a mindset; a way of planning for the unexpected in everything you do.


RESOURCES

RESOURCES

Articles

- ✓ Britain's gas storage levels are worryingly low, Centrica says
- ✓ BIG FREEZE UK weather: Amber cold health alerts to last for DAYS with warning of ‘rise in deaths’ and 50 flooding alerts in force
- ✓ Gas supplies are 'concerningly low' and UK narrowly avoided POWER CUTS amid fears

Labour's Net Zero will put the lights out during -20C cold snap

Thank you for attending

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Department for Education