

CGA Energy Nexus & Annual Technical Conference 2024

Fuelling the Future

Resiliency vs. Reliability

Kaz Berjian, Director, Asset Management Services, ATCO Gas & Pipelines
Leah McDonald, Director, Customer Experience, ATCO Gas & Pipelines







Resiliency vs. Reliability



Kaz Berjian
Leah McDonald

ATCO Gas and Pipelines

ATCO Energy Systems



INNOVATION AND ESG

proven track record



100 YEARS

of safe and reliable clean energy

9,000 KM

of transmission pipeline

41,000 KM

of distribution pipeline



800 GWH

salt cavern storage

1.3 MILLION

Customers

300

Communities



50 GW

peak delivery

45%

of provincial
total



RELIABILITY

RESILIENCY



RELIABILITY



Reliability

- Strong
- Steadfast
- Consistent
- Unfailing



Reliability

SAIDI time
per year

duration of all interruptions
total number of customers

SAIFI interruptions
per year

total number of interruptions
number of customers



0.051

2.602

electric
outages **>50x longer**

0.016

1.017

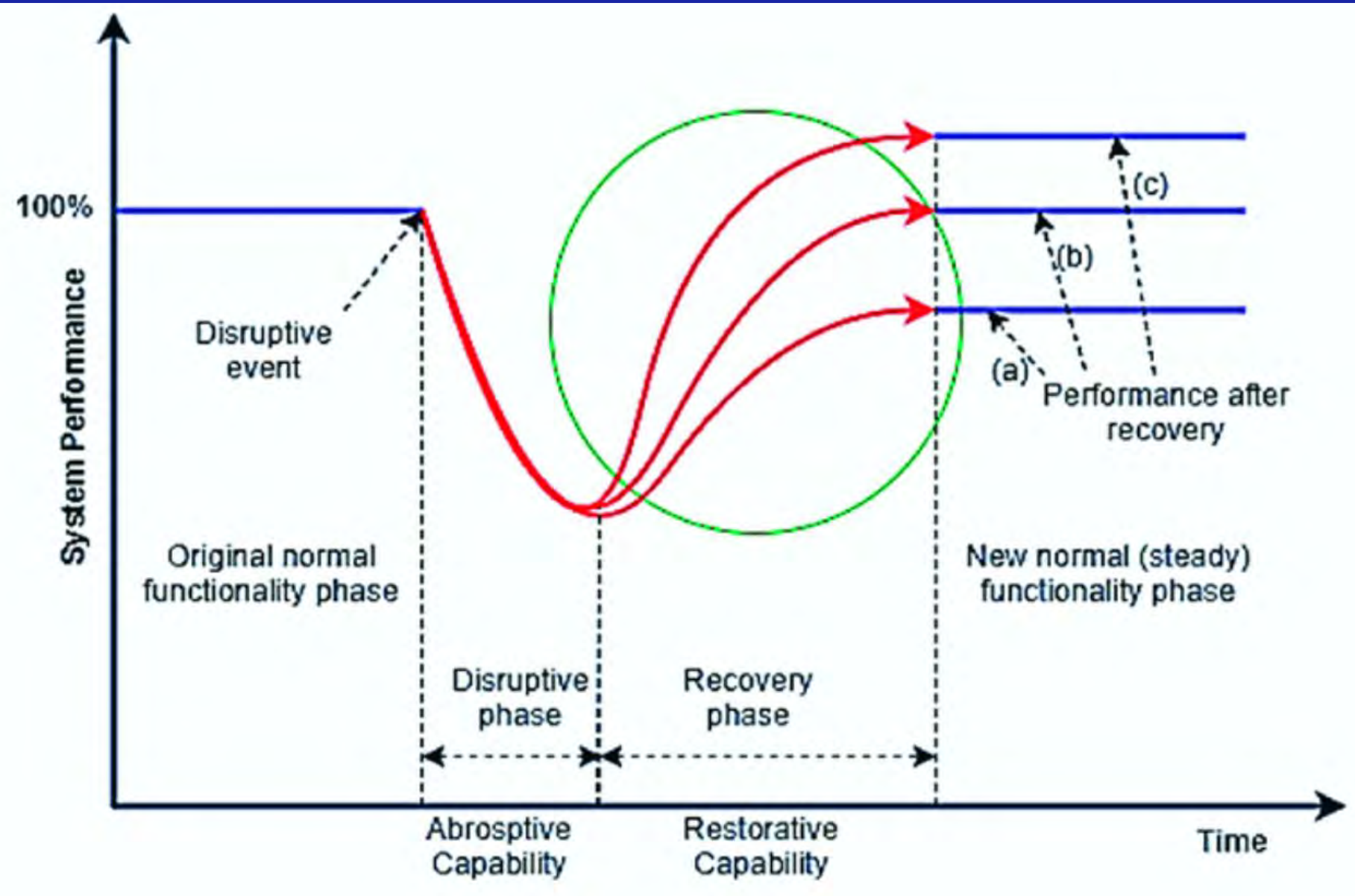
electric
outages **>60x more frequent**

RESILIENCE





**Resilience is the ability to prepare
for and adapt to changing
conditions and withstand and
recover rapidly from disruptions.**











EDMONTON AIRPORT, ALBERTA

SEVERE COLD SNAP

-40.7°C

JANUARY 11

-45.9°C

JANUARY 12

-45.3°C

JANUARY 13

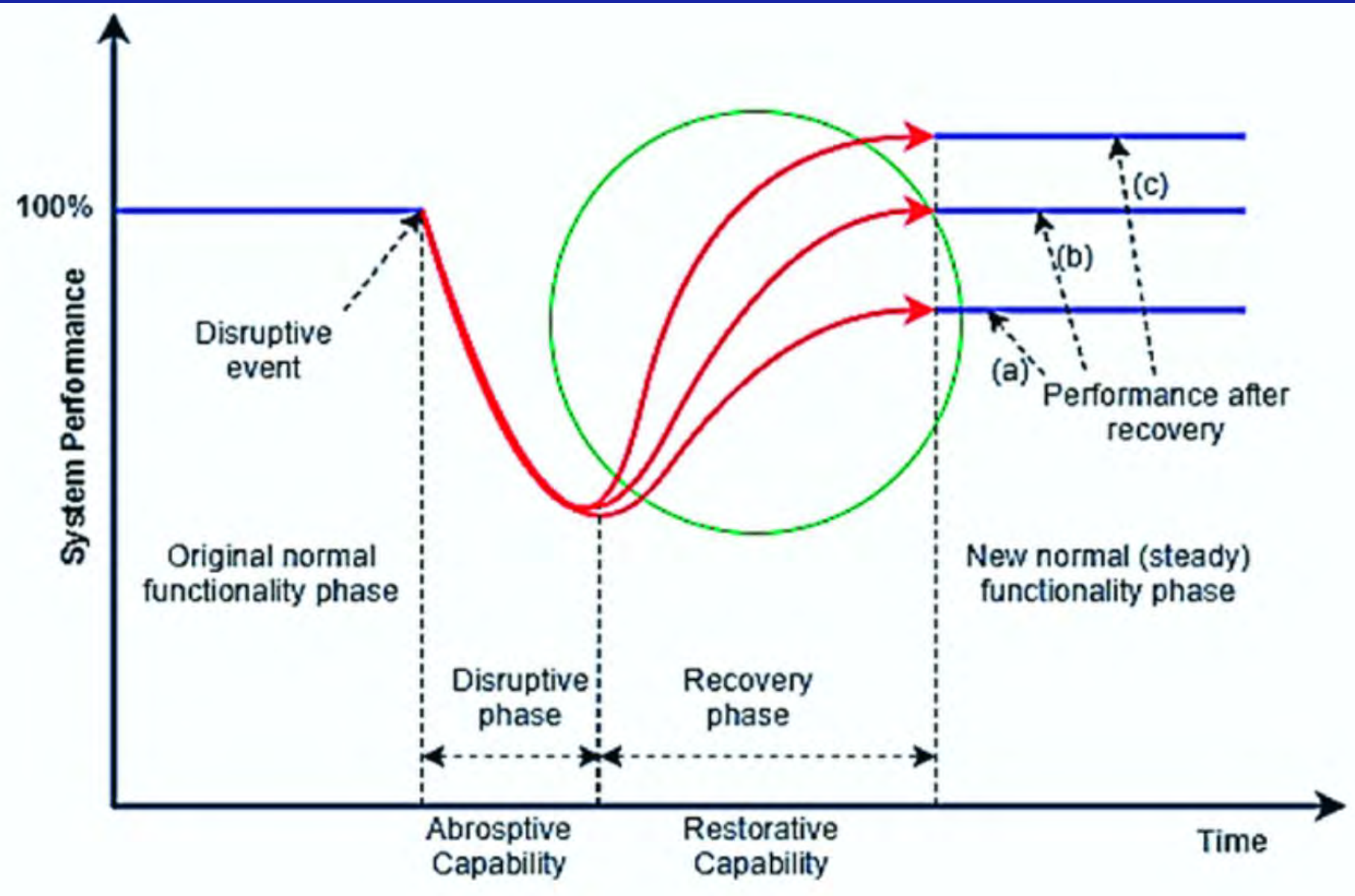
-45.1°C

JANUARY 14

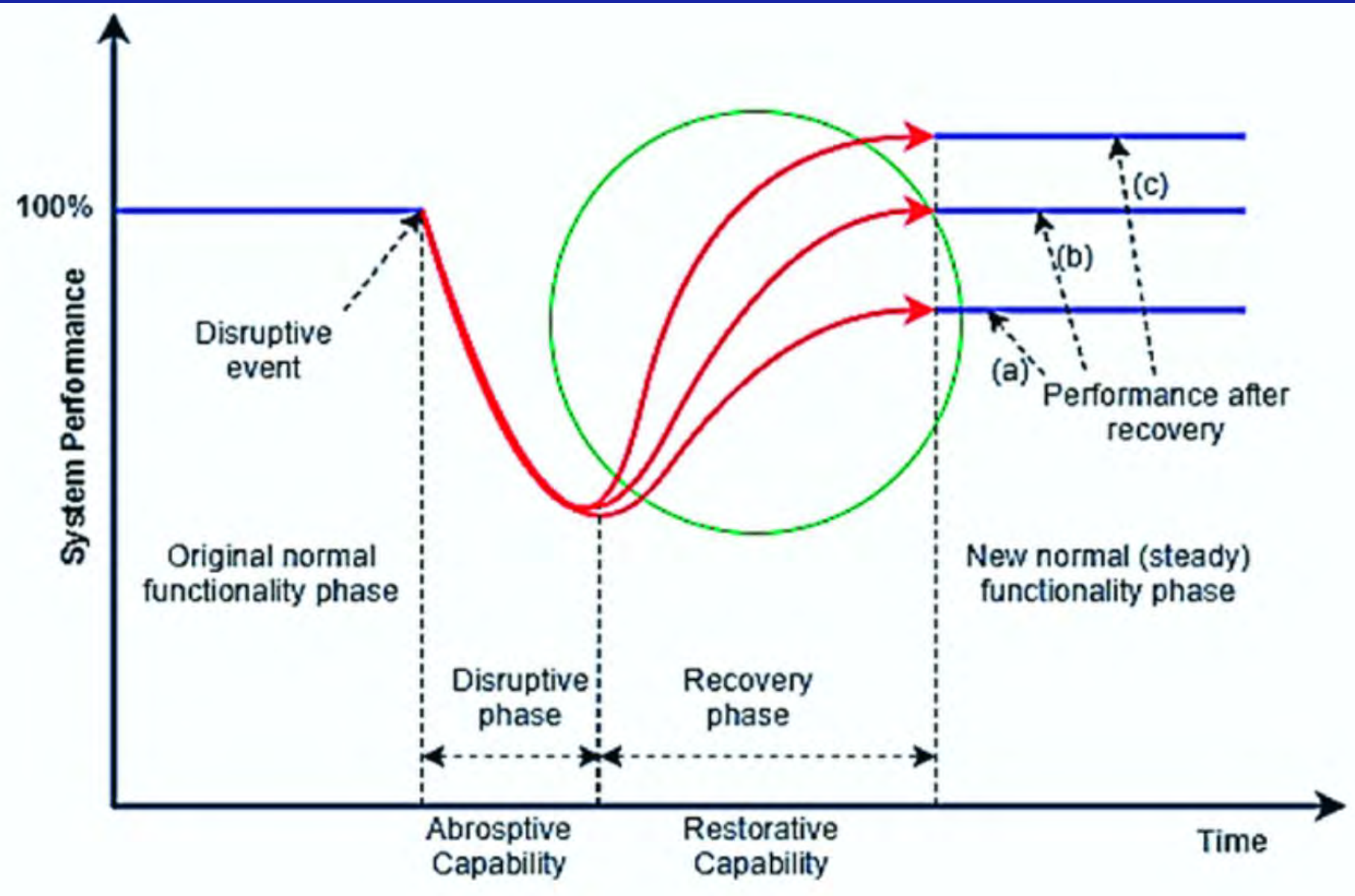
“What gets measured, gets managed.

-Peter Drucker









RESILIENCY



NEWS

You can turn your heat back up after midnight, Consumers Energy says

Updated: Jan. 31, 2019, 6:15 p.m. | Published: Jan. 31, 2019, 4:44 p.m.



Supermarkets lost £22m in sales as people stayed home out of the cold, property insurers were forced to pay out £361m, mainly to homes and businesses with burst pipes, and councils had to spend millions on emergency gritters.

UK running out of gas, warns National Grid

Perfect storm of freezing weather and supply problems prompts call for more fuel immediately



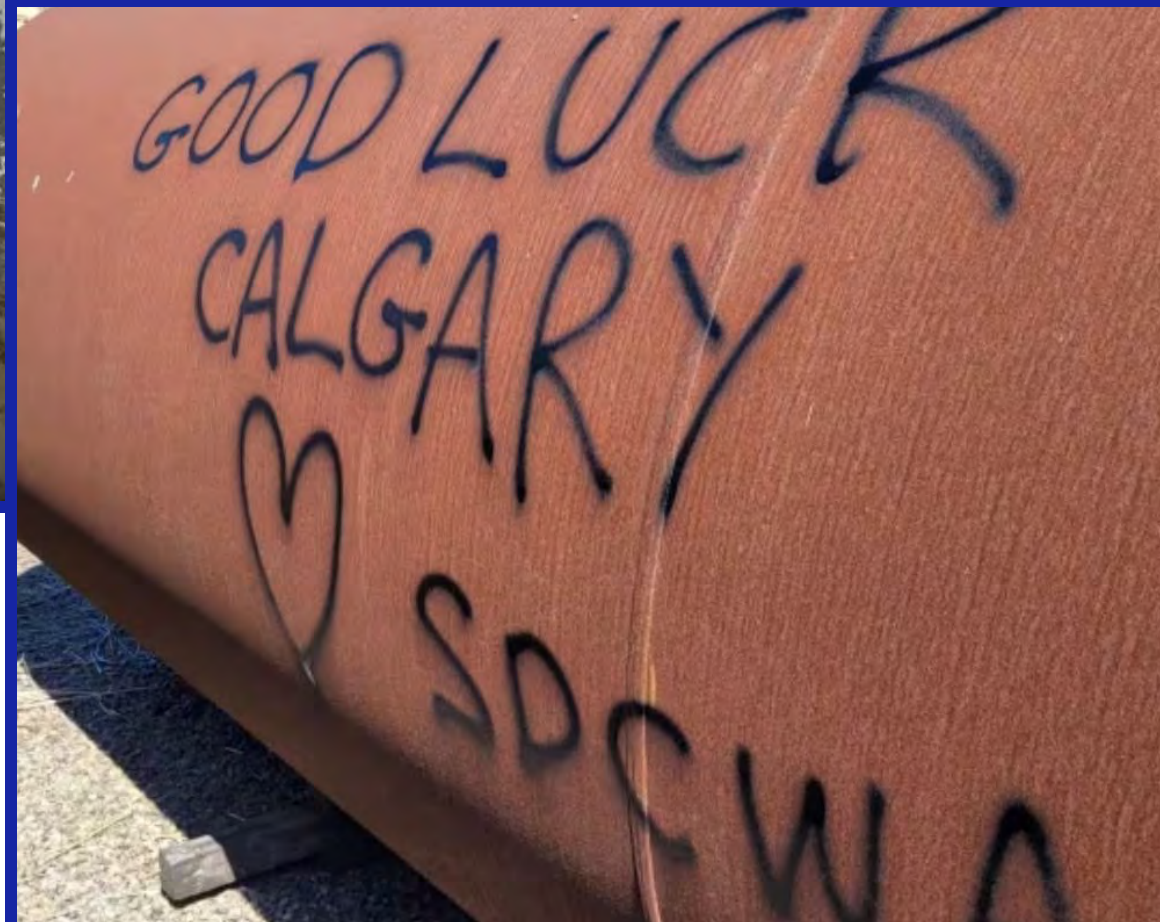


[News](#) / [Local News](#)

Calgary businesses want more clarity as they brace for another four weeks of water restrictions

Scott Strasser

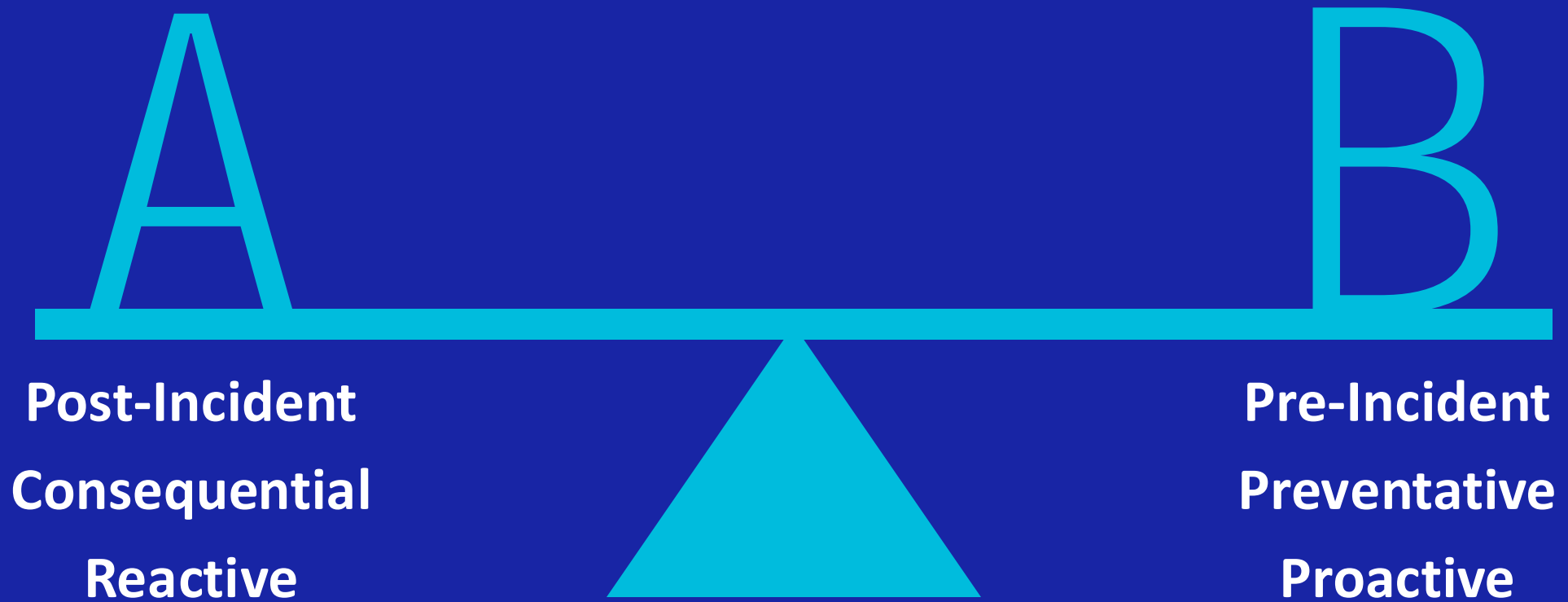
Published Aug 20, 2024 • 4 minute read



[Business](#) / [Local Business](#) / [News](#)

Council urged to extend grant program for businesses slammed by water restrictions

Compare/Contrast





Value of lost gas service

Measuring the value can take shape in different ways across customer sets

GasTown



Industry



Power Plant



Winter Storm Uri



20^{GW}
outage

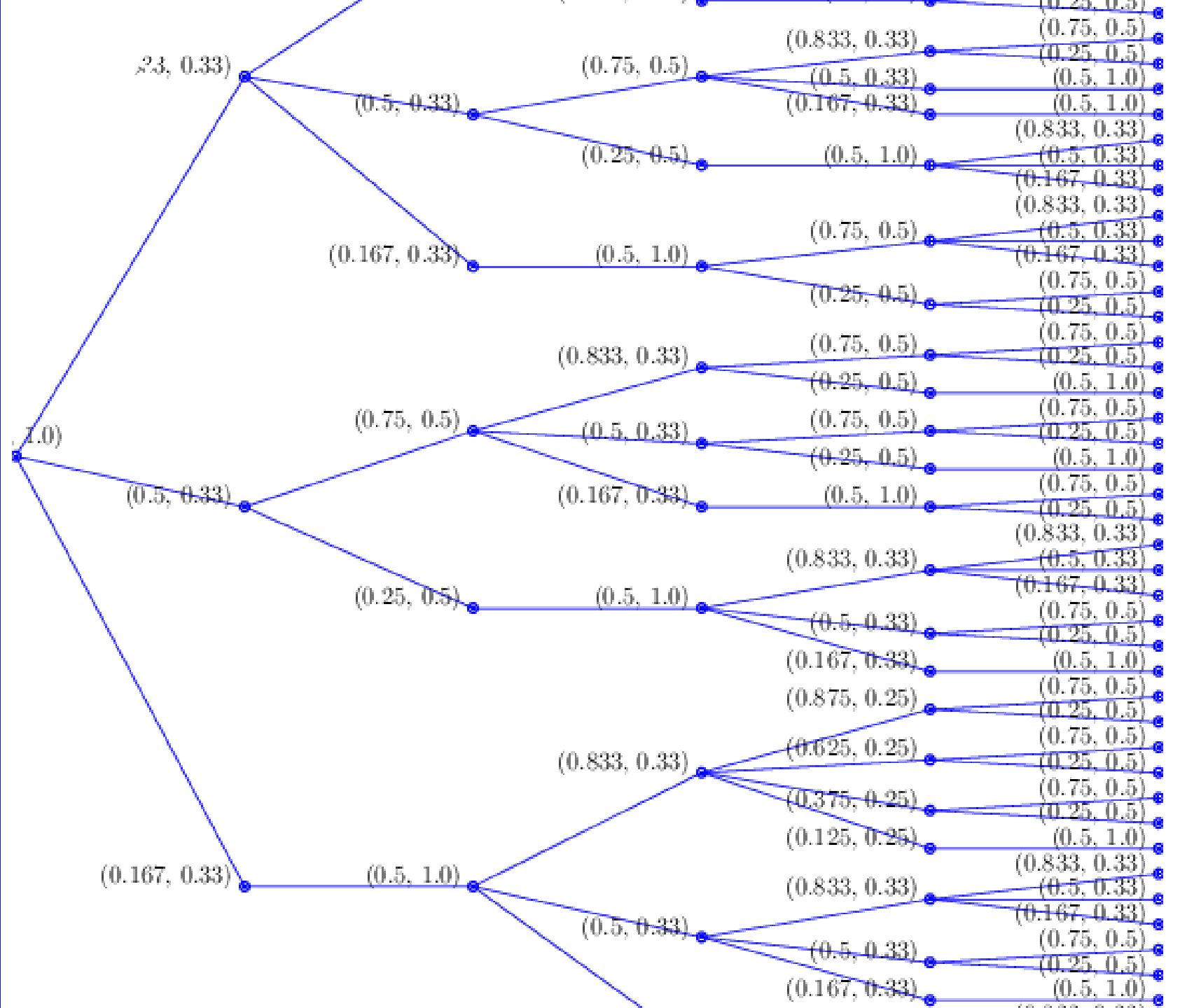
deaths

200⁺

\$80^B
in losses

“Extreme weather events, such as the one in February 2021, are unfortunately becoming more commonplace and the electricity ecosystem needs to come together to plan for and prepare to operate under more extreme, longer duration, and wide area weather events,” NERC President and Chief Executive Officer Jim Robb said. “The FERC-NERC-Regional Entity Staff Report also highlights the need for substantially better coordination between the natural gas system and the electric system to ensure a reliable supply that nearly 400 million people across North America depend upon to support their way of life.”

So Many Scenarios!



European Resiliency Standard

Infrastructure Standard

Capacity to satisfy demand for 1:20 yr peak demand day, coinciding with a disruption of the single largest gas infrastructure

Gas Supply Standard

Ensure sufficient gas supplies considering these scenarios:

1:20 yr **30** days
extreme demand

1:20 yr **7** days
extreme temp

avg
winter **30** days
disruption of single
largest infrastructure

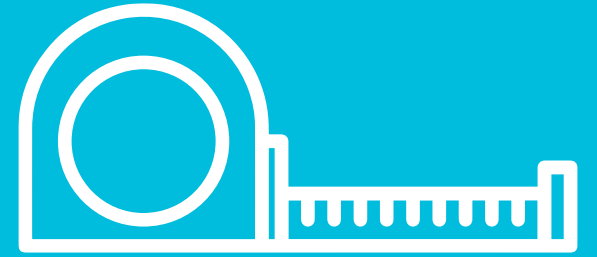
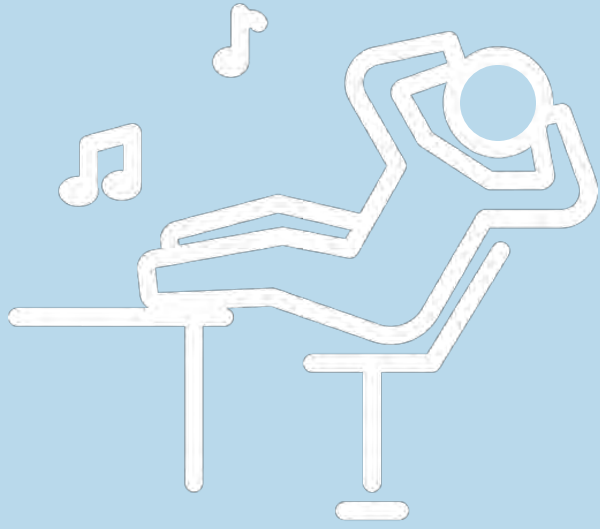


Back to Gastown . . .



A wide-angle photograph of the Toronto skyline, featuring the CN Tower and various skyscrapers under a blue sky with scattered white clouds. The image has a blue color overlay.

CALL TO ACTION



Thank you