National Grid Gas Transmission:
RIIO2 Business Plan

Network Capability & Incentives

27 August 2019

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Who we are…

Jenny Phillips

Gas System Operator
RIIO2 Manager

Elliot Dunn

Network Capability
Stakeholder Manager

Steven Fisher

Commercial Operations
Manager

Jenny Pemberton

RIIO 2 Stakeholder
Engagement Manager

Logistics

- Should last for approximately an hour
- Polling via Webex
- Your questions are welcomed throughout via chat function
- All callers will be placed on mute

Quick Poll – Getting to know you

1. **Please tell us your name**

2. Which of the following best describes you / your organisation?

3. On a scale of A to E, where A is know nothing and E is know a great deal, how much would you say you know about National Grid Gas Transmission's operational activities?

A. Know nothing

B.

C.

D.

E. Know a great deal

Quick Poll – Impact and Interest

On a scale of A to E, where A is not impacted at all and E is impacted a great deal, how impacted are you or those you represent) by Network Capability?

A. Not impacted at all
B.
C.
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E. Impacted a great deal

On a scale of A to E, where A is not interested at all and E is interested a great deal, how interested are you (or those you represent) by Network Capability?

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1

Welcome from Elliot Dunn

Stakeholder Manager – Network Capability

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We are facing an uncertain energy future

- The energy system faces uncertainty – supply and demand is changing
- Understanding the ability of the network to meet needs is essential to our business plan
- We need to ensure the network is sized correctly to meet these needs
- There are some questions we simply can’t answer yet
- We need to drive down the cost to consumer, without limiting our options for the future
- We’ll continue to review this, and engage with you through our next price control
- Network capability links to our incentives
- Making sure we’re incentivised to add value to consumers in also important

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Network Capability

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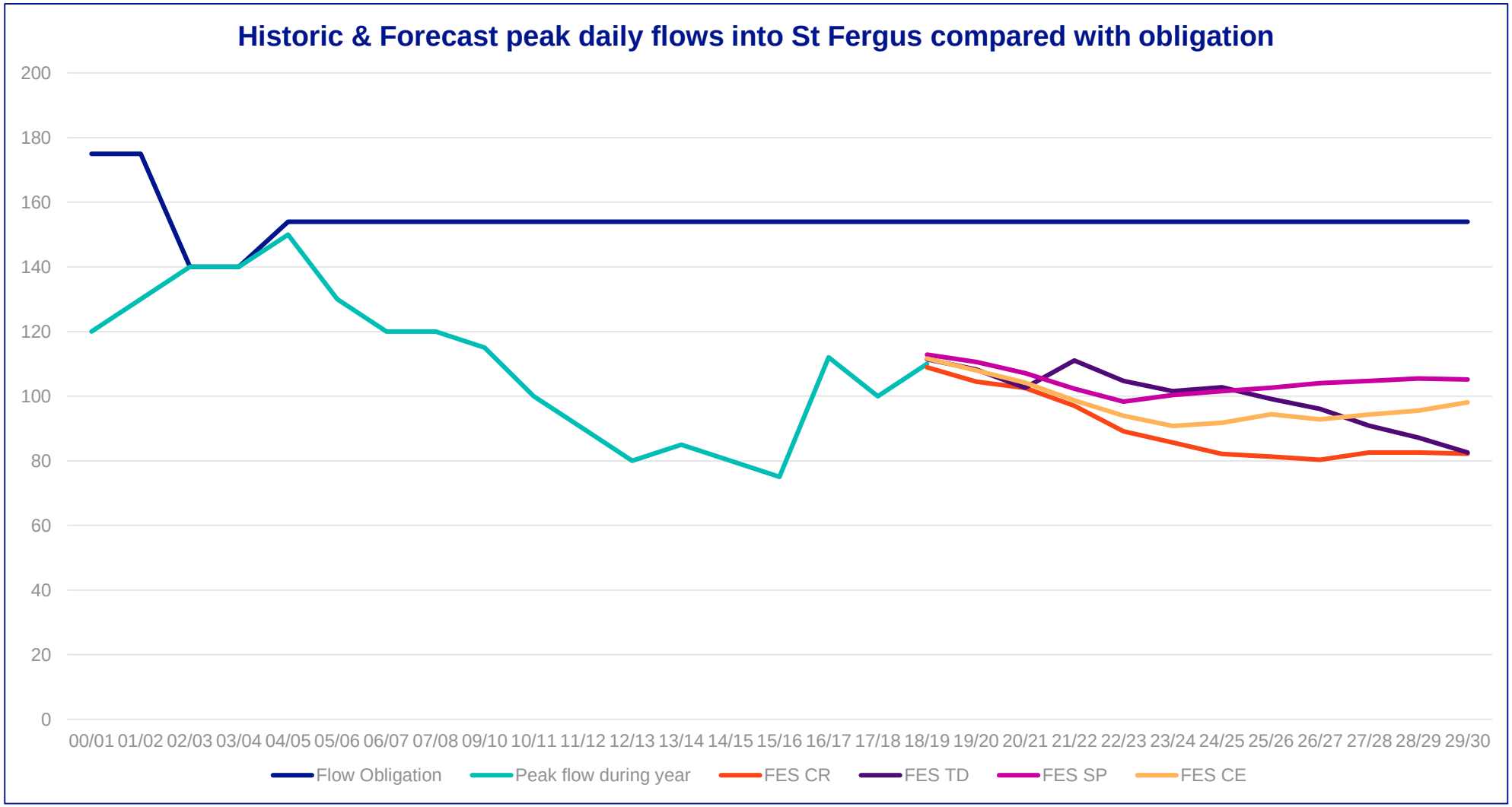
What is Network Capability and why does it matter?

- Understanding the ability of our network to meet the needs of customers and consumers is essential to our business plan.
- It will inform how much we spend on running and maintaining the network, the level of risk that we're prepared to take in operating the network and give an indication on the financial and operational impacts on customers of the networks.

Why have Ofgem given us this challenge?



Capability is about more than peak flow…

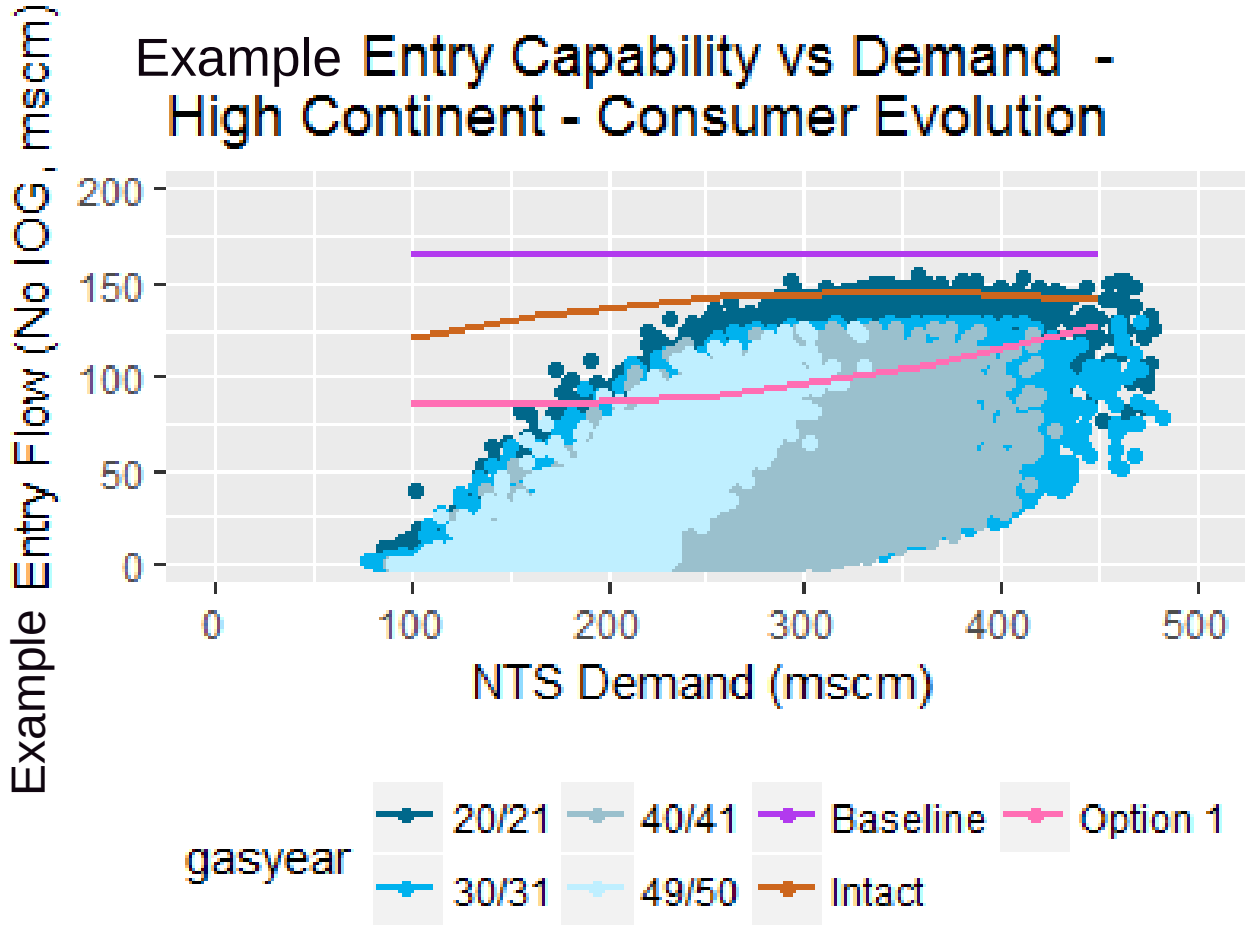
Time of year	Entry flow	Exit flow	Transfer out
Winter peak	154mcmd	60mcmd	94mcmd
Actual summer flows (2012)	20mcmd	20mcmd	0mcmd
Actual summer flows (2016)	105mcmd	20mcmd	85mcmd

The capability provided by the network can be required all year round

Network Capability: The July draft business plan

Element of network capability	The July BP takes account of or measures:
Entry and Exit Flows	✓
Pressure levels and ranges	✓
Exceptional Winter obligations	✓
Long term supply and demand changes	✓
Flow profiling	✓
Asset data	✓
Capacity Baselines	✓
Commercial arrangements	✓
Boundary Transfers	✓
Environmental obligations	✓

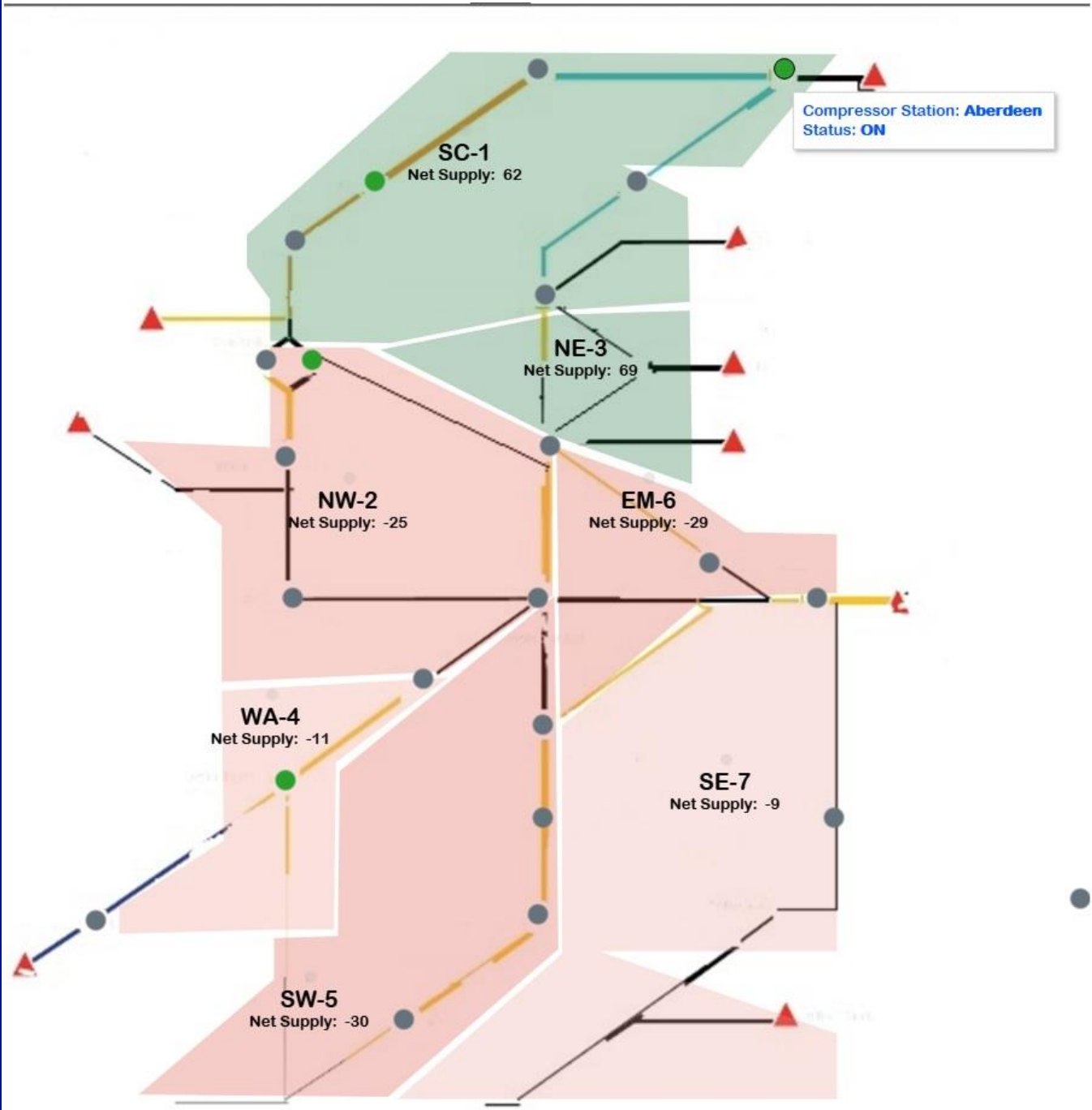
What do the metrics look like, and how do you read them?



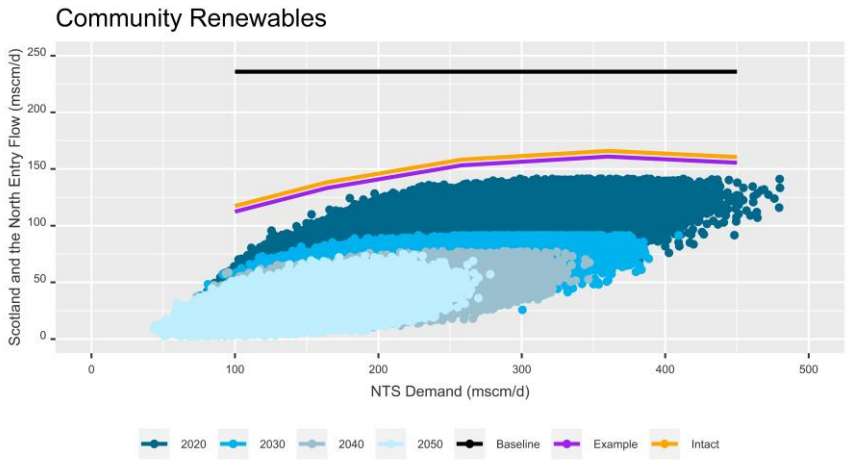
We’ve split the NTS into zones

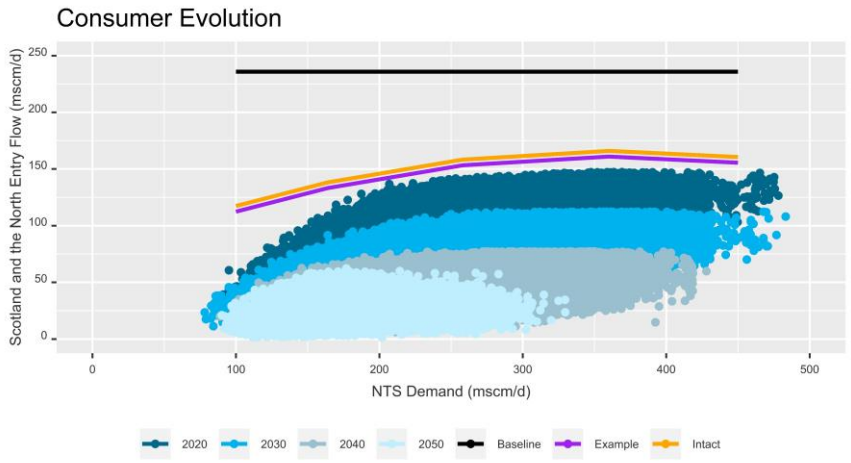
Zone 1 Scotland/North
Zone 2 North West
Zone 3 North East
Zone 4 South Wales
Zone 5 South West
Zone 6 East Midlands
Zone 7 South East

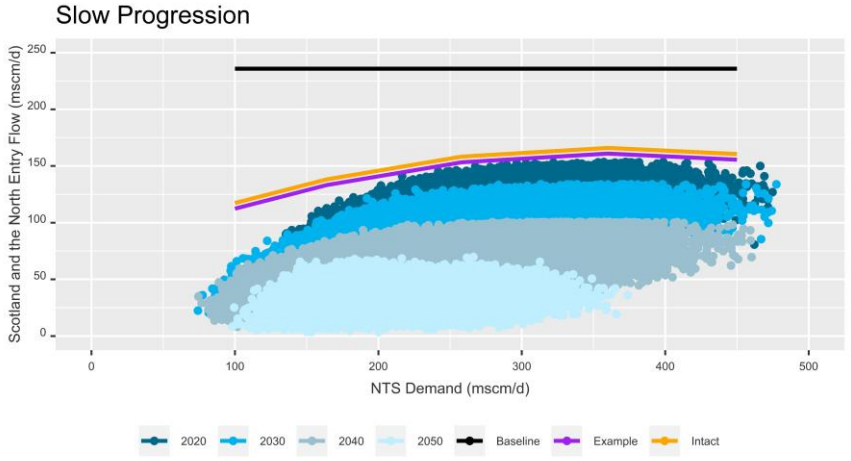
There are different characteristics of different zones; supply driven, demand driven, transfer driven, combinations of all.

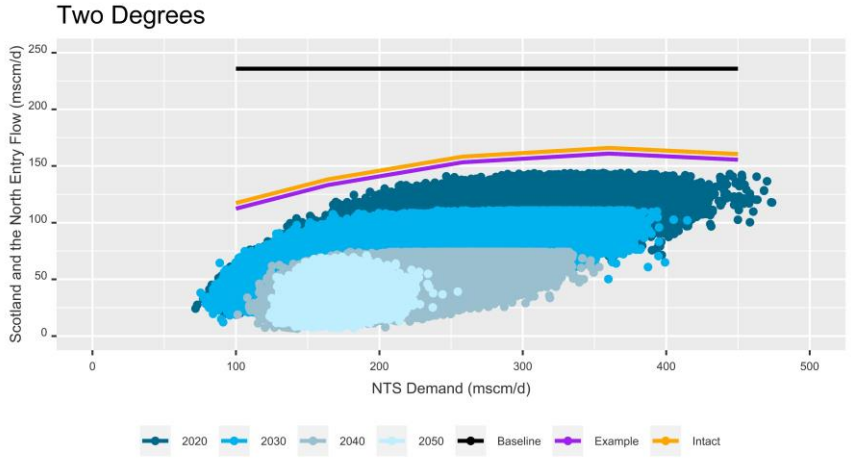


Scotland and the North Entry Capability Plots









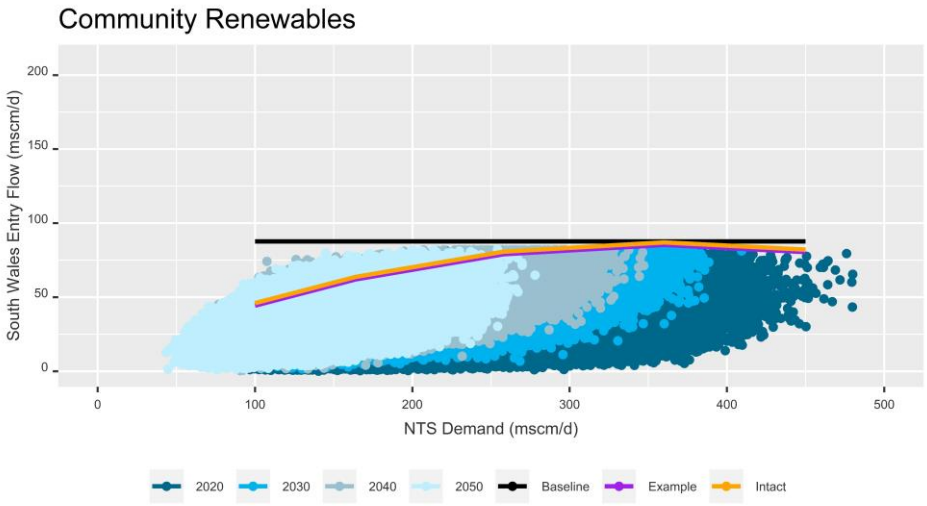
Stakeholder need

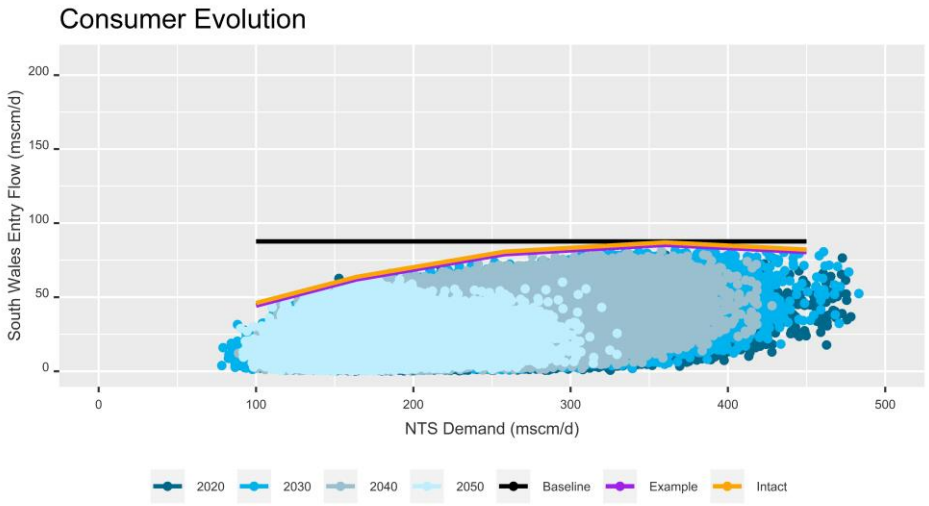
Reducing flows going forward

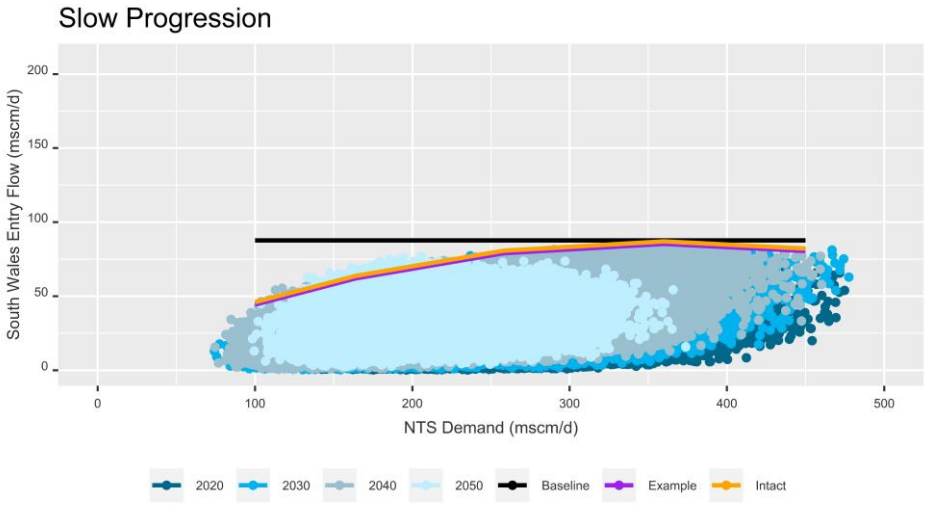
Impact on BP

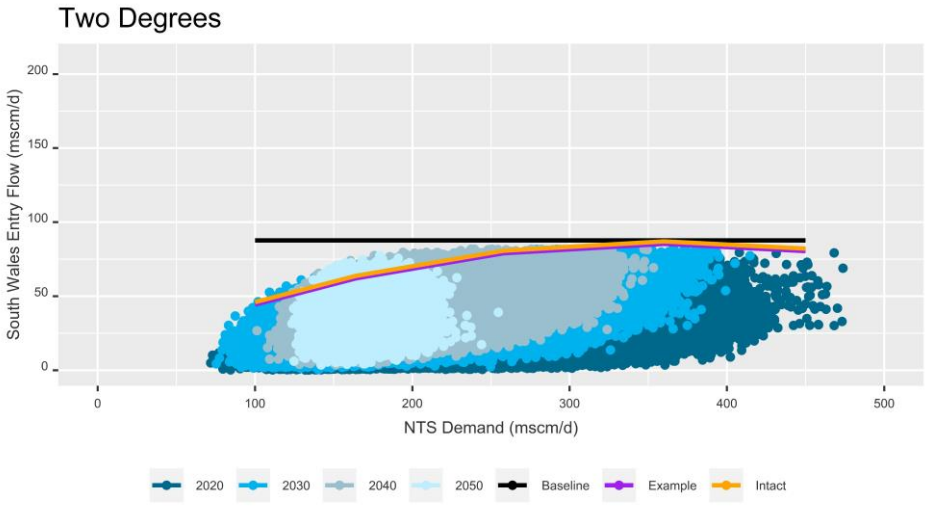
No case to replace compressors – need to carefully consider timing of decommissioning/ derogation in order to facilitate maintenance on enduring units

South Wales Entry Capability Plots









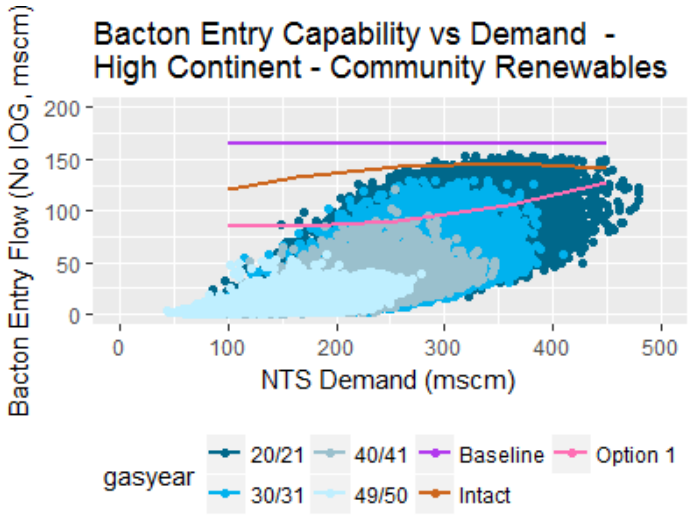
Stakeholder need

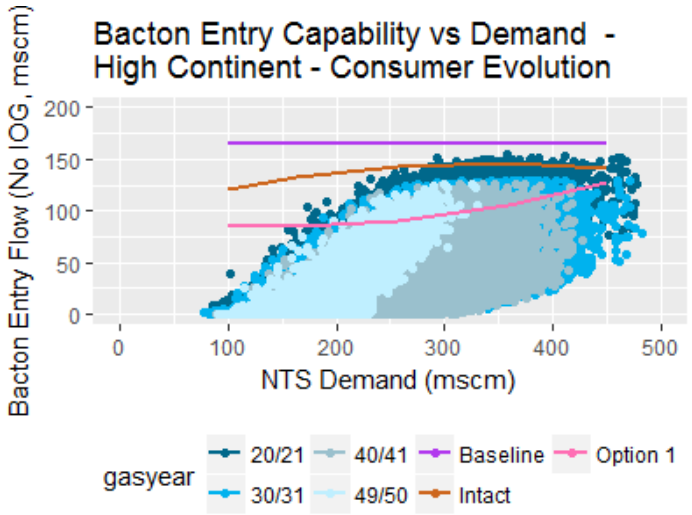
Potentially high flows at all times of year

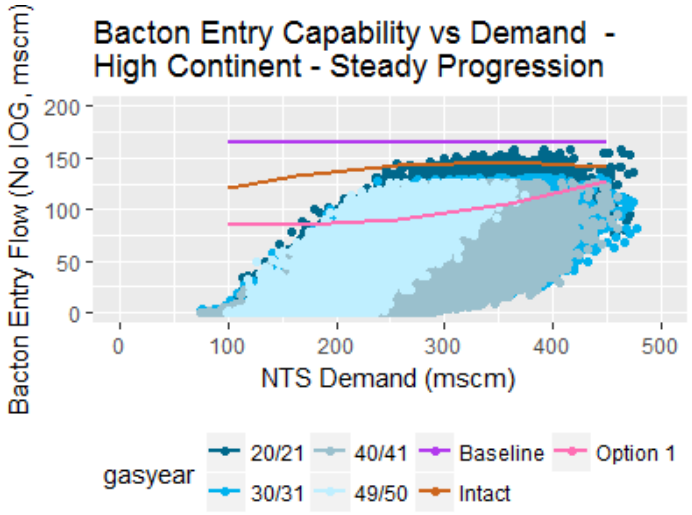
Impact on business plan

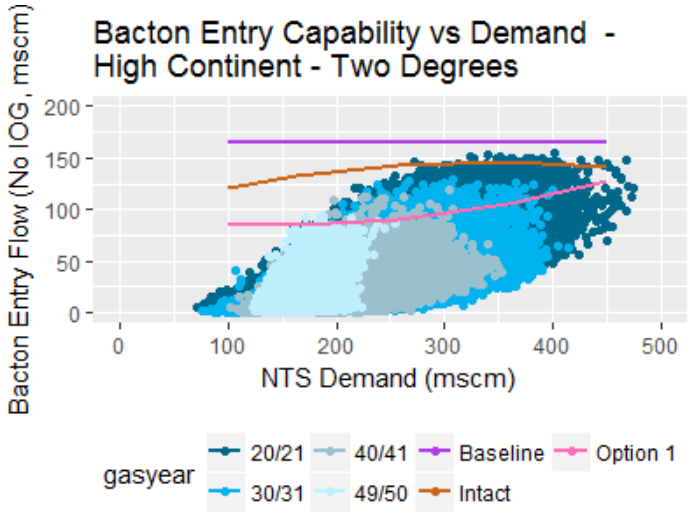
Consistently high flows support investment in replacement compressors

Metrics – Bacton entry (within South East)









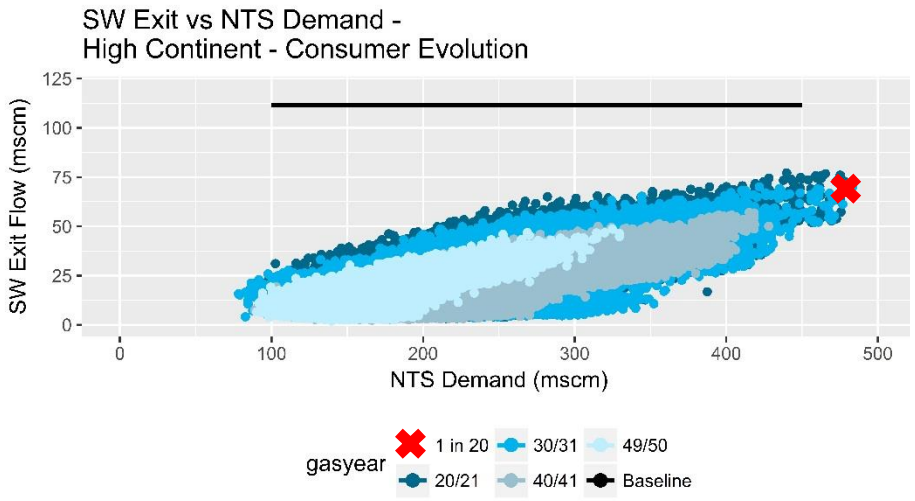
Stakeholder need

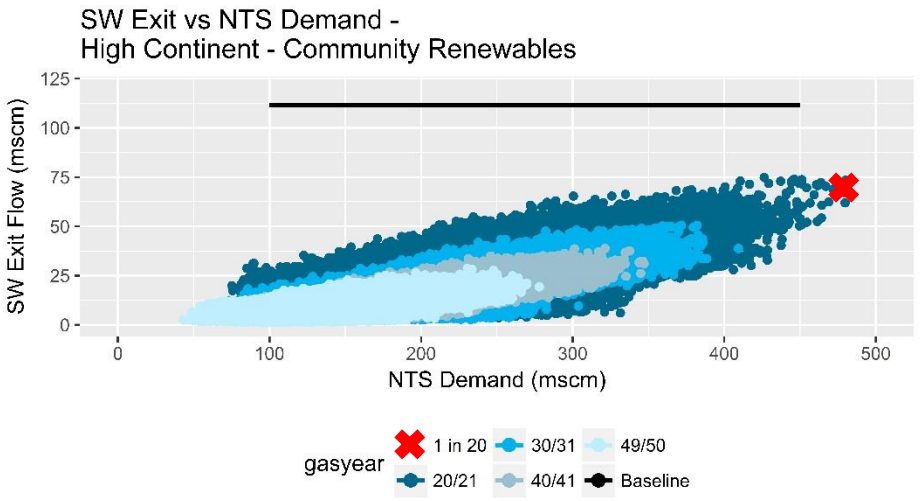
Level of flow reduction varies

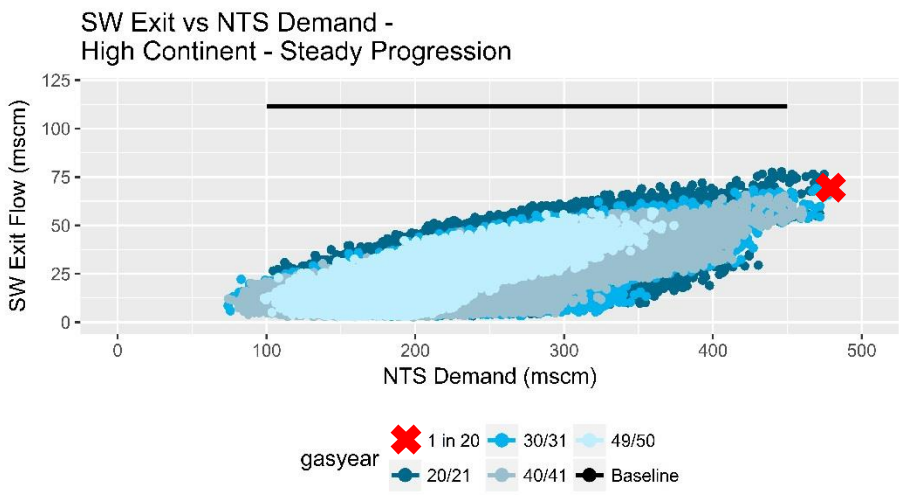
Impact on business plan

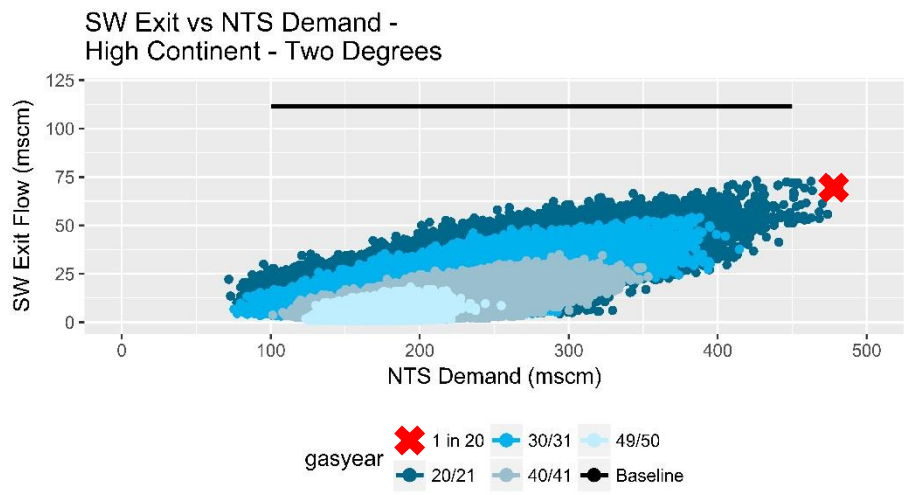
Outcome of process is no replacement compressors; keep units open on limited running hours

South West Exit Capability









1-in-20 capability level shown as a single dot

Stakeholder need

Range of peak demand levels going forward – we have to consider worst case

Impact on business plan

Retain capability to deliver the same level by derogating units

Summary

These are new metrics, intended to describe how the physical capability of the gas transmission network meets stakeholder needs.

We'd love to hear your feedback. Here are some of the topics you might like to consider.

- **Whether these metrics give you useful information on the current and future capability of the gas transmission network**
- **What level of risk customers and consumers are exposed to, now and in the future**
- **Would you want other information to help you decide if you support our business plan**

Quick poll

Have we given you enough information to take an informed view?

Yes | **Somewhat** | **No**

What more information would you like to see?

Are these metrics useful?

Yes | **Somewhat** | **No**

Please explain your answer

Quick poll

Does this way of articulating the capability of the network work for you?

Yes | **Somewhat** | **No**

Please explain your answer

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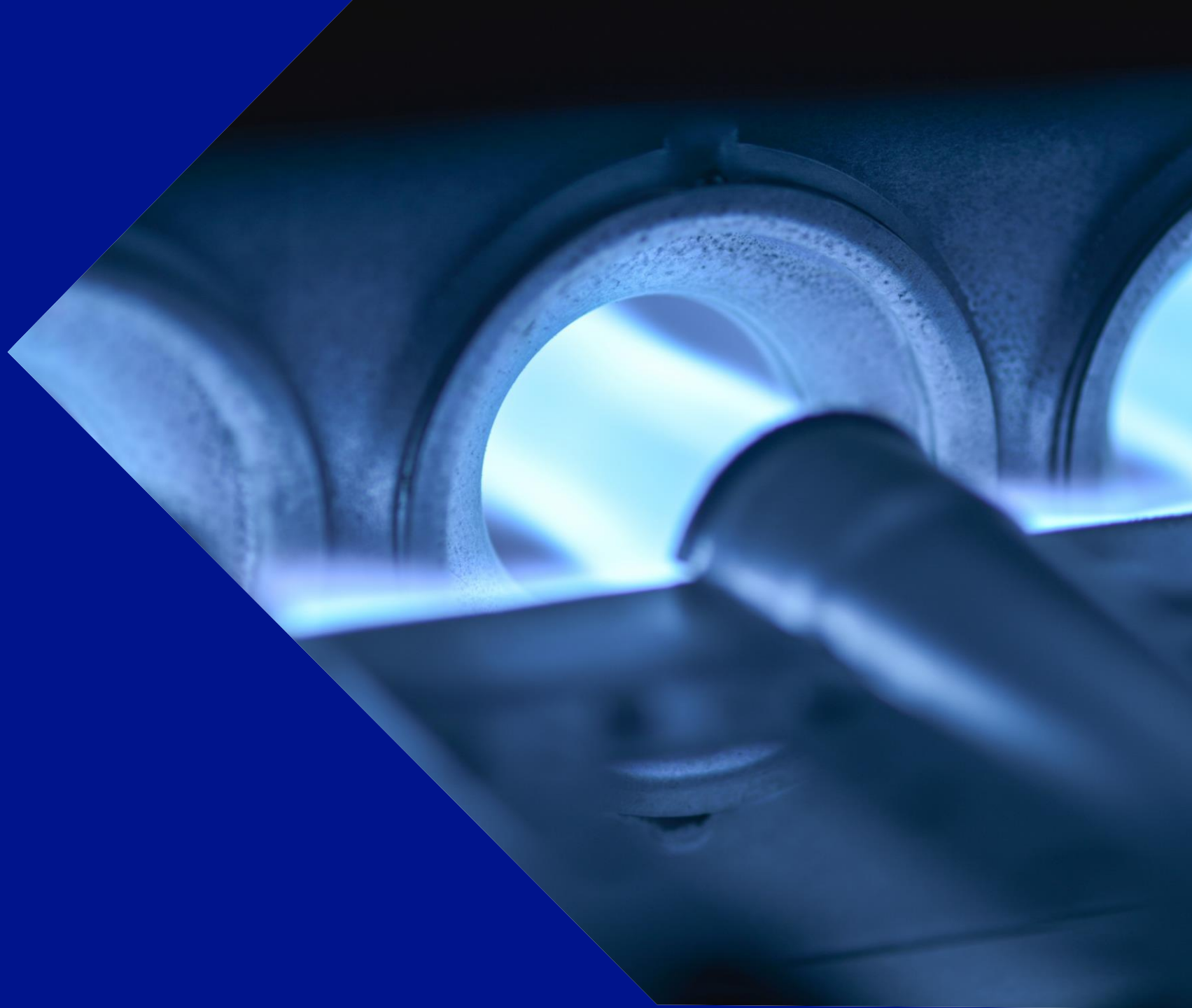
Incentives



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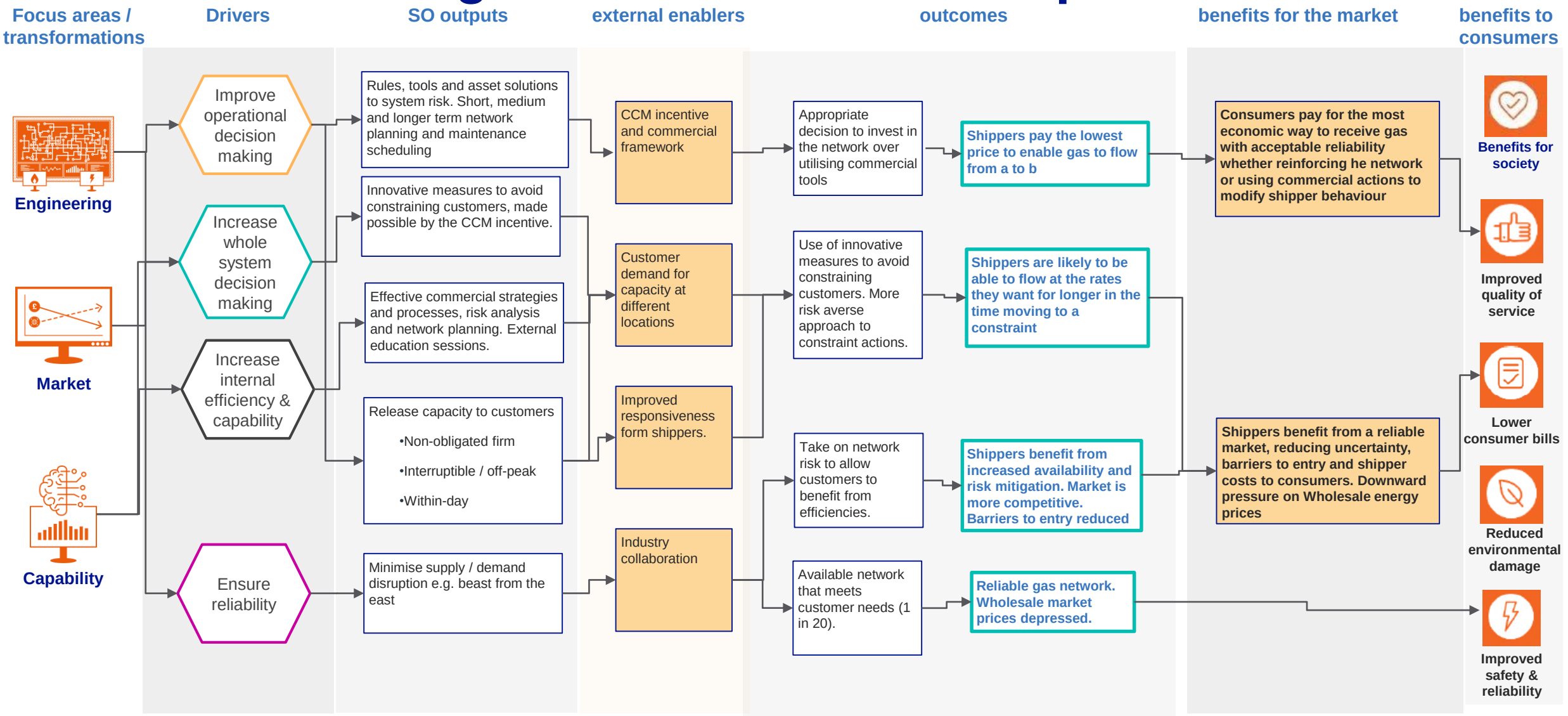
Summary of framework assessment – Existing incentives

Incentive	Purpose
Constraint management	Minimise the cost of actions to prevent constraints. Maximise capacity availability.
Shrinkage	Minimise the energy cost of operating the network.
Demand forecast	Provide accurate day ahead and D2 to D5 demand forecasts
Residual balancing	Minimise the energy cost of operating the network.
Maintenance	Minimise use of maintenance days and changes to scheduled maintenance.
Greenhouse gas venting	Minimise Greenhouse Gas emissions

Constraint management Incentive Example



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Summary – consumer value

Scheme	Consumer Value
Constraint Management	• In the absence of an incentive, we estimate that an increase in commercial actions to avoid forecast constraints could have cost consumers in the order of an additional £40m in RIIO-1 in the absence of an incentive, and up to £111m in RIIO-2 as the increasingly challenging gas system environment could result in more frequent constraint management.
Shrinkage	• NG actively manages price risk to consumers by buying the energy needed to replace shrinkage using forward contracts. Over RIIO-1, shrinkage gas procurement cost £6.8 million less than the energy procurement target. This was a result of NG's active trading strategy and generated £3.7 million savings for consumers. • We have returned ~£38m to date through the incentive. This has been achieved through avoiding TRIADs (~£21m), energy procurement (~£7m) and efficiency measures (~£10m)
Demand Forecasting	• FTI (independent company) analysis suggests that when demand is higher than anticipated by NG at day ahead stage, it costs consumers £798k per day on average. The analysis suggests that D-1 demand forecasting improvements saved consumers in the region of £44m in RIIO-1 to date at a cost of around £6m through the incentive. This increases to £62m in RIIO2.
Residual Balancing	• The incentive means that we take a cost and risk based approach to avoid entering the market ~250 days per year. • On the days where National Grid buy in the market, 61% have a single buy action and on the days where we sell in the market, 70% of days are single sell showing the effectiveness of the PPM part of the Residual Balancing incentive limiting the spread of trading. • Looking forward to RIIO2 we expect a more challenging environment • By minimising residual balancing actions we benefit the consumer by not unduly moving market prices • Reduce the caps and collars for both the PPM and LPM elements of the incentive by 20%. Based on T1 performance this would reduce the consumer bill by ~£250k per annum.
Maintenance	• Maintenance volume likely to increase circa 2-3 fold in T2. • Incentive generates circa £15m p.a. of consumer value. Consumer value likely to increase as more maintenance is and aligned. • Stakeholders continue to be supportive of the incentive scheme and recognise good work to date • Every day we align maintenance with a customer it conservatively saves between £100k and £300k of plant downtime
Greenhouse gas venting	• Reduction in compression and associated asset management costs and process efficiencies leading to cost reduction. • Wider societal benefit of emission reduction and supports progress to net zero 2050 carbon targets

Quick Poll – Impact and Interest

On a scale of A to E, where A is not impacted at all and E is impacted a great deal, how impacted are you (or those you represent) by Incentives?

A. Not impacted at all
B.
C.
D.
E. Impacted a great deal

On a scale of A to E, where A is not interested at all and E is interested a great deal, how interested are you (or those you represent) by Incentives?

A. Not interested at all
B.
C.
D.
E. Interested a great deal

Quick poll

Do you agree or disagree with this statement:
“Incentives have driven positive outcomes for customers and consumers during the RIIO1 period”

Agree | **Don’t know** | **Disagree**

Please explain your answer

We are talking to you about how consumer value is delivered by the incentives. Is our current articulation of consumer value working for you?

Yes | **Somewhat** | **No**

Please explain your answer

Quick Poll

We are proposing a future webinar, supported by bilateral meetings to focus on Incentives.

Which of the following topics would you like us to include in a future webinar?

- ❑ Overview of T1 performance
- ❑ How we have selected our T2 incentives
- ❑ Incentives and going beyond BAU
- ❑ T2 Incentive Proposals in principle
- ❑ Consumer Value Framework and why that's important
- ❑ How we should engage with you
- ❑ Next steps
- ❑ Other…please specify

Next steps

- **We will continue to engage throughout September**
- **All feedback will be independently reviewed and summarised before being fed into our business plan.**
- **We'll share updates with you on how your feedback has been reflected in our business plan**
- **There is an ongoing need for this engagement**
- **We will continually review the capability of the network and our incentive performance and will engage with you on key topics**

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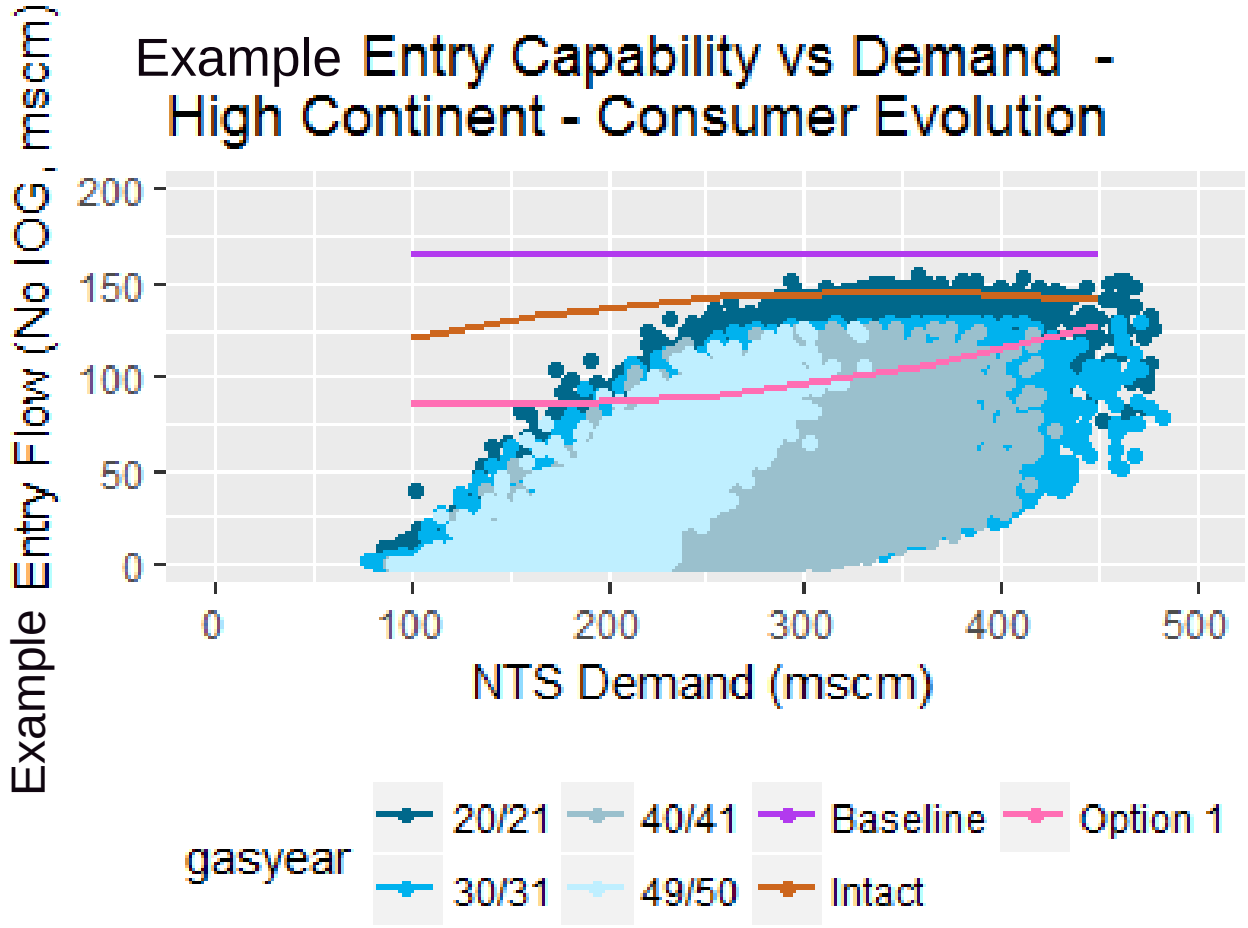
Thank You

What do the metrics look like, and how do you read them?



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