# National Grid

US Business Teach In

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## National Grid

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## Questions From

**Various Unidentified Analysts**

**Bartek Kubicki, Societe Generale**

**Jon Nash, RBC**

**Deepa Venkateswaran, Bernstein**

**Jenny Ping, Citi**

**Tom, Royal London**

**Peter Hyde, ATLAS**

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**John Bolitho, Ofgem**

**James Brand, Deutsche Bank**

**Mark Freshney, Credit Suisse**

**Chris Laybutt, JP Morgan**

**Martin Brough, Macquarie**

*Introduction*

**Aarti Singhal, Director of Investor Relations**
Good morning and welcome to our Investor Teach In on our US regulated business. It's my pleasure to welcome you here.

We always start with safety. So there are no planned fire alarm tests this morning, if you hear an alarm, then you do need to leave the building.

And as usual there is a cautionary statement in your packs, do take note of that. And the agenda is full this morning; the plan is that we'll have presentations by JP and Dean here first.

And then you should have a coloured dot on your badge, yellows are going to stay in this room, because after Dean's presentation we're going to split into three groups. The yellows will stay here in this room, the green dots, they'll go to forum 1 and blue to forum 2. But don't worry at the end of this my team and I are going to be here and we'll direct you on where you need to go.

After the breakouts there is going to be short 15 minutes break. After the break we'll come back into this room for the customer, regulation and finance presentations and a Q&A with JP and Dean.

So I hope you're going to enjoy this morning and with that I'm going to hand you over to our CEO John Pettigrew. Thank you.

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*Introduction and Key Highlights*

**John Pettigrew, Chief Executive Officer**
Thank you, Aarti, and good morning everyone. I'm delighted to see so many of you here today.

As you've just heard we've got a very full agenda today. We will be sharing with you some of the significant progress we've made in the US business in the last few years and the many opportunities that we see ahead.

Our key objective today is to give you an insight into how we're delivering operational excellence across our US business, in order to deliver a safer more reliable service for our customers and a stronger set of results for our shareholders.

I should point out that our focus this morning is our US regulated business, but of course I'll be happy to take any questions on the broader Group during the Q&A.

So I'd like to start with a reminder of the strong foundation we have in the US, where we have been operating now for nearly two decades. The US business now represents 44% of our total asset portfolio and we enjoy a stable and certain regulatory environment across our jurisdictions.

Since 2010 our US rate base has grown by 53% and by the end of this financial year, with the investments that we're making we'll have a rate base of almost $25bn, which is before you include the construction work in progress of over $2bn.

As we look to the future we continue to see significant opportunities to create value over the longer term, with an expected rate base growth of over 8% per annum.

This will translate to a rate base of over $35bn by the mid 2020s.

So turning to the environment that we're operating within, where we see two major trends driving investment.  First and most significantly asset health investments as networks across the US are aging.  It's for this reason that around 80% of total capex over the medium term is towards improving safety, reliability and resilience of our networks.

Asset health has always been a priority for us and it is even more critical now to have modern networks that can run efficiently with the changing energy mix.

The second investment driver is the transition to renewables driving decarbonisation.  Modern networks are the foundation to a cleaner energy future.  Over the next ten years we expect to see significant growth in renewables in the US.  We have connected 2.7 gigawatts of renewables to our networks and expect to connect a further 1.5 gigawatts across our footprint by the end of 2020.

Alongside investments to decarbonise generation we're increasingly engaging with our customers, offering them new products and services that will help them to lower their bills and support decarbonisation.

For example we're working with our regulators to increase the take up of advanced metering and electric vehicles, which could require nearly $1bn of investment.

As I've consistently said, putting the customer first is our overarching driver for long term success.  By the end of this financial year, we will have invested $13bn over four years, to deliver safe, reliable and resilient networks for all our customers.

Delivering this level of capital requires a relentless focus on efficiency.  During this morning's presentations the teams will give you detail on where we're investing and the resulting customer benefits.  We'll also learn about the latest rate filings and the evolution of our regulatory strategy to recover the investments and earn a fair return.

Overall I'm pleased that in recent years we've significantly improved our returns performance.  We have done this by not only updating our regulatory contracts, but also by delivering more efficiently.  And as you all know we're targeting at least 95% of the allowed ROE for this financial year.

Looking now at the specific actions we're taking in our day to day operations to deliver for our stakeholders.  Across our Group we're implementing initiatives in the following five areas.  Improving affordability for customers and enhancing their experience; efficiently delivering robust operational performance through maximising safety, reliability and resilience; innovating and adopting new technologies to deliver increasingly digital and smarter networks; taking actions to enable decarbonisation and finally investing in talent and evolving our operating model to meet the changing needs of our customers.

This morning you will hear Dean and the US Leadership Team cover these themes across their presentations.  So today is about enhancing your understanding of our US business, but it's also very much about giving you the opportunity to meet the team and share their enthusiasm for the future of this business.

So thank you for attention ladies and gentlemen, I'm now delighted to hand you over to Dean.

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***US Business Overview***

**Dean Seavers, Executive Director, US**
Thanks John, good morning everyone. It's been just about four years since I last reviewed the US business in its entirety with you all and I'm very proud of the strong progress that we've made on both the investment and performance objectives we set ourselves back then.

Before I go into the detail I'd like to start with our safety performance, which of course is fundamental for National Grid. We are committed to the wellbeing of our employees, contractors and the public and we have a responsibility to take safety seriously and look out for each other every day.

As you can see on this chart we've made considerable improvements on our safety performance with double digit reductions in injuries and incidents. But we know that we can never let up on our efforts.

Unfortunately one of our employees tragically lost his life earlier this year and as you would expect we are carrying out a comprehensive review and implementing a number of changes in response. This tragic accident underscores how important it is for us to always focus on making sure that our employees, our contractors and the public are safe.

In the US we have implemented an employee engagement programme to reinforce positive safety behaviours. This includes guidance on effective coaching and the critical safety behaviours required at every organisational level. Our goal is to achieve what we call a generative safety culture, one where leaders and employees are proactively engaged and focused positive safety behaviours.

Let me now turn to our broader operational and financial performance.

As John has just outlined and as many of you are aware National Grid has significant operations in the US. We operate thousands of miles of gas pipe and electric lines and we pride ourselves on quietly working behind the scenes to keep the economies ticking by operating efficiently.

We are a major US utility, top ten by the number of customers we serve. We have solid foundations underpinned by strong prospects for further growth, making us one of the fastest growing utilities in the US.

We therefore have an important role to play in advancing the US energy sector to a cleaner energy future.

I'm proud of our operational performance over the last three years, in particular I'd highlight that we've consistently delivered electric transmission and distribution reliability of 99.9%. We have achieved 100% compliance on all regulatory gas leak response targets and we have replaced 400 miles of pipe every year.

At our last US Investor Seminar, which was in November 2015 we highlighted our growth potential and we made a number of commitments. And I am pleased to say that we have performed well against those commitments. We have achieved 9% compound annual growth in rate base. We have updated rates for eight distribution businesses and we have significantly improved our return performance, achieving over 95% of allowed ROE in FY'18 and 93% in fiscal year '19.

We are delivering strong growth in US GAAP income performance, which is underpinned by asset growth, improved returns performance and strong regulatory progress in recent years.

This morning you'll hear from Mike Calviou, our US Head of Regulation about the significant progress we've made to implement new rates since 2016.

He will also explain how we've made strong progress to evolve our regulatory strategy, to not only fund the core business with timely recovery of the significant levels of investment, but to also enable enhanced earning from new performance incentives and to support new clean energy infrastructure investments.

As John said our aim is to achieve ROEs as close to the allowed levels as possible, where we can, and then outperform through earned incentives. When we deliver upside benefits for our customers we also generate value and rewards for our shareholders.

As you know for this year we expect to achieve over 95% of the allowed ROE for the US business as a whole.

Now when we looked at our performance over the last three years I'd like now to discuss the opportunities that we see ahead. The states where we operate, New York, Massachusetts and Rhode Island are all enjoying economic growth and they are also highly attractive opportunities for future investment.

There is wide policy agreement across our states and the need for modernising networks and driving decarbonisation. And our regulators recognise that more must be done to enhance network safety, reliability and resilience.

Mandated asset health and reliability are driving around 80% of the medium term investment need in our gas and electric networks.

We also have investment ties to supporting the growth in renewables and enabling the electrification of transport.

Given the scale of our business and the commonality in investment drivers across our states we have identified that there are significant efficiencies to be had from promoting consistency and leveraging synergies across our business.

As part of this process we've consolidated management of the gas and electric business units as part of our jurisdictional model and sought to create a best in class capital delivery capability.

Cordi, Chris and Rudy will bring to life this new operating model during their respective presentations this morning.

I would like to now turn the attention of the day to day operational focus that John has set for the Group, starting with the customer affordability and experience.

Customer first is a mantra that drives our US business.  It is central to our strategy, it's embedded in our leadership principles and it's a fundamental driver of our success.  As we have continued to make substantial investments to modernise our networks we have also made progress to drive efficiency and build solutions that create more direct value for our customers.

Our regulatory frameworks are evolving to help us achieve the balance of value and affordability and our operational discipline ensures that we don't leave any customer behind during this critical transformation.

Alongside affordability we absolutely need to continue to enhance customer experience.  As you will hear from Terry Soboleswki later we have done a lot of work to better understand and meet the differentiated needs and preferences of our customers.

That has resulted in two fundamental priorities that sit at the heart of our customer experience improvement programme.  First improving customer experience via personalised communication.  With personalisation when our customers contact us and when we contact them we can use customer specific information along with data analytics to identify best fit prioritised offers for them.

And second to continually improve the ease of doing business with us.  We aspire to give our customers a frictionless experience.

When we deliver easier, more personalised experiences we build customer trust.  This gives us further license to grow our business through investment and by offering new customer offers.  It bolsters our reputation when we're struck with challenging events like storms, or outages.  And it strengthens our credibility giving us a stronger voice in the clean energy transition.

Now performance optimisation is a clear long term driver of success.  In practice this means a relentless focus on efficiency, leading to lower costs.  This is a virtuous cycle, which ultimately enables us to manage and mitigate bill increase while continuing to invest in upgrading, in modernising our networks.

We have focused hard on ways to lower our controllable costs; it's not easy in a high growth environment.  But we are absolutely committed to it.  Recently we've been able to limit cost increases, despite nearly 9% growth in rate base since fiscal year '17.

As you can see from this chart we're delivering year on year improvement in opex efficiency and controllable cost as a percentage of rate base have reduced from 12% to under 11%.

As we announced at year end, we have a cost efficiency initiatives in the US to ensure we deliver our significant capital investment programme as efficiently as possible.  For example on the capital deployment side we are implementing a design to value project to look upstream, to reduce the capital cost of large scale projects which has so far led to $6m in annual sustainable capital efficiencies for substation designs.

This is one of the many efficiency initiatives that we've launched.

We're streamlining operations, simplifying our supply chain and rationalising our property portfolio.  And as you know our current plan will deliver cost savings of $30m this year and $50m in fiscal '21.

The adoption of digital technologies and processes are essential to modernising our networks, achieving cost efficiencies and enhancing the customer experience.

There are many digital initiatives across the business, but there are three key areas, it's asset, it's workforce, and customer experience digitisation.  And this morning our team will share detail on several initiatives and actions in their areas.

You'll hear about our ambitious plans to digitise substations; and how we're enhancing field force efficiency through utilisation of new technologies; how we're automating back office processes and how we're using artificial intelligence to give a better service to our customers.

Now I'd like to discuss the biggest long term trend in our industry, decarbonisation.  We support the goals and ambitions across all the states in which we operate.  We are taking several actions in our jurisdictions to enable the transition to clean energy.  We have leading energy efficiency programmes in the US.  We interconnect large scale and distributed renewable generators and we're pursuing investments to electrify transportation and to create a low carbon heating sector.

And as you can see from the chart, we're reducing our own emissions.  Looking at gas, we see it as a vital fuel source in the transition to cleaner energy.

In the States where we operate, oil still has almost a 25% market share as a heating source.  This underlines the opportunity, the opportunity that gas can provide critical capacity to enable a thoughtful energy transition that priorities affordability.  A thoughtful energy transition that ensure that no one is left behind.  This is especially real for us where almost 20% of our customers qualify for energy bill assistance programmes.

We also see opportunities to decarbonise heating through renewable natural gas, like our Newtown Creek facility, and hydrogen, along with electrification.  We've already piloted these technologies, and we work with our states and regulators to scale them up.

We're committed to reducing emissions from our own assets and those of our communities, and we're also committed to a sensible energy transition that looks to the least cost, long-term pathway to decarbonisation which we believe is in the best interest of all of our stakeholders.

I think we're going to show you a quick video at this point.

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***Video Played***

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**Dean Seavers, Executive Director, US**

That's the first time I've seen that video.  It's a little weird seeing yourself up on the screen.

We have a strong workforce of over 16,000 employees in the US, and investing in talent is a major priority for us.  To this end, we're focused on priorities that include modernised union terms, attracting next talent generation, next generation of talent, increasing training for a digital future, and fostering a culture of innovation.

And modernising union terms has been a key step for us, and I'm pleased that we finalised negotiations and reached an agreement with members of our Massachusetts gas workforce in January.

The union settlement process was challenging for all of us, but we achieved a fair settlement.  And, since January, we've reached agreements with a further three unions on similar terms.  These labour agreements will allow the business to deliver vital services at a reasonable cost to customers today, and limit future cost increases.

The US utility industry workforce is changing, with up to 40% of our own workforce reaching retirement age in the next decade.  Our industry environment increasingly requires entrepreneurial and agile employees who could help the business navigate change and capitalise on new opportunities.

We're making strides in attracting the next generation of talent.  For example, we're redefining the employee experience to meet younger workers' expectations.  One of the payoffs from our focus on talent attraction is how our annual graduate development programme hires have grown sevenfold since 2015.

At this time of change and opportunity for our industry, I could not have a more capable leadership team to run our US business.

Now, in a moment, I'll hand over to them, so you can hear in detail about the great work they're leading to deliver strong performance for all our stakeholders.

Before that, though, I'd like to conclude by saying that we're committed to efficiently delivering on our core obligations of safety, reliability and resilience which under pin much of our capital plan and rate-based growth.

In addition, the need to modernise our network and to support our states' decarbonisation imperatives creates opportunities.  Opportunities for us to invest and opportunities for us to play a lead role in the clean energy transition.

At the same time, we're becoming more customer centric, focusing on enhancing the customer experience and prioritising affordability and value for our customers.

Thank you for your attention.  We're going to take a split now into the breakout groups and then John and I will meet you back up here for Q&A.

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***The US Gas Business***

**Cordi O'Hara, Chief Operating Officer, Gas**
Okay, I think we're good to go.

Good morning, and welcome, everyone.  I'm Cordi O'Hara, Chief Operating Officer of our US gas business.  And, joining me today is John Bruckner, our jurisdictional President of New York.

Our focus for this session is on our gas business, sharing information on our operating environment and how we maintain the highest levels of safety and reliability of our networks, and our future outlook, bringing both to life with some interesting case studies.

First, let's remind ourselves about the size and scale of the business today.

We have a diverse customer base of 3.6 million gas customers and a network of over 36,000 miles of pipe across New York, Massachusetts and Rhode Island.  We also own and operate 12 LNG supply facilities delivering peak winter supplies in all three jurisdiction.

We've been investing heavily over the last three years; with a capex spend of $5.6bn, which has driven a 34% increase in rate base to over $11bn as at the end of March.

This means we've replaced over 1,000 miles of aging pipe to improve the resiliency and safety of the network.

And, through our robust maintenance practices, we've also met our regulatory promises, achieving full compliance with leak response targets in all operating companies.

And, finally, I'm pleased to say that we delivered on the commitment Dean made to you four years ago with all of our operating companies under new rates and appropriate funding in place for the future.

Now, let's turn to our operating environment in the US.  There always has been, and will continue to be, a focus on pipeline safety.  The importance of this was, again, brought to life by the serious incident on Columbia Gas' network in Massachusetts a year ago.

Following that, there has been an increasing focus on gas pipeline safety and compliance and politicians, regulators and the industry look to minimise risk for the future.

We expect that new regulations will increase requirements for safety and compliance, and that will require some additional investment.

In the short-term, due to regulatory lag, some of the spend could be outside of our rate allowances, but, as you'd expect, we would include those new requirements in our next cadence of regulatory filings.

As you can see on the chart here, last year, around 85% of the total investment in our gas network of $2.1bn was directly related to maintaining and improving the safety and reliability of our network.  This was driven by industry standards and State and Federal requirements.  That's an investment we have to make, aligned with our rate plans.

In comparison in growth, many new customers, was 16% of our 2019 capex.

We see safety and compliance as our main long-term driver, as regulators and the industry continue to raise the bar on what is mandated.

Looking forward, it's not just on pipeline safety where we're seeing increasing investment levels.  While small in comparison, the investments we are making now to facilitate the decarbonisation of the gas network are highly important to us over the longer term.

The decarbonisation of the energy system is one of the biggest challenges facing society today, and we have a critical role to play, leading and shaping the debate about the future of gas, looking at the future use of our network with new technologies, but then, more importantly, implementing a plan to enable a measured transition to a low carbon future.

Now, in a measured transition, economic fairness is always front of mind.  We have a broad customer base with up to 20% qualifying for heating bill assistance.  We cannot afford to leave anyone behind, and we believe that a thoughtful transition must be taken, one that utilises the gas network and maximises the economic and environmental benefits from our investment.

Let's be clear, there's still a huge opportunity to decarbonise the system.  In the three states we currently operate in, only 54% of homes use natural gas as their primary heating source.  Very few households have electric heating.

The remainder of existing homes use delivered fuels like oil.  This means that those homes using oil could be readily converted to gas, removing thousands of tonnes of greenhouse gases from the environment.  And we're already converting 17,000 homes per year.  This could also lower consumer energy bills by giving them access to low-cost Shell gas the US is producing.

In addition, developers of new residential and commercial properties continue to look to us to provide a new gas connection which facilitates economic growth in our region.

We're actively engaged with industry stakeholders about the future of gas, and the critical role we can play in accelerating the decarbonisation of the country.  But, as I said earlier, our primary focus is on maintaining the safety of our networks and keeping bills low for customers.

Now, let's turn to how we're evolving in customer service.  Our focus is on upgrading our IT systems and the vast majority of our end-to-end processes.  This is improving our customers' experience as well as giving us real-time data to manage our field workers and make our operations a lot more efficient.  In turn, this means we can invest more on our networks without it increasing customer bills.

Let's bring this to life with some examples.

In the past, our field teams were mostly paper-based.  They'd be allocated jobs at the start of the day and take the relevant paper maps out in their vans.

A lot of time was spent updating records each day in the system when they were back in the office.

Because of the paper records, data issues were hard to fix.  Emergency response relied on phoning field teams, checking their location, before deciding which one to send to site.

Our new systems fundamentally change this.

Field teams are dispatched based on algorithms, allocating jobs to teams in the most efficient way. All record management is digitised, with each field team having access to site records on their iPads. New data automatically updates central records in real-time. Central Dispatch track and monitor teams online, redeploying them if unexpected issues are encountered. This is especially important in improving our emergency response times where we can see exactly where the nearest crew is and can get to the emergency site quicker.

Most importantly, this provides significant customer benefits. The most obvious is that our customer contact centre can update customers on exactly where the field team will be on site to deal with their issue.

Other benefits include optimised workflow management, meaning we're doing more jobs a day than before. Improved supply chain, with better information on what materials were used at each job, meaning we can restock appropriately. And, probably my favourite, more productive and happier field workers. We're making the working day easier by giving them quicker, better information at their fingertips.

It's a significant step forward in our ambition to be a leading gas utility as we drive for ever safer and more efficient operation.

So, looking to the future, our investments will be more efficient in the way we deliver the work and, engaging our workforce and contractors, leaves our well-placed to deliver an increasing volume of capital work over the next few years.

We'll be spending around $8bn over the next four years, with almost 85% of this on complying with safety standards and improving the reliability of our networks.

This is driven by a number of different factors, but, in particular, the replacement and rehabilitation of old cast iron mains to reduce the risk of gas leaks.

As you'll hear from Rudy, to deliver this large increase in volume, we have a number of different techniques we're already deploying, such as Cisbot, and cure-in-place pipelining.

This means we can continue to reduce network risk as efficiently as possible and keep customer bill increases to a minimum over the long-term.

Looking deeper into our pipeline replacement, you can see on the chart on the right that, over the last decade, we're placed over 3,200 miles of old iron pipe on our network.

We're about a third of the way through this programme, and we've been able to do this through agreeing new rates with regulators to fund the work.

The rate of replacement is also increasing as we work hard to reduce risk on the system.

Our forecast for the next decade shows up to 60% more, potentially replacing over 5,000 miles.

Turning our attention to the chart on the left, here, the vast majority of our capex projects are individually less than $50m, which means we can do a lot of this kind of work compared to larger, multi-year projects.

So, we forecast strong, but steady, growth out into the future.

While our pipeline replacement is significant and growing, part of our investment plans also include large, modernisation projects. This includes almost $750m improving system reliability in Brooklyn and Long Island, and another $750m updating our LNG facilities to ensure that, even during winter when the system is at its peak, we can still supply our customers with the gas they need.

These facilities are a vital part of our service delivery as we're operating in very cold winter temperatures where heating load can be highly variable. Being able to turn on our LNG facilities at short notice keeps supply available to meet even the coldest day.

These projects can also be important as we continue to connect new customers, like the Mid Cape Replacement project on the slide. This allows us to lift a prior moratorium and help customers connect to our gas network and switch off oil.

However, we are at risk of gas constraints in part of our network, and that's why we believe in additional transmission connections into our region to provide access to natural gas, enabling further economic expansion in critical areas, such as Brooklyn, and keeping the cost of gas as low as possible for customers.

Let me now hand over to John who will take you through our case studies.

Thank you.

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**John Bruckner, Jurisdictional President - New York**
Well, thank you, Cordi, and good morning, everyone. My name is John Bruckner, and I'm the President of our New York businesses, and a critical part of my role is to serve as the point person for National Grid with the New York State Public Service Commissioner, Governor Cuomo and his team.

So, let's take a look at some of the case studies that Cordi just mentioned, starting with the Northeast Supply Enhancement project.

This is a project that Williams Transco, a US gas transmission pipeline company, has proposed that will bring in additional 14% capacity to the Downstate New York region.

Now, some of you may be aware that earlier this year, in May, we had to stop accepting applications for new gas customer services in the Downstate region. We had to take this step to preserve the integrity of gas supply to our existing 1.8 million customers.

Now, NESE, the NESE project, would remove this constraint and allow our customers to access natural gas rather than alternatives, such as oil.

We'll continue to work with Williams and the Governor's Office to demonstrate the value that this project brings to the region.

It brings huge benefits to our customers.  It allows them access to a very cost-effective fuel source, and it also lets them play a role in decarbonising the economy.

So, some of the projects that we're required to do to comply with safety standards are also driven by our continued reliance on LNG.  This is shown with the upgrade that we're doing at our facility at Commercial Point in Massachusetts.

This is 14 million gallon tank, and it was constructed back in 1971.  We're invested $157m here to improve the protective area provided by the dike, replace some vaporisers, also to improve the truck station facilities, which is for unloading and loading, and it can be done safer but also quicker.  And we'll also invest in a safety feature, such as an automated emergency shutdown system.  And these vital projects enable us to continue to supply Massachusetts gas during the winter peak months.

It's interesting to note - I know that we're seen these picture on a number of slides - but the artwork on that slide, it's actually an historical landmark.  And so, when we thought about building the dike all around this tank, initially, we said - well, we'll just go right up, put a bund around it and give us that protection we need.

But, being a landmark, we had to preserve the line of sight that everyone in the areas just south of Boston can see this.  So, it was actually quite an interesting design challenge to make it a very low profile dike, provide the protection and preserve the sight for the people in the area.  So, interesting design challenge, and we're certainly met the challenge.

So, as Cordi said, it's not just investment to maintain the safety and reliability of our networks, but, while this is the majority of our spend, we're also looking at the future, and an example of this is the Newtown Creek waste water treatment facility.  It's the largest in New York City, processing approximate 20% of New York City's waste water.

We've entered into a partnership with the City where we'll extract the renewable natural gas, so RNG, that's produced in the anaerobic digesters you see here in the picture.

We take that RNG gas and we inject it right back into system.  It's enough gas to heat 2,500 homes, and reduce our carbon emissions by over 16,000 tonnes a year.

This $37m investment will show the potential scalability of renewable natural gas, and, more importantly, it demonstrates innovative thinking and our ability to work with City Government.

It's an investment that's in rate base, and it's scheduled to come online around the end of this year.

So, to summarise, our priority is to maintain a safe and reliable network.  Our gas business is growing strongly, and will continue to do so on the long term.

The growth is driven by mandated investments and the safety and reliability of our networks.  And, while that's our primary focus, we'll continue to invest in the future, working at innovative solutions to decarbonise our networks in a responsible way, ensuring that no one gets left behind in this energy transition.

So, thank you for your time this morning, and I now ask Cordi to join me to answer any questions that you may have.

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***Questions and Answers***

**Jon Nash, RBC**
Thank you.  Just wanted to ask on the issues with the NESE pipeline, and then the moratorium and the comments that have come out from the Governor which have, you know, gone as far as threating to remove licences.  Maybe you can just give your perspective on that and, in a broader point, discuss how politicised, potentially, regulation remains in the US, or do you think the various regulators are, you know, moving perhaps to be a little bit more independent from the politics?

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**John Bruckner, Jurisdictional President - New York**
So, I might take the first part.

The first part of the question, with respect to the Governor's comments, look, we continue to work very closely with the Governor and his team.  Some of the comments that come out publicly, I understand the concern about them, but we continue to demonstrate the value that this project brings, and not necessarily just to National Grid, but also to the communities that we serve, and enabling customers to get access to lower cost energy and a cleaner source of energy than the alternatives.

We continue to share with them those benefits.  We continue to negotiate to achieve these permits, and we're hopeful that, by demonstrating these values, that the decision-makers will make the choice that's in the best interest of all the Governor's constituents.

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**Cordi O'Hara, Chief Operating Officer, Gas**
Yeah, I mean, on the broader point, we see a lot of regulatory focus on the safety and reliability of the network.

It's clear that gas remains the most affordable and reliable source of heat right now.  And, so, having one of the oldest networks in the US, there's absolute focus on making sure that those networks are reliable and safe, and, therefore, the investments that we need to make in the replacement of leak-prone pipe.

Over the longer term, you know, we recognise and have started to shape the debate on the future of heat.  And we're taking action on that through some of the demonstration projects, the ones that John's just showcased.  That is a direction we will lead on and take forward.

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**Deepa Venkateswaran, Bernstein**
Thank you.  This is Deepa from Bernstein.  Actually, just following on from the future of heat - obvious the Governor's saying up 2015 net zero targets, much like the UK, and presumably some of the opposition to this pipeline was keeping that mind, and that's what I understand, so, given that you're heavily gas-weighted in the US, and in New

York, what are some of the solutions you're thinking about once you fix the safety and reliability?  I mean, is it hydrogen, clean gas, or whatever else?

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**Cordi O'Hara, Chief Operating Officer, Gas**
Yeah.  So, I mean, context-wise, just to confirm, you know, we're very supportive of the decarbonisation goals in all of our states, and we want to take a leadership position as a large utility there in leading and enabling that transition.

In the longer term, we absolutely see the ability for us to repurpose our networks, and that's why we're looking at RNG, hydrogen, power-to-gas.

We also want to have a very engaged relationship with our customers, and so, in our latest regulatory filing, we're looking at green gas tariffs, and also incremental gas demand response projects.

In the shorter term, as John just said, you know, we've got this principle of, you know, get the dirtiest emitting fuels off first, which means, you know, a lot of customers still using oil for heat, which represents an opportunity to convert to gas, save money for customers and reduce the carbon footprint in the shorter term.

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**Jenny Ping, Citi**
Hi.  It's Jenny Ping from Citi.  Just one question with regards to your comments, Cordi, earlier about additional capex spend, which is not included in the rate base, or package. Can you give us a feel of how much that spend is relative to your RAB, and how confident are you in getting that back?

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**Cordi O'Hara, Chief Operating Officer, Gas**
It's very minimal.  It's largely through compliance requirements coming outside of a regulatory filing.

You'll hear from Mike later, who will give you an update on the tremendous progress he's made on creating an effective rate case machine whereby we update rates and can feed new requirements in.

It's been a transformational time in Massachusetts, and that will also feed into New York. And we're already managing to build in new compliance requirements in the latest filing.

So, it's very, very small, and not a significant lag.

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**Samuel Sameeq (?)**
Hi.  Just a question on rate base increase on the gas side - how do you think about the rate base increase over the next five or ten years?

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**Cordi O'Hara, Chief Operating Officer, Gas**
Yeah, so we've got really strong programmes, so, you know, we've said, as a US company, we're going to be above 8%.

I'm seeing my programmes as being very secure. 85% of them are mandated, largely driven by the need to replace the pipe in our aging networks.

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**Samuel Sameeq (?)**
So, are you saying we'll be using gas also?

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**Cordi O'Hara, Chief Operating Officer, Gas**
So, yeah, maybe slightly above eight, yeah.

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**Question**
In terms of the switch from oil to gas, could you just talk about what the retrofit cost of the average consumer is, and what the payback period might be in terms of transitioning from oil to gas?

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**Cordi O'Hara, Chief Operating Officer, Gas**
So, do you know, I don't have that exact number at my fingertips, but we'll make sure we get that to you offline, but we are still seeing a very healthy level of conversions of customers. Typically, you know, they're looking at re-improvements of their homes.

We're connecting, on average, 17,000, 20,000 new customers a year. Two thirds of that is in conversions, so we're just seeing a healthy volume of connections, and we'll get the detailed cost points to you after.

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**Tom, Royal London**
Hi. Tom, Royal London. Is there a danger, particularly with new developments, given sort of the worries about decarbonisation, that they simply bypass gas altogether and look to sort of cleaner heating sources than gas in the US? And, yeah, that was the main thing.

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**Cordi O'Hara, Chief Operating Officer, Gas**
Thanks. I mean, everyone wants to find a solution to probably the hardest challenge, which is decarbonising the heat sector. There's no one silver bullet answer, so people are exploring a various number of options.

For us, it's been limited conversations with regard to the risk that you highlighted, but that means there's also opportunity for us to take a leading position. And, last year, we produced our Pathways work for the Northeast.  We were able to show credible decarbonisation scenarios, repurposing the network.

We want to explore new technologies.  That was mentioned earlier.  And we want to take action through demonstration projects.

So, we're putting our best foot forward on what we believe is the right solution for customers in the longer term.

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**Peter Hyde, ATLAS**
Hi.  Could I just ask two questions?  Firstly, I know in the US there are some assets outside the rate base.  Do you have any assets outside the rate base?  How do you kind of make sure you earn a decent return on any assets that fall outside the rate base?

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**Cordi O'Hara, Chief Operating Officer, Gas**
Yeah, so I think Peggy's going to cover that in detail for you, but it would be the smaller proportion of our multi-year projects where they don't go into rate base until they're fully in service.  So, Peggy will give you the magnitude of that, but it's those multi-year gas projects of the big modernisation work LNG type of stuff.

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**Peter Hyde, ATLAS**
And then can you just come back to perhaps tying together the current capex programme with decarbonisation and changing the network?  I mean, how much does the potential long-term, can I call it downdraught in gas demand, or changing to the network, impact what kind of investments you make today?

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**Cordi O'Hara, Chief Operating Officer, Gas**
So, the majority of investments are making sure that the existing, you know, network of 36,000 miles is safe and reliable and modernised to meet customer needs.  So, that's the driving the majority of the investment.

But, remember, it's very different from the UK where eight out of ten homes are served by gas.  You know, actually, we've still got over 20% of customers not on the network, actually burning oil.  So, there's still going to be growth from new customers connecting and converting off their own oil systems.

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***The US Electric Business***

**Chris Kelly, COO Electric**
Good morning.  I'm Chris Kelly, head of US Electric at National Grid, and joining me today at this breakout. Session is Marcy Reed, our Massachusetts Jurisdictional President.

I'm really excited about leading this business, as we experience rapid changes in the industry. This morning we'll talk about our distribution and transmission network investments, the drivers for growth and change, and the plans for our future. But first, let's start with a brief overview.

Our electric network is extensive. We operate over 80,000 miles of lines and more than 1,000 substations. We're the largest transmission and distribution company in the Northeast US, and we have a network reliability of nearly 100%.

Our distribution business covers 3.5 million customers across 1100 cities, towns, and villages, and they represent some 10 million people on the electric side.

As John and Dean stated earlier, we have a relentless focus on safety in everything we do, for our customers, our employees, and most importantly the public. Continued investment in our core business is critical to safe operations and that reliable delivery of electricity.

Over the last 5 years, we've increased our capex programme from $1bn to $1.4bn, and overall our capex investments have three drivers: asset health, network reliability and resiliency, and customer growth. And as you can see, 75% of the capex relates to asset health and reliability, and we expect this proportion to continue, going forward.

Asset health includes investments that are typically for equipment and at end of useful life, and these decisions are made to maximise safety and reliability. Replacing aging infrastructure will continue to be a key priority into the next decade.

On our reliability and resiliency investments, these are critical to our network, particularly given the increasing frequency and intensity of storms in the Northeast US. Reliability investments ensure adequate capacity of load, contingency in the event of a failure, and resiliency, and all to minimise customer outages in line with our state regulatory metrics.

With the increasing number of storms, we have a strong business focus on ensuring safe and rapid restoration of our affected customers, and I'm very proud to say we've received over 20 industry awards recognising our strong performance in this area.

We also continue to make pragmatic investments to reduce our exposure to evolving cyber threats in accordance with US federal mandates, and over the last five years we spent over $60m on cybersecurity improvements and enhancements. And these investments focused on implementing technologies and processes to identify our critical assets, detect and protect against threats, and respond and recover from incidents.

On the third category, on customers, we're also seeing a significant increase in new customers connecting across our network. As expected, these spikes are mainly due to Distributed Generation, or DG, if you will. To give you a sense of scale on that, DG penetration system-wide is already 10-20% of our peak load, and forecasts from Massachusetts and Rhode Island show that 50% of the peak load will be covered within the next five years. With that, National Grid is doing its part to facilitate these connections and help enable the clean energy transition.

So, bringing this all together, we're managing over a thousand capex projects a year across the Electric business. These projects vary in size, budget, and timescale, and cover all areas of investment, from large substation rebuilds to line refurbishments to telecommunications and network management systems. These require a significant amount of organisation and efficient deployment of resources, and we maintain a key focus on this.

Now, our regulators and policymakers are asking us to really lean in and co-create that energy transition, and I'll share the context with you on this slide, and on the next slide I'll take you through our proactive approach with this.

Our networks operate in states that are driving some of the most ambitious climate policies in the US. One of our key achievements has been connected 2.7GW of renewables to our networks. This includes Block Island, the first US offshore wind farm. It's off the coast of Rhode Island.

We're connecting nearly 1.5GW of additional - we're expecting to - of renewable energy by the end of 2020. This growth is significant. In Massachusetts, we have the second-highest amount of connected solar per square mile in the US, behind only New Jersey. With significant developer projects in the queue, Massachusetts will remain at number 2, and Rhode Island will be soon moving ahead of California to number 3.

With that, we're bringing to life our commitment to mitigating that climate change. And to highlight this commitment, National Grid has connected more than 78,000 Distributed Generation and renewable projects across our footprint since 2013, and we're very proud of this.

Moving along to Electric Vehicle investment: our 80x50 analysis suggests that all light-duty vehicle sales need to be electric by 2030, and all LDVs on the road need to be electric by 2050. This gives us new opportunities. We've already installed 1700 EV charging points in Massachusetts, and we've requested nearly 18,000 more in our latest rate filing. This was the third-largest utility transportation filing in the country, with a potential investment of nearly $170m.

Our customer energy efficiency programmes across all our jurisdictions benefit residential, commercial and industrial customers, and ultimately these programmes directly reduce customer bills while supporting our emission reduction goals.

For example, in 2018, our energy efficiency programmes delivered savings of nearly one million tonnes of $CO_2$, with a net economic benefit of $1.7bn for Massachusetts and Rhode Island customers.

These programmes also provide an opportunity to earn an incentive when we meet or exceed those efficiency targets, so this is good for customers and good for shareholders.

These are just some of the bigger drivers our stakeholders are asking us to get involved in, to shape that clean energy future. When I think about it, in my career, there hasn't been such a significant shift in how we run the power system until now.

A real exciting area is the roadmap guiding transformation around the new capabilities we need to build, the new investments we need to make, and building our future workforce. With generation becoming much more decentralised, it's rapidly changing how we plan and operate the system. This requires us to manage a much more dynamic network than we have in the past.

With that, we're focusing on four key things: we're future-proofing our networks with core investments, building in that resiliency and grid flexibility we talked about; we're continuing to make our system capable to receive the high volumes of renewable energy connections; we are integrating renewables into our planning and operating processes; and lastly and most importantly to us, we are developing differentiating capabilities to create market services to leverage these renewables, to drive down costs and improve operating efficiencies.

Some of these key investments include telecommunication systems, new wireless networks, new fibre and leased networks to host that big data, new management information systems on our distribution and substation networks at all our control centres, and field automation systems to allow more granular control of the grid than ever before, and manage cyber threats at all levels of our network.

Policymakers are counting on energy sector leaders like National Grid to invest in these digital solutions, to develop those necessary skills that will enable clean energy and improve the customer experience.  So, as you can see, it's very exciting times in National Grid Electric in the US.

And with that, I'm going to turn it over to Marcy, who will take you through some of our key investments in more detail.

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**Marcy Reed, Jurisdictional President, Massachusetts**
Thanks, Chris.  And thanks for being here, everyone.  It's great to see some familiar faces.  Chris spoke a lot about what we're doing, and I want to now illustrate some examples of investments we're making to modernise our network.

On asset health, a key example is the substation rebuild programme we have under way across the US.  As Chris noted, the share of expenditures on asset health is around half of our total capex, and we expect that proportion to continue into the future.

You'll hear more about the Gardenville substation from Rudy's presentation, but another example is our South Street substation programme, a rebuild in Providence, Rhode Island.  This $84m project, which went live earlier this year, replaced an almost 100-year-old substation.  We made this investment to ensure asset condition and safety.

These types of asset health projects demonstrate how we balance risk with customer value, while also supporting our clean energy policies.  And in terms of capex, we plan to invest around 25% of our total capex on reliability projects, going forward.

An example is our Clay Teall transmission line upgrade project in Upstate New York, designed to meet thermal ratings, satisfy regulatory planning criteria, and ensure reliability.  This is a $90m investment over two years.

Another example is the Mohican Battenkill project, also in Upstate.  In this recently completed $77m project, we rebuilt a 14-mile transmission line to ensure reliability.

About half of our investment in these two categories is for future-proofing the network to meet our 80x50 resiliency objectives.  These are in the form of capacity and increased robust storm hardening, such as flood prevention.

Customer growth is a key area for us. Much of the spend in this category ensures we safely and reliably connect the growing level of DG across our footprint that Chris mentioned. Capital investment in infrastructure has doubled over the last two years, to over $60m.

Chris did mention the significant amount of growth we have in this area in Massachusetts , and in New York, we've experienced over a threefold increase in connections from 2014 to '18, and in Rhode Island, we saw a tenfold increase in connections from '15 to '18.

Also in this category, you'll see our investments that we're making to facilitate the adoption of Electric Vehicles. Across our three states, we're investing in charging infrastructure so that customers can move to cleaner EVs. We expect the proportion of capex spent on customer growth to average 25% going forward.

These are just some example of investments to make sure that our system reliability, resiliency, and efficiency is there for our customers. Right across each of these areas, we're investing to improve network efficiency. As you heard from Dean, we filed for significant investment in smart meters for customers in Upstate New York, and we're preparing to file for Advanced Metering Infrastructure, or AMI, in Rhode Island. We have a planned capex spend of over $1bn through to 2030, for both AMI and Grid Mod.

We also have another long-term plan to become the first utility in the US to digitise our network of 400 transmission substations. We plan to invest about $530m by 2030 to convert the first 170 of those substations.

This will produce significant advantages. First, digital substations require 50% less space, making them more economical and easier to build. Second, maintenance and testing of digital substations can be done less frequently, and remotely, reducing our operating costs. And third, digitisation means changes in flow control settings are made in real time, facilitating continued reliable and affordable electricity.

And we're also piloting new software that will optimise our field worker deployment. An increase in data collection, and a change in how it's displayed, means more real-time feedback for our field crews as they move around. Through greater use of software in the field for jobs and instructions, we expect a 10% increase in operational efficiency, with a 25% efficiency level already seen in one pilot location.

Here's a project that I'm very excited about. Bringing all of this together, this project includes all aspects of our investment criteria, asset health, reliability, digitisation, resiliency, and decarbonisation, all for the benefit of our customers.

Nantucket is a small island off the coast of Cape Cod, right in my backyard. Its energy needs have grown rapidly in the past decade, particularly during the summer months, when its population increases fivefold. Nantucket is fed by two undersea cables from Cape Cod, backed up by an old diesel generator. New infrastructure was needed to meet the island's growing demand, which in the summer doubles from 25MW to 50MW.

Traditionally, we'd serve this load by an additional costly subsea cable. But we took a different approach. Our unique solution included energy storage, allowing us to halve the required on-island generation.

The 6MW Battery Energy Storage system, or BES, as we call it, was commissioned this summer at a cost of $84m. Together with an upgraded turbine, it can supply Nantucket with the electricity it needs if one of the two subsea cables fails, or on peak summer days when air conditioning adds to system load.  This project is unique among US utilities, and could potentially delay or even avoid the need for a costly third subsea cable.

To get a better feel for the project, if you haven't already, please look at our virtual reality headsets during the break.  You'll see how we train our workers through VR, and you'll get a tour of the Nantucket Battery Storage site.

Chris and I are pretty proud to be part of a business that's focused on growth, delivering a range of complex projects while still maintaining a highly reliable network for our customers.  As you can see from the chart, asset health, reliability, and customer growth will remain our key long-term drivers.  And they will be further supported by the need to ensure our network is prepared for large intermittent flows of power from increasing renewable generation, and the need to digitise the network to support two-way flows and greater efficiency.

All of this drives benefits for our customers and our shareholders.  Above all, we have a strong team with the experience to deliver electricity safely, reliably, and affordably.  We're constantly striving to be more efficient, ensuring that we're fit for the future.

Thank you very much.  Now Chris and I would be delighted to answer any questions that you might have.

Right over here.

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***Questions and Answers***

**Question**
Thanks for the presentation.  It's interesting, in Massachusetts in particular, and I understand the current discussion amongst policymakers is for 100x35, rather than 80x50.  So I was just interested in your view on, firstly, the likelihood of that, and secondly, I guess the significance of that for the business.

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**Marcy Reed, Jurisdictional President, Massachusetts**
Sure.  So, in Massachusetts, the state does have an 80x50 objective, so that is our current aspiration.  However, having said that, we are starting to re-look and evolve our deep decarbonisation goals.  And so I wouldn't be surprised if we go further than where we currently are in Massachusetts, but they still are at 80x50, as is Rhode Island.  New York has announced a net zero target for... 2040?  2050.

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**Mike, Atlas**
Hi, thank you for the presentation.  Just wanted to ask about the energy efficiency measures.  You have mentioned the net economic benefit of $1.7bn for Massachusetts and Rhode Island customers.  Just wondering how that has been calculated, and how this actually translates into an annual customer bill impact, how much they're saving

because of that.  And are you expecting those kinds of measures to continue and drive those bills positively downwards?

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**Marcy Reed, Jurisdictional President, Massachusetts**
It's calculated over lifetime savings, so we take the number of kilowatt-hours saved, and we project it out over the life of the measure that was installed, whether it was lighting or cooling or drives, or what have you, motors.  I can't actually answer with precision the bill reduction, so we'll have to get back to you on that one.

Other questions?  Go ahead.  I think just wait for the mic, probably, for the video.

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**Deepa Venkateswaran, Bernstein**
Thank you.  I just wanted to know if you could comment a little bit on how you see capex in the long term evolve, because of Electric Vehicles.

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**Chris Kelly, COO Electric**
Yes, capex related to EVs, we see infrastructure increase as anywhere on the order of 10-15% …

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**Question**
Sorry, could you repeat that?

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**Chris Kelly, COO Electric**
Yes, sorry.  We are expecting a 10-15% increase in infrastructure improvements based on EVs coming on.

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**Deepa Venkateswaran, Bernstein**
Would you be able to rate base any charging stations in the US?

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**Marcy Reed, Jurisdictional President, Massachusetts**
Can I take that one?

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**Chris Kelly, COO Electric**
Yeah, go ahead.

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**Marcy Reed, Jurisdictional President, Massachusetts**
Yes, we filed a rate plan in Massachusetts last November, and we're expecting to hear, actually, this month how that goes. And part of that filing, you saw on Chris's slide, an ask of $167m for an EV programme. Much of that is for charging stations, which we will rate-base, though we haven't heard from the regulator. That's a negotiation back and forth. We'll get some portion of that, but that will go into rate-base. And that's also our plan in Rhode Island and New York.

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**Jenny Ping, Citi**
Thanks. Just following on from that presentation on the battery storage, specifically. As New York and Mass kind of continue this rollout of offshore wind, and other more intermittent technologies, what's the scope of growth in terms of battery storage that you can include in your RAB in these jurisdictions?

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**Marcy Reed, Jurisdictional President, Massachusetts**
In the same Mass Electric filing that I just mentioned, we also filed for 50MW of battery storage, and that will be hopefully the beginning of what we do. The asset that you saw on the screen for Nantucket is actually a New England Power FERC asset. The batteries that we would deal with in the distribution business would be under the Massachusetts Electric OpCo, and I expect we would follow similar plans in both New York and Rhode Island, in future rate cases.

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**Jenny Ping, Citi**
But, big picture, are we talking about tenfold in terms of the current scale?

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**Chris Kelly, COO Electric**
Yeah, hard to say, because right now, the only way we are able to put it on our systems ourselves is for operational needs, and then have an opportunity to actually build them for any kind of merchant project that's out there. So it's hard to say on how the growth would be in that area.

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**Marcy Reed, Jurisdictional President, Massachusetts**
I will say, with the aspirations we have to help mitigate the impacts of climate change, we will be doing as much as we can to put storage alongside our intermittent renewables. There was a hand over here some place. Oh, it's in the back, I'm sorry. Sorry, it's hard to see you.

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**John Bolitho, Ofgem**
Could you just talk a little bit about historic volume growth, which for a lot of utilities has been negative, and how has that worked out with your regulator? And also, behind the

meter, whether you're switching to a pay-for-the-availability, rather than pay-for-the-units-used, model, with customers where they're able to?

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**Marcy Reed, Jurisdictional President, Massachusetts**
I'll take that one. Our growth has been effectively flat in; I will point out, a massively growing economy, and lots of new build going on. So what's obviously happening there is, the dampening effect on the load growth of energy efficiency is doing its job. That's exactly what we wanted. So, that is the first part of your question.

The second is, we've actually had conversations around, can we change up how we have the billing framework for our customers, can we be more like a cable TV bill, where you have a set fee? Those conversations haven't really gone that far.

Instead, with them, what you will see through our Mass Electric recent filing that we'll get later this month, we adopted normal revenue requirement increases as well as performance incentive measures, so that the more we do on behalf of our customers, and Dean or John spoke about this earlier today, we will earn incentives for our customers while we're performing better - incentives for our shareholders while we're performing better for our customers.

So that's where we are right now. That's where we're seeing it across most of the United States, by the way. I don't see any models that are really just there just yet.

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**Chris Kelly, COO Electric**
I'll just say, on the capex side, we've grown from $1bn to $1.4bn over the last five years, in capex in general, and our asset health and reliability is expected to kind of continue on that trajectory of growth about 8%, even though customer load growth is somewhat flat. 8% a year, that was.

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**Analyst, Barclays**
Can you be a little bit more specific on the smart meter rollout that you have filed for New York? Two questions. First of all, what is going to be the impact on the bill? You don't have to give a number. If it's going to be flat or increasing. And secondly, if the rollout is going to be in-house, or are you going to externalise the whole cost of the rollout? Thank you.

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**Marcy Reed, Jurisdictional President, Massachusetts**
I can't actually answer that question, because we might need to wait.

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**Chris Kelly, COO Electric**
As far as the rollout goes, we can answer some of the questions on the rollout. With respect to how we roll it out, we're going to be using a combination of internal resources and external resources to roll that out.

And the other question was bill impacts. We can't tell that. But the business case is really kind of driven on time-of-use rates. Lowering overall general rates, general usage charges, and then during peak usage charges a very costly one. And what happens is, and we've learned this from our Worcester, Massachusetts pilot, people who actually use the time-of-use aspect can save - the target was about 5% on average on peak, but people who actually played and played hard ended up with 20% savings on their bill for there.

So that's kind of the basis for the business case driver for that. The business case will also include bill impacts. Right now it's a positive business case in New York. We're doing some more detail work with New York to just really nail that down, and then the same thing is going to go on in Rhode Island as well, but that's included in the business case, and so far so good. It's positive.

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**Marcy Reed, Jurisdictional President, Massachusetts**
And also, Mike Calviou and Terry will both know that answer better, so in a break or in their session is a good time to ask. Other questions? Great. Oh, one more, right here.

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**Question**
On offshore wind, I think you have some projects where you might by the transmission asset - could you talk about what's the rationale because [inaudible - no microphone]

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**Chris Kelly, COO Electric**
You know, I don't think Rudy - has Rudy been through here? Rudy Wynter? He might be able to answer that.

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**Marcy Reed, Jurisdictional President, Massachusetts**
It's actually an NGV question, so maybe we could delegate to John. [Laughter]

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**John Pettigrew, Chief Executive**
Yes, we've been working with Revolution Wind; I think they're called these days. So obviously we've got capabilities in doing offshore cables. So they're building it out themselves, but they wanted us to be involved in helping to advise, and as part of that we have an option. We have an option on those cables when they're completed; I think it's 400MW into Connecticut, and 200MW into Rhode Island. So it's in '23/'24, they would be at FERC returns, sort of - so it's just an option that we have, and closer to the time we'll take the decision on whether we want to exercise that option.

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**Question**
So around 10%.

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**John Pettigrew, Chief Executive**
Slightly higher for our FERC [laughs].

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**Marcy Reed, Jurisdictional President, Massachusetts**
Okay, great, thank you very much.

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***Capital Delivery***

**Rudy Wynter, COO Wholesale Networks & Capital Delivery**
Good morning, everybody. Why don't we get started? I hope your morning has been going well. I'm the last of the rotation.

Good morning, my name is Rudy Wynter; I'm the Chief Operating Officer for Capital Delivery and Wholesale Networks, as well as a Jurisdictional President for our FERC businesses in the US.

Wholesale Networks and Capital Delivery was formed this past spring by bringing together our Capital Delivery function, which is really our construction arm, building all of our infrastructure, with the functions under the FERC business.

The Group has about 2,000 people, all working to develop, plan, build and construct complex infrastructure projects. This is the group that oversees our transmission network. It ensures that we're securing energy for all of our customers, and providing generation to the Long Island Power Authority, which serves over 1 million homes and businesses.

Before I talk about Capital Delivery, let me give you a quick update on our FERC businesses, which are businesses that are regulated by the Federal Energy Regulatory Commission in the US.

We own 9,000 miles of electricity transmission in the North Eastern US, 3.8GW of generation on Long Island, and 2.2 billion cubic feet of gas capacity storage at an LNG facility in Providence, Rhode Island.

The FERC business continues to be an attractive part of our portfolio, delivering for both our customers and our shareholders. The transmission business has a network availability of nearly 100%, and achieved customer satisfaction ratings of over 80% in 2018.

Our generation business is meeting all of its operational, environmental, and safety targets. Collectively, they earn an average return of 11.5% and represent about $3bn of rate base, which is 13% of our US rate base.

I'm sure you've already heard from my colleagues Cordi and Chris today about the need for infrastructure investment across our whole service territory. This is not new. Our capital investment has more than doubled since 2012, to nearly $3.5bn last year. But that speed of growth has accelerated, growing by nearly $1bn in the last three years alone.

We're replacing almost 400 miles of gas pipeline a year, while completing multi-year complex projects, ensuring that they're delivered on time, on budget, and most importantly, safely.

We continue our relentless focus on safety, and recently commissioned an independent review of our process safety performance, versus 190 oil and gas industry peers. I'm proud to say that we scored top-quartile performance. This is part of the company's overall process safety journey towards industry leadership. We've integrated this into our process every three years, to shape the next phase of our journey and continuous improvement efforts.

To enable the Capital Delivery function to continue to deliver efficiently through this accelerated period of growth, we've set ourselves an ambitious target, to create a best-in-class Capital Delivery function. We have a laser focus on five key areas that will make sure we deliver on this. Let's take a look at them individually now.

First is benchmarking. We look to align ourselves to project management institute standards, as well as compare ourselves to others. We continue to consult with industry peers and our colleagues in the UK as we continue to develop the US Capital Delivery function.

Second is creating a centre of excellence. By evolving the US operating model, as Dean mentioned earlier, Capital Delivery benefits from efficiencies in scale and sharing learnings from one operating company to another. The Suffolk gas reinforcement project is just one of many examples of this.

There, the development team worked with Asset Management to reduce the scope of work, through field investigations, to create an alternate route, saving $21m. This approach is being applied across many other projects, with further potential savings to be realised.

So, with the right model in place, we need to make sure that we have highly motivated people with the right skills equipping us for the future. As Dean mentioned earlier, the industry is facing significant challenges over the next decade, as up to 40% of our own workforce will be of age to retire. So we're taking steps to recruit the next generation of engineers into the function now.

Today we are hiring more than seven times the number of people through our graduate development programme than we did in 2015. In the last five years alone, we hired 288 people through this programme. You know, I'm constantly amazed at the talent entering the workforce now, and the energy that they bring to the business, as well as the diverse way of thinking about the issues facing our industry.

Along with talent, we're also introducing new tools for people to use. We're aggressively deploying digital solutions; for example, new project management software such as Copperleaf, an investment made through National Grid Partners, our venture capital group.

This gives a dynamic approach to asset risk management, allowing us to run scenarios to ensure that we're focused on maintaining and replacing the highest-risk assets just at the right time.  During the coffee break, one of my colleagues will be showcasing our latest workforce scheduling software, Distribution Explorer, so please pay him a visit.

Today, you also heard from my colleague Marcy about our commitment to digitise our transmission substations as part of a strategy to build a highly intelligent network.  This will allow our workforce to undertake maintenance, testing, as well as manage flow settings, all remotely.  The smaller control houses needed will mean there'll be reduced time and reduced cost when Capital Delivery goes out and builds them.

In the field, we're already deploying new technologies, such as cured in place liner.  This is a new technology to line large-diameter cast iron and unprotected steel mains.  Used instead of inserting plastic pipe, a liner is actually blown down the existing main, which then hardens, essentially creating a new lining inside of the pipe.  This means we can recondition up to 900 feet of pipe in one week.  That's up to seven times quicker than traditional methods.

As you already heard from my colleague Cordi, Cisbot, our cast iron sealing robot, helps minimise pipeline replacement time and customer interruptions, with only one excavation needed every 900 feet instead of trenching an entire roadway.

Finally, we're leveraging synergies with the rest of the Group and within Capital Delivery in many different ways.  Our global approach to procurement means that we can secure better deals with major suppliers.  Globalising equipment purchases such as this have the potential to save between 10% and 20% in key markets such as transformers, switch gears, and cables.

We'll be managing our contracts across gas and electric under Capital Delivery.  This will enable us to align the incentives and risks of regulatory frameworks with our major suppliers.

Our revised operating model means that we're better able to share workforce across service territories during peak demand.  We've seen this in our coordinated effort on Gas in Downstate New York last year, which also involved workers from Massachusetts and Rhode Island.

We're benefiting from shared learnings with the UK, who implemented their own Capital Delivery model back in 2012.  We introduced a very similar stage gate process, which accurately tracks projects every stage of the way, keeping a close focus on cost and the time of activities.  Ultimately, these synergies will help create further efficiencies across the US business, enabling even more efficient delivery of projects.

Now let's take a look at a couple of case studies where everything that I've talked about really comes together, starting with the Metropolitan Reliability Infrastructure Project in central Brooklyn.  This is a six-year $308m project which will provide additional system reliability to one of the most populated parts of Brooklyn.

This project is extremely complex, with seven miles of new 30-inch-in-diameter steel main being installed around subway lines, next to a century-old eight-foot-in-diameter sewer going down the middle of the road, crossing numerous distribution lines, all while crossing under some of the busiest streets in the neighbourhood.

We're about two thirds of the way through the project, and despite an unexpected rerouting that added an additional mile to the project length, we remain on schedule and on budget.

During the project development phase, additional analysis determined that a planned gate station wasn't needed, assuring savings of $33m.  Then, working with our contractor, we streamlined the entire construction process.  Originally, we planned for the project to proceed at a pace of 230 feet of pipe per week.

Right now, we have the project moving at 400 feet of pipe per week.  That's almost double the original plan.  And I'm also pleased to report that, to date, we have had no safety incidences in the over 650,000 man-hours worked on this project.  This is really recognition to our continued focus on safety.

A great example of how we're delivering for our customers is the Gardenville electric substation in Upstate New York.  This substation plays a critical role to the local region, providing residences and businesses with reliable and affordable sources of reliable power, for a third of Western New York, for decades to come.  Gardenville is feeding some of the key drivers of the local economy, and with 17 transmission lines coming in and out of the facility, it is vital to system reliability.

Engaging our stakeholders very early in this process meant that we understood the things that were important to them, such as limiting the local environmental impact; recycling project waste on site; and preserving the wetlands and the residential neighbourhood that surrounded it.

Incorporating all of this into the design meant that we were able to control traffic entering and leaving the site and optimised waste management.  This significantly reduced disruption to the surrounding area and saved over 30,000 tonnes of waste, with over 90% being reused at that very site.  We employed a just-in-time delivery plan, saving $2m of cost.

I'm pleased to say that the substation was energised four months ahead of schedule, and we've received very positive feedback from the local community.  I'd like to play a brief video about that site for you right now.

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***Video Played***

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**Rudy Wynter, COO Wholesale Networks & Capital Delivery**
That's a great video.  I love seeing those big projects.  We've taken, as you can see, a very hard look at how we efficiently deliver our growing Capital Investment programme. Our goal, as I mentioned before, is to build a best-in-class Capital Delivery function which will minimise impact on customer bills, drive stronger community relationships, ensure strong rates of return for our shareholders, all the while delivering the networks we need for the future.

We're already seeing good progress here.  We have recruited new talent.  We have enhanced our project management capabilities.  And we're executing plans to drive efficiencies across our portfolio of projects.

You should be confident that we can construct our capital programmes in a timely, safe, and efficient manner. Thank you for your time this morning, and I'm happy to answer any questions. Yes.

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**Question**
So in the UK you have the totex incentive system which means that what you're saying on capex is shared between the customer and shareholders, can you remind us what is the mechanism across the US across FERC and in the different states?

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**Rudy Wynter, COO Wholesale Networks & Capital Delivery**
I'll start with FERC. If we save on capex, there is no sharing mechanism, and for many of our distribution businesses, what we'll do is, when we save on these capex, we'll redeploy that capital for additional value-added projects that we have for our customers, around reliability and safety and integrity of the networks as well.

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**Question**
On the 10-20% savings you talked about in certain areas, that's versus your historic costs. Is there any benchmarking you can say that would demonstrate how you're achieving it given your scale, versus other peers?

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**Rudy Wynter, COO Wholesale Networks & Capital Delivery**
We are early stages, just starting to do that now, and really do that globalised equipment purchases. That benchmark that we've seen is others who've done this get to that 10-20% range. We're not there yet. We've got some more work to do on bundling our long-term projects together, so we can take advantage of all of those. But we are seeing some early indications and signs where that has worked well.

A great example of where we did that was, I think earlier you saw a video that Marcy talked about on Nantucket. We did some work with Battery Energy Storage. We also put in a new diesel generation at that side. We bundled the purchase of that generator at that side with some compressors that the UK gas transmission system needed, so we ended up getting a savings there as opposed to buying it as one. We were able to bundle it. So that's one example of how we're looking to leverage that global scale right now. Yes.

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**Question**
Could you just give us a time scale of how long you think all of this will take to put in place? I mean, are we talking about, say, a couple of years, are we talking quicker, or are we talking longer?

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**Rudy Wynter, COO Wholesale Networks & Capital Delivery**
You mean the Capital Delivery journey?

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**Question**
Yeah, the whole kind of...

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**Rudy Wynter, COO Wholesale Networks & Capital Delivery**
Yeah, so when we look at ourselves against the UK business, the UK business started in 2012, and right now they've got it running pretty well. When we benchmarked ourselves against other US energy companies that did similar, really pulling together that centre of excellence, we see a glide path of really three to five years, because you really have to change some things in the culture, you have to do an uptake or uptick in some of your asset management and engineering work early on, you've got to take a really hard look at your commercial contracts, as well as how you bundle your work that go into those commercial contracts.

So we see a glide path of between the three-to-five-year mark before we're getting to where we really want to be. Did I answer your question?

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**Question**
Yes.

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**Rudy Wynter, COO Wholesale Networks & Capital Delivery**
Very good. Next question? I think the other groups might have worn you out. Going once, going twice. Very good. We're breaking to the break now. Is that right, Cordi? So thank you very much for your time this morning. I'll be at the break. Grab me if you have any other questions. Thank you.

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***Coffee Break***

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***Customer Experience***

**Terry Sobolewski, President, Rhode Island Jurisdiction**
Welcome back everybody. Good morning, I'm Terry Sobolewski, President of our Rhode Island Jurisdiction.

I'd like to give you an overview this morning of how we think about our customers and their needs and I'd like to share some of the ways in which we're transforming their experience.

As Dean explained, we put customers first when we consider our regulatory arrangements and the evolution of our business.  It's the right thing for us to do and it's the right thing for our regulators.

While we have made progress over the last few years we want to make it even easier for customers to do business with us.  And we want to find more ways to create value for customers through incremental offers that deliver what they want for the future.

This ensures we achieve the best possible outcome for all stakeholders.

With this customer centric approach in mind we have put forth great effort to better understand the needs of each of our customer segments and to identify the emerging trends that will shape the future.

We are actively prioritising key improvements and new products based upon these needs.  At the same time we are continuing to build a backbone of organisational capability that can create value for customers through continued transformation of our industry and our business.

And we have aligned technologies, processes and capability development to help us deliver focused outcomes at the lowest possible costs for customers.

Now why is this important?  The insight gained from this deeper appreciation of the diversity of our customers has allowed us to deliver targeted outputs for them at reasonable cost.  And it has given us the opportunity to propose frameworks that meet the expectations of both regulators and customers.

The work we have done has created benefits for both our customers and National Grid and has positioned us for tomorrow's changing energy market.  This is the reason we have invested time to develop a customer centric approach and ultimately maximise the percentage of the allowed return we can make.

It's important to emphasise that these insights have come from a steady, systematic stream of regular customer engagement.  This includes thousands of surveys a year, customer interviews and an online customer panel of 6,000 residential advisors who we work with on a week to week basis.

All of this has helped us develop the customer personas you see here which bring to life the specific needs and priorities of key customer groups.  If you are an educated eco friend it's important to you that National Grid be socially responsible and you're likely seeking advanced energy management solutions.

If you're an effortless independent you want it to be clear and easy and you value online options.

And if you're like me, maybe you just want to reach someone for help when you need it.

Putting it all together we have reaffirmed the core services that customers expect and we've identified the additional solutions they want us to offer.

All of our customers expect reliable energy, clear communication from us and a fair bill that they can understand.  They all expect us to deliver flawlessly in those moments that matter most, those customer journeys when they seek a new service connection, when they have an outage and when they receive and pay their bill.

Second, beyond the basics we discovered that incremental offerings must be carefully matched with the customer segments that value them most.  For example we recently sent rebate offers for new in home energy equipment to our electric customers in Rhode Island.  The affluent conservers and educated eco friends purchased the most, as they have higher income and more interest in those energy efficiency products, while the rest of the segments had minimal participation.

Customer insight on core services and new products or solutions will give a great advantage going forward, but we must also maintain some humility.  Though we are an exclusive provider of energy we cannot dictate terms to our customers.  They expect us to meet them on their terms and through a channel that works for their lifestyle.  This is the experience they now have with retail, entertainment and social media and it's what they demand from us.

Today we have a range of channels through which we interact with customers, but going forward we must leverage these channels in ever more effective ways.  We have offered online account management for a while now, but many of our customers prefer mobile apps to traditional online access.

And amidst all of this innovation we actually still have a large share of our customer who may simply want to call us up directly or stop by in person to make their payment.  We have to serve every single one of these needs.

To adapt to these diverse and evolving needs the example here shows how we're accelerating development of our mobile applications.  Today a customer may be surprised by a high bill which causes financial stress, but within the next year our integrated platform will warn them of high usage before that bill ever arrives.  It will offer them payment solutions to smooth their financial obligation and we'll connect them directly with just one click to energy saving solutions through our online market place.

This eliminates the customer's crisis, reduces cost to National Grid and even reduces the potential for bad debts.

When we do all of this right we satisfy our customers of course.  In fact customer trust has both improved throughout fiscal year '19.  But this improvement also builds trust and credibility with stakeholders which is essentially to regulatory outcomes and the growth of our business.

Recent results have been encouraging but we know we need to do a lot more.  With this in mind we have developed a three year transformation time line to improve customer experience through new workforce tools in our contact centres, expanded customer alerts and an improved online self-service portal.

These and other efforts will continue to life customer satisfaction and trust, while also helping us deliver our outputs in a more efficient way.  Delivering more value and lowering bills is a win-win for all of our stakeholders.

To emphasise the impact of these efficiency efforts for customers and shareholders I'd like to offer a few more details on two key programmes from last year.  We have a number of large scale investments in flight, such as advanced meter infrastructure and preference management.

But we are particularly proud of our work with personalisation.  Importantly this started with an effort to help our customers who are most at risk from high bills, bad debt, or other financial challenges.

Partnering with a leading technology company we integrated existing customer data and advanced algorithms to predict the offers or programmes that will have the most value to an individual customer, essentially a personal energy plan.

Initially we focused on affordability solutions, including budget billing, low income discount rates, and low income home energy assistance.  Enrolments in these programmes increased by 24% on average and we saw an 11% drop in subsequent call volume.

We improve arrears collection by 16% and saw a five point increase in customer trust for those who participated.

More important we made a real impact in the lives of our customers, with personalisation we've reached an additional 20,000 with assistance programmes, customers who would have otherwise gone without help.

Going forward our short term projects are mainly centred around streamlining customer communication, which reduces manual intervention and drives further efficiency.

In the medium and long term we have more wide ranging projects in development, such as advanced demand response, community solar and electrification of public transport.

And this brings me to my last example.  In 2018 we adopted an earning adjustment mechanism in New York.  Each megawatt of reduced load during the peak hour in New York is worth more than $100,000 of value to customers.  Under this new regulatory mechanism we earn a share of that value for any reduced load that we can achieve.

To capture the opportunity, a cross functional innovation team developed a behavioural demand response programme.  Moving quickly and leveraging the results of similar programmes in other locations.  They had a full offering deployed for more than 800,000 in less than two months and just in time for the summer peak.

In concert with energy efficiency and distributed energy resources we ultimately reduced the peak in New York by more than 400 megawatts last season.  The created $54m of value for customer and earned National Grid a $4.1m incentive.

Now I think this is a good example of rapid, regulatory and product based innovation that creates value for customers and shareholders.  It is also innovation that can be extended as we've now developed commercial demand response programmes specifically for our gas business in Rhode Island and New York as well.

In closing customers are at the heart of what we do, we will continue to evolve and improve our service to meet their needs.  Delivering the basics will strengthen our foundation and further position us to offer more targeted solutions our customers will value most.

Yes there is more to do, but we're leaning in and this goes hand in hand with the evolution of our regulatory frameworks which Mike Calviou will take you through now.

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***Regulation***

**Mike Calviou, SVP, Strategy and Regulation**
Thank you Terry. Good morning, I'm Mike Calviou, Senior Vice President of Strategy and Regulation for our US business. I'm sorry that I can't be with you in London this morning.

In my presentation I'm going to give you an overview of the regulatory progress to date, an update on our current filings and our future regulatory strategy.

As Terry explained our customers are at the heart of everything that we do. And ensuring the safe, efficient delivery of service is our primary goal. We have used our regulatory experience in the wider National Grid Group to inform how best our regulatory frameworks can be aligned with the expectations of our customers and the goals of both policymakers and regulators.

We have made significant progress influencing the shape of US regulation over the last few years and we'll continue to evolve our approach to create more opportunities for efficient growth and outperformance to the benefit of our customers.

This evolution was needed to modernise our frameworks, giving us longer term transparency of the investments we need to make, greater protection against cost pressures and more incentives where we can create value for our customers and then share in that value.

Overall these developments allow us to maximise our performance while aligning with policymakers' goals and customers' expectations.

Looking back to 2015 we had mostly backward looking regulatory frameworks, setting revenue allowances using historic test years, with limited incentive arrangements and shorter open ended rate plans regulation was geared towards cost management rather than innovation, investment in new infrastructure and enabling the clean energy transition.

Regulatory frameworks that focus solely on costs and inputs where generally appropriate for a world of steady state investment with a focus on asset maintenance. They required little change for a utility to run as it has historically. But the industry has changed and is continuing to change, new safety mandates as well the decarbonisation and clean energy goals are driving new investment and require us to develop innovative solutions.

So since 2015 we have sought to evolve these frameworks to ensure we can deliver what our customers and our regulators expect so that the system is well positioned for the future.

We now have greater use of incentives and performance based multiyear frameworks which are more sophisticated. And I'm very pleased that we now have all of our distribution operating companies are refreshed rates and we've established a regular cycle of filings.

As well as laying the groundwork for regular filings we've made a gear change as we move forward, developing more forward looking frameworks that support the clean energy transition. To achieve this we've had to evolve our approach to become more agile and make the best use of the learning from the UK and best practices from around the world to allow us to be at the forefront of the regulatory debate in the US.

In 2015 our main goal was to establish a regular cycle of regulatory filings. So our company has achieved rate allowances that match the cost challenges and investment needs they are facing, especially as in some cases we've not filed new rates for several years.

In total we filed rate cases for all eight distribution operating businesses since the start of 2015. Importantly this has been accomplished on a more accelerated cadence, as demonstrated through restarting the cycle of filings with our current MECO, KEDNY and KEDLI rate cases, which are the second filing through to those companies since 2015.

It has also involved extensive engagement with our regulators and a wide range of stakeholders who have responded to the faster rate of filings we are making. We believe based on the feedback from our regulators and other key stakeholders that our rate case stakeholder engagement process is best in class.

So for example for KEDNY KEDLI we have had over 150 outreach meetings before we filed the case with stakeholders such as customer groups, low income advocates, business leaders, environmental advocates, municipalities and union leaders.

We have seen the benefit from this approach with for example a generally constructive tone in their testimony in our regulatory proceedings and the ability to reach multiparty settlements.

The new rates we've agreed since 2015 have contributed just under $1bn of incremental revenue since FY'16. And these coupled with the sharp focus on our cost base have been the main contributor to the increase returns that Dean explained earlier.

I'll now turn to some specific example of how the frameworks have created the opportunity to maximise performance, share value with our customers and to show what we're doing differently.

When we consider the development of incentives it's important that we balance the ability to create customer value, company performance and regulatory goals. Incentives should be win-wins for us and customers as they reward us for delivering incremental value with the majority of benefits going to customers.

To date we've agreed incentives where the sharing factors vary between 50/50 and 80/20 with up to 80% of the value going back to our customers.

We have had over $40m of new upside performance incentives approved by regulators in the past three years and we've filed and requested an additional $69m in the current KEDNY KEDLI and MECO rate cases. And we have started to see the business respond to the opportunities the incentives provide, ultimately saving customers money.

Individually those incentives are generally a low single figure of $1m each, but together they can add up to a significant number. One example is the leak repair incentive for our New York gas operating companies, which targets repairs on the highest emitting leaks, where we earned around $2m in 2018 by the business really being able to focus on beating the regulatory target.

Another example is the beneficial electrification incentive for Niagara Mohawk which awards us for promoting the update of electric vehicles and heat pumps and where our successful customer outreach programmes resulted in a $1m incentive in 2018.

These incentives were a shift in the regulatory framework which sets us up for the next phase in our strategy, which I'll now turn to.

With the reset of rates across all our businesses we now have a solid foundation to build on. We have updated our regulatory strategy based on a comprehensive review of best practice across the US and other parts of the world, including the UK of course, to create new upside opportunities.

An improved customer offering remains at the core of what we want to do, enabling the potential for new investment in safe, reliable and efficient services. And the foundation for our regulatory approach is to ensure funding for these new investments in a timely manner.

These frameworks are generally more forward looking and involve longer term rate plans, which provide us more scope to deliver efficiencies and value, as well as reducing the overhead of multiple rate filings on the business.

Building on this space we're then seeking to further develop output based regulatory frameworks that align results of an improved customer offering with new update opportunities of the company, while meeting the stretching goals set by regulators.

An example of this is the five year inflation minus x, or I-X proposal we made for our MECO rate case. The Massachusetts DPU has previously used backward looking rate plans were allowances were set using historic spend levels. Our new proposals will remove the current capex tracker and as the X factor in the framework is negative it replaces it with an annual above inflation revenue increases.

The overall effect is to fund our capital programme and give us inflation protection, while creating a total expenditure, or totex efficiency incentive to what we have in the UK under RIIO.

We also want to align our incentives with our customers and policymakers' expectations regarding the clean energy transition. We're excited about the opportunities to grow via new clean energy investments which provide the infrastructure needed for cost effective, thoughtful clean energy transition.

Given the rapidly changing interest environment we operate in it's important that we a thought leader across regulatory frameworks and also energy policy. So we proactively and extensively engage with policymakers and regulators. We share our wider Group experience in policy development and we're proud to be asked to regularly contribute to the wider energy debate, such as the leadership of the EEIs Electrification Transportation Group, which John Chairs for the whole USA electric industry.

Our 80x50 Pathway publication and the associated stakeholder events is another great example of this that has led to many positive stakeholder comments and was inspired by our UK experience in leading the Future Energy Scenarios process.

So that is where we are in terms of regulatory strategy, so let's have a brief look at the rate filings we have in progress right now.

We filed the recent MECO rate case in November 2018 for new rates to apply the 1st of October in the month coming up. And we expect to hear from the DPU shortly.

We originally proposed a revenue increase of $70m, which we amended to $55m following updated assumptions. This equates to 2.4% above our current rate allowance with a base ROE of 10.5%.

As I have previously mentioned we requested a five year time horizon with a performance based framework called I-X, replacing Massachusetts traditional backward looking allowances. And as I said this effectively gives us a totex incentive to reduce both opex and capex to the long term benefit of our customers while we're delivering our outputs based on new performance metrics and new incentives.

The requested performance incentive mechanisms would allow a further upside of up to 65 basis points on the ROE.

To facilitate Massachusetts transition to a low carbon economy we also requested funding to develop up to 50 megawatts of battery storage and $167m to invest in the infrastructure necessary to increase the take up of electric vehicles.

All of our states are keen to enable electrification of transport. However to manage the bill impact the rollout of the charging infrastructure may be phased over a longer period.

Turning to New York, we filed the recent KEDNY and KEDLI rate case in April 2019, for new rates to apply from April 2020. We originally proposed a revenue increase of $237m for KEDNY and $49m for KEDLI. Following updated sales forecasts and other updates we revised the filing and proposed an increase of $196m for KEDNY and $61m for KEDLI, which equates to 9.6% and 6.2% above our current levels.

We have proposed a base ROE of 9.65%, which additional incentive upside potential of 140 basis points if we perform well.

And to facilitate New York's move to a clean energy we have filed for future fee proposals including renewable natural gas programme and a green gas tariff, increase energy efficiency programme and pilots for power to gas and hydrogen blending. And we have requested a total capex allowance of $6.9bn, split $4.3bn for KEDNY and $2.6bn for KEDLI.

We would hope to agree another multiyear and multi-party settlement in New York, where the joint proposal settlement will be filed towards the end of 2019, which commission approval by March 2020.

To support this we provided data to enable a four year settlement which compares to the recent three year settlements we've recently achieved in New York.

In late August the PSC provided their first responses to this filing and they proposed an ROE of 8.2% and also proposed another of other adjustments and cash deferrals, which would result in a much smaller revenue increase in KEDNY than we filled for and actually a reduction in revenue for KEDLI.

It is important to remember though that this is just the PSC staff's opening bid and the size and difference between our positions is not atypical for New York rate cases.  So for example so of you will remember that in the last Niagara Mohawk rate case the PSC's opening position was for an ROE of 8.25%, but we needed up agreeing on 9% via a three year rate plan settlement.

Looking forward the outlook for our other operating companies is also positive and we expect to file five year proposals for Massachusetts Gas and Narragansett Electric in the next two years.

In addition we expect to make a submission for a four year rate plan for Niagara Mohawk, our Upstate New York company, in April 2020.

Finally before I summarise I wanted to give you some additional details of the clean energy projects we're working on.  I have said a lot about how important it is to get the right frameworks, so the expectation of customers, regulators and policymakers and shareholders are aligned.

Nowhere is this more important than the area of decarbonisation, where we are very excited about the clean energy opportunities that exist.  We are fully supportive of the decarbonisation objectives of the state we operate in, namely Massachusetts' and Rhode Island's goal of 80% reduction by 2050 and New York's aim to be at net zero carbon by 2050.  And we see our role as helping to find the solutions that help make these challenging ambitions affordable for our customers.

We are keen to provide the infrastructure to back each of our state's clean energy goals and we have proposals for $950m of funding for advance metering investments alone. $650m we have already proposed and $300m currently in development for Rhode Island.

If approved by our regulators we'd expect tangible benefits of operating cost efficiencies, load reduction and the ability to offer advance time varying rates and other innovative tariffs to our customers.

On electric vehicles and energy storage we are pursuing active opportunities in all our jurisdictions and see this as a big future growth area.

And in the area of large scale renewables we are supporting our jurisdictions to meet their climate change goals, for example via clean energy contracts.

We are also proud to share our UK experience in offshore wind and subsea cabling, while also creating opportunities for new transmission investment.

And we are also leading the debate on the future of heat, recognising our gas networks will have a role to play for many years in lowering heating costs to more customers who order gas heating conversions.

And as you've heard from Dean we have already got renewable natural gas projects underway, as well as pilots for geothermal heating solutions.

So to summarise, we've completed the initial phase of our regulatory strategy, delivering on the goal of resetting all of our distribution operating company rates. We have exciting plans to further develop our regulatory frameworks in innovative ways, further aligning at least with the long term goals of our business.

We are proud to be building on our expertise in areas such as the future energy scenarios work in the UK, with wider US participants to facilitate the clean energy transition. And we are excited by the growth opportunities that that transition provides.

And we are taking leading positions in shaping regulatory innovation to the benefit of our customers who are at the heart of our regulatory journey.

Thank you for your time this morning and Terry and I will now be happy to take your questions.

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***Questions and Answers***

**Jenny Ping, Citi**
Thanks, two questions with regards to the Mass Electric filing. Firstly, can you just share what the reception has been on this I-X the forward looking mechanism in Mass, given that has been historically very much a backward looking state in terms of regulation and some of the commentary, the softer commentaries around there?

And then secondly I was surprised, when I look at the rate case outlook the next MECO filing is not until the end of 2023, I was under the impression that you were looking to do Mass Electric every two years given the historic backward looking mechanism, so why such a long gap.

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**Terry Sobolewski, President, Rhode Island Jurisdiction**
Mike.

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**Mike Calviou, SVP, Strategy and Regulation**
Okay, so I think obviously we are awaiting the outcome of the MECO rate case filing, and we'll get that at the end of this month. But generally in the discussions we've had with stakeholders and the hearings we've had, generally people understand what we're proposing in the I-X framework and we're sort of cautiously confident that we'll get a version of it approved.

And I think you know the reason for the five years showing on the slide for the next MECO rate case is effectively the I-X is a five year proposal. So we agree that we'll stay at that for five years and as part of the overall package we will get that above inflation revenue increases every year and that will fund our capital programme and effectively means that we can then work out how to deliver what our customers need in the most efficient way.

So the five year - we will file in five years' time assuming we have the I-X in place. If for whatever reason the I-X wasn't approved then we will probably have to go back to more regular filings, but as I said we are cautiously optimistic we will get I-X approved.

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**Terry Sobolewski, President, Rhode Island Jurisdiction**
Other questions, yes please.

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**James Brand, Deutsche Bank**
I just had a question on slide 74, which was the incentive potential that you highlighted and how you're performing under those incentives so far. So I'm not sure if in 2019 if that's a year to December or that's a historic year that you've already had to March 2019, where you had around $40m of potential upside, how much of that you'd actually managed to achieve? Thanks.

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**Terry Sobolewski, President, Rhode Island Jurisdiction**
Mike, do you want to take that or would you like me to?

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**Mike Calviou, SVP, Strategy and Regulation**
Why don't you start because you're actually doing a lot of the delivery and I can add something.

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**Terry Sobolewski, President, Rhode Island Jurisdiction**
Very good. So I'll speak actually to the prior calendar year results on the AMs, they do run generally on a calendar year basis. There are about half a dozen metrics against which we are measured, all of which create meaningful value for customers and of which we get a share. Against those metrics we generally performed at or just beyond the midpoint for the entire set of metrics. Mike anything to add?

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**Mike Calviou, SVP, Strategy and Regulation**
No, as I say we've had good performance on a number the new incentives and as I said we're not maxing out on them, you wouldn't expect us to, the regulators try to make them stretching, but we have been very pleased with our performance. And you know certainly we see a material upside, certainly from 2018 which was last year where we had about $40m in place and certainly going forward we would expect a continuing good performance.

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**Mark Freshney, Credit Suisse**

Hi, it seems over the last two or three years that ROEs in the US North East have stabilised at around about 9, or 9.3%. Are you comfortable that they can remain there and can you also talk about some of the formulae that some of the regulators use to set those and whether there could be upside outside of the incentives?

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**Terry Sobolewski, President, Rhode Island Jurisdiction**
Mike can you take that one?

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**Mike Calviou, SVP, Strategy and Regulation**
Yeah, so in terms of - I'll probably start with the formulae, so - and many of you may be aware, generally regulators do have sort of set models based on either the capital model, capital added pricing model, or the DCF, discounted cash flow model, or some sort of combination of both of those.

So when you're looking at trends you do need to look at the inputs of those. And obviously the interest rate environment is clearly one of those, so you know the sort of declining interest rates does provide a little bit of downward pressure on allowed ROEs, but often there's other factors in it.

So for example if you look at - you know the current KEDNY, KEDLI rate case versus the one we filed three years ago and look at just what's coming out of those models differently, actually the big difference is actually the equity beaters, you know which actually are putting a little bit of downward pressure.

So there is no doubt that inevitably when we have these rate discussions we will be talking - as I said generally they have stabilised, there maybe a little bit of downward pressure from the interest rate environment we're operating in. But I think also our regulators do understand the need to give us a reasonable rate of return to promote the investment that they want us to make.

So it's obviously too early to say what outcome we'll get in the KEDNY, KEDLI rate case, but as I say generally we've been operating in the 9 to 10% in our distribution operating companies, our FERC regulated companies generally we've at you know at 10% plus.

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**Terry Sobolewski, President, Rhode Island Jurisdiction**
Any other questions? Great thank you very much; I think at this point in time I'm turning it over to Peggy.

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***Financial***

**Peggy Smyth, US Chief Financial Officer**
Good morning everyone, I'm Peggy Smyth, I'm the CFO of the US business and this morning I'd like to cover three topics with you.

First, is an overview of our recent financial performance. Second, is to give you some details about how our investment flows into rate base. And lastly, provide you with an updated outlook for the years through fiscal year '23.

So you've heard from my US Leadership Team colleagues about what we've delivered together in the last few years. Our strong earnings growth is underpinned by the asset growth and the improved returns performance following the regulatory progress that we've made that Mike just talked about.

And I'm very, very proud about how my finance team has worked together with Mike's regulatory team on the rate filings. We're very optimistic about where we're going with the potential for future rate base increases in the immediate future growing to $35bn as John said by the mid 2020s.

And this is driven by four factors. One, modernising our networks; two, paving the way for renewables growth; three, digitising our processes and systems; and four, evolving our regulatory strategy. We are leading all of this innovation while continuing to bring safe, reliable, resilient and affordable products and services to our millions of customers in our territories.

So to recap on our year end performance, we've delivered 9% annual rate base growth since fiscal year '17. And the closing rate base at 31 March 2019 was $22.9bn. This is before including assets outside of rate base or AORB of $2.5bn, which I'm going to talk about in a minute.

On returns we've achieved an ROE of 8.8%, 93% of the allowed level. And as Mike just talked about we've successfully updated all of our rates for all of our distribution companies, meaning we're on track for further returns performance improvement in fiscal year '20, to above 95% of the allowed level.

With the right regulatory underpinning, an evolved operating model focused on efficient delivery, we look forward to continued strong performance and returns and profit performance in the future.

So at our May year end earnings results announcement Andy Agg discussed for the first time the US GAAP regulatory earnings of our US business. And this additional clarity was to allow for a better comparison with our US peers, and also to set out the additional economic value that we accrue on our investments that sit outside of rate base. And these are very important components of the understanding of our total overall performance.

So before I talk about future projections, I'd just like to reflect on our US GAAP regulatory earnings and how we recognise the full value of the investments that we make. Our fiscal year '19 US GAAP earnings represented year on year growth of 7%, lower than the rate base growth due to a gas interruption event in Rhode Island and additional safety compliance spend in New York.

We also published the economic contribution of assets outside of rate base as these assets are becoming increasingly important as our investment grows. And I would like to spend a short time just discussing how the investment flows into rate base.

Net rate base additions for the year were around 60% of the capital value that we invested for the year. So rate base additions for fiscal year '19 were calculated as follows.  Capex for the year of $3.5bn, less the net change in construction work in progress, or CWIP of $300m, less depreciation of $1bn, less the change in deferred taxes and other items such as storm funds, environmental costs and pension cost of around $200m.

Now our net deferred tax liability in fiscal year '19 was significantly less than it had been in previous years due to the impact of tax reform.  And this gives us faster rate base growth as the change in the deferred tax liability is smaller.  The net of this gives us $2bn of additions in rate base in fiscal year '19, taking the total rate base to $22.9bn.

So now let me turn in detail to how we receive remuneration for investments during construction and the associated assets outside of rate base, or AORB.

Now the principle is that our customers do not start paying for investments until they go into service.  However, our regulators recognise that we need to finance these complex projects while they are under construction.  Substantially all of these assets accrue a return based upon the allowed regulatory cost of capital, which is recovered from customers in future years in the normal course of our business.

The majority of these assets are construction work in progress or CWIP with the remaining other regulatory assets and liabilities such as the storm funds, environmental and pension costs that I just mentioned.

Through our regulatory frameworks we're kept whole for the important investments we're making, while not burdening our customers for assets that are not yet in service.  As you can see our total assets outside of rate base has grown from $2.1bn in fiscal year '16, to $2.5bn in fiscal year '19.  And it has been driven by the increase in CWIP over that period.  And as our investment grows each year we expect this to remain a significant part of our total assets in the future years.

So as you can see over the course of the morning around 80% of our investment is required to comply with safety, reliability, resilience and other compliance requirements.

The annual compound rate of growth for the rate base for fiscal year '23 is over 8%.  And this translates into a similar level of US GAAP earnings growth with the incentives that Mike and Terry were just talking about providing for further upside potential.

And as Mike explained this investment is underpinned by progressive regulatory settlements and I'm very, very pleased to say that in fiscal year '22 and '23 we already have over 85% of our capex agreed to by regulators with our upcoming filings expected to cover the remainder.

So to summarise our US business has delivered strong asset and earnings growth over the last three years, as well as consistent levels of return on equity.  We are committed to achieve at least 95% of the allowed ROE in fiscal year '20.  And we'll continue to provide additional regulatory granularity on our US GAAP earnings to allow for better comparisons with our US utility peers.

So with that I'd like to now pass it back to John to give a few closing remarks and then John, Dean and I will come up for final Q&A.

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*Closing Remarks*

**John Pettigrew, Chief Executive Officer**
Thank you Peggy. So I hope you've all found this morning a useful session and you've got a much deeper sense of our US business.

I guess just to summarise key messages I hope you've taken away. First that the US business is in strong shape and is really focused on delivering efficient operational excellence right across the electricity and gas businesses.

We have a strong asset base growth projection over the medium term of greater than 8% and that is really underpinned by mandated investment in gas, asset health in electricity, but also we're quite excited about the decarbonisation agenda in the North East and the opportunities that gives rise for us as well.

We have seen excellent progress in terms of our regulatory strategy over the last three years and you've heard from Mike about how we're evolving that strategy to make sure we're meeting the changing needs of our customers and the changing environment as well.

And then finally, and hopefully it's come through very strongly in each of the presentations, our focus is on customer first. And we believe that by doing that it will drive real value for our shareholders as well.

So I'm hopeful that's the message that you've heard and we're now happy to take any questions, whether on the Group, or further questions for the US business.

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*Questions and Answers*

**Chris Laybutt, JP Morgan**
Good morning. Just one question for me, looking at the medium term growth through to 2023 we're very excited about that. In terms of growth beyond that what do you think is the likelihood of that growth rate continuing at that rate, accelerating, or declining and how do you feel about the funding of that growth? Thank you.

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**John Pettigrew, Chief Executive Officer**
That's specific to the US, I'll hand it over to Dean.

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**Dean Seavers, Executive Director, US**
I'll let Peggy talk about funding, but I think from a standpoint of how we feel about growth past 2023 we're still very confident in, I'd say the backlog of opportunities that we have, both in our gas business and electric business, particularly as you start to think about the grid modernisation that we have to do on the electric side.

I think you heard in one of the presentations we talked about EVs coming on line, we believe that getting prepared for that is also a growth opportunity for us.

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**Peggy Smyth, US Chief Financial Officer**
And in terms of the funding perspective, you know as you heard from Mike and Terry we have really good relationships with our regulators, we're very focused on our customers, so that's very important, we're providing good service. And we have been - our operating companies are funded based upon the capital structures that we have, basically 50/50 structures and we've been in the market recently for several of our businesses raising debt, we've had no problems there. So we're very optimistic about that.

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**Deepa Venkateswaran, Bernstein**
Thank you, so I have two questions. One is on the assets outside of the rate base, Peggy could you confirm how exactly you get remunerated for those assets before they commission, because after they commission it comes under the rate base so that's clear, so for the interim period is it a notional accounting entry, or?

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**Peggy Smyth, US Chief Financial Officer**
So what's happens is, is that to compensate us for - the majority of it is construction work in progress, so it's to compensate us for using our funding to build those assets, which might take you know longer than a year so to get a weighted average cost of capital which gets added to the notional cost of the project and then once it gets put into rate base then we are in the cash return on it.

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**Deepa Venkateswaran, Bernstein**
So for the adjustment that you've done on the US GAAP earnings, how do your peers - what do they do with their assets? So if we took the earnings of a US utility would they also have already adjusted these earnings?

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**Peggy Smyth, US Chief Financial Officer**
Yes you would see that in their earnings. So this is a concept - in the US you might hear a concept allowance for funds used during construction AFUDC, that's the term that's used in the US, it's a common practice.

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**Deepa Venkateswaran, Bernstein**
Okay thank you. So my other question was for John, so about the blackouts that happened here in the UK on the 9th of August, I'm just wondering when you expect Ofgem to say something about it and just basically your thoughts after your detailed technical analysis?

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**John Pettigrew, Chief Executive Officer**

Yes, so in terms of the 9th of August, so hopefully people are aware that following the incident actually three investigations were launched. Effectively National Grid did its own investigation and we published a technical report to Ofgem a couple of weeks ago.

At the same time the Secretary of State Andrea Leadsom asked for the E3C Committee, which is an industry body to do their own investigation. My expectation that report, the interim report is imminent and we'll receive the final report at the end of October.

And then finally Ofgem, having received the technical report also set out that they intend to do an investigation. Their investigation is covering National Grid as the ESO, as well as the transmission owner, they are also investigating the distribution companies, all of them as well as the two generator companies involved which was RWE and Orsted.

So that investigation is ongoing. Ofgem have asked questions of us and others in the industry but have yet to set out a timetable as to when they will conclude that investigation.

Just for those who haven't had a chance to read our technical report, just to make sure that everybody has the headlines, so the headlines from the technical report set out that in terms of the incident we had a lightning strike, the transmission system operated exactly as its designed and in accordance with its licence and with the security standards. And in fact within seven minutes of the frequency dropping to 47.98 it was back at 50 hertz.

The disruption is set out and the causes for the disruption is set out very clearly in the technical report. But from our perspective we were holding the right level of response and reserve as set out in the security standards and the system operated exactly as it's designed and was intended to do so.

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**Mark Freshney, Credit Suisse**
A question for John and Andy as we approach the last year of RIIO in the UK, it looks like from what you've told us today for the first time the US business will be earning better ROEs than are likely in the UK, have better base growth, better operating cash flows and possibly also a better regulatory backdrop.

Against that what options would you consider for the UK businesses and the Group if clearly you've got the UK being substantially dilutive to the US?

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**John Pettigrew, Chief Executive Officer**
So thank you Mark, let me start where I always start, which is you know at National Grid we look at each individual business in terms of its contribution both to cash yield and in terms of dividend support as well. And the businesses we have are all very important to National Grid and we're very comfortable with the portfolio that we've got.

In terms of asset growth you're right, so what we set out today is over the medium term we expect the growth in the US to be very strong, above 8%, and we've set out the investment drivers for that. In the UK we still expect to see good growth in our electricity transmission business and our gas transmission business.

For those who have looked closely you will have seen that we issued our draft business plans in July, they are going through the process now with our stakeholders and the challenge group to get to the right level of capex that delivers the outputs that our stakeholders say is important.  But it is likely to be lower than what you see in the US and that is just a reflection of where we are in the US with a lot of our mandated work in gas, compared to where we are in the UK.

In terms of returns and cash, well we're not yet at a position where we've got an agreement with Ofgem, we're in the middle of that consultation.  Ofgem has set out its thoughts in terms of both returns and the overall shape of the price control and we've responded to that.  You know we've just gone through the first draft, we about to submit our second draft of the business plan at the beginning of October.

We then go through another reiteration with our stakeholders and the challenge group before we submit our final business plan in December.

Ofgem are not likely now to come back out to the market in terms of what the returns are and what the overall framework looks like until early next summer.  Therefore we have an opportunity to continue to make the case as to why the returns that were in Ofgem's original decision document we believe are too low and that it's really important that we get a framework that actually delivers both for customers and for investors given the levels of investment that we're going to see in the UK over the next decade.

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**Martin Brough, Macquarie**
A couple of questions, on the UK I think we're due to get this sort of Ofgem formal consultation on the licence changes for the Hinkley Point connection soon, is there a sort of line in the sand there for you.  Are you willing to sort of challenge that, it does seem a deviation from the normal methodologies that Ofgem is using to look at allowed returns.

And then secondly on the US, obviously going back quite a long way when the original US investments were made New England there were very long term sort of fixed price rate agreements and you were locked out for quite a long time and the hope was you could cut unit costs and deal with fixed revenues.  And obviously costs then significantly increased and it took a while for you to then be able to come back and ask for rate increases.

Are you sure that that might not happen again, that you go for obviously inflation linked sort of unit costs and then if capex does continue to rise, will you be caught again where costs are going up more than the allowances?

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**John Pettigrew, Chief Executive Officer**
Why don't I do the Hinkley one, I'll start the first one given my history and then I'll hand over to the team.  So in terms of Hinkley, the honest answer is we're still waiting, which is what I said I think when we did the results in May.

We have set out very clearly that we don't believe the competition proxy model is the right model going forward, both in terms of the proposed returns in terms of how it's set up because it's not competition and doesn't give the right balance between risk and reward.  We've been very clear with Ofgem our concerns around that.

We have said we have no issue with competition generally in terms of the case, but obviously until Ofgem can put the legislation through the House of Commons they are not able to progress that forward.  So we have set out and continued to then over the last six months extensively to Ofgem why we have those concerns.  We wait for their decision.

When we have their decision ultimately we can look in detail at what they are proposing and decide whether to accept it.  Hinkley is under construction in terms of the transmission job, or we can refer it to the CMA.  And we've been very clear based on what we saw previously that we're very uncomfortable with it.  But until I actually get a draft licence I can't actually make a decision on it so we're still waiting.

In terms of the evolution of the regulatory strategy, if you go right back to the late 1990s and early 2000s you're absolutely right.  So in particular actually you're probably thinking of the original Nemo regulatory contract which was a ten year filing.  I think ten years is too long.  I think in hindsight it's very difficult to forecast capex precisely enough, particularly when you don't have revenue drivers.  And of course we don't have revenue drivers for demand growth in the US as we did in the past.

I think we are increasingly more comfortable though with the work that we've done in the US over the last few years in terms of we understand the networks, we understand the condition of the assets and therefore we understand what work needs to be done as Cordi and Chris has set out.  And therefore we believe by having a slightly longer framework it will allow us to deliver that capex much more efficiently, which is beneficial to customers.  But it allows us to go in less frequently and therefore we can manage the increase in customer costs as well.

So I think it is really a reflection of our better understanding of the assets and the networks that have allowed us to be more comfortable that we can move to three, four, five year price controls.  I don't see us moving to a ten year one though.  Anything to add?

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**Dean Seavers, Executive Director, US**
Yeah, I mean I wasn't familiar with some of the history, but I think you know we've been focused on unit costs, at least in the four and a half years that I've been here; the team is nodding over there because they know we talk about it all the time.

I think the big driver for us really customer bills, we want to make sure we're delivering value for customers, a big part of that is the things we put in front of customers in terms of customer service, in terms of the different products and services that we offer.  But the other part is making sure that even though we've got a lot of capital growth that we're being efficient on capital, you heard Rudy talk about the capital delivery model.  That goes across gas and electric, but also in terms of our opex, making sure that every year we're trying to manage that cost as efficiently, as effectively as we can, so I think that lines up with sort of that.

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**James Brand, Deutsche Bank**

Actually just a clarification on Peggy's answer to one of Deepa's questions on the AORB when you said that the competitors often do include that in their earnings, I just want to clarify, when we look at US GAAP accounts for a typical US utility, or we look at your US GAAP accounts from your website, are the earnings numbers there including the AORB or not?

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**Peggy Smyth, US Chief Financial Officer**
So those would be implied in the - our US GAAP earnings and because - you might not see them explicitly, but they are built into then how we're adding to our rate base, or assets outside of rate base.

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**James Brand, Deutsche Bank**
You don't necessarily see them in the earnings, but other US utilities would be highlighting what the impact of that would be in their presentations?

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**Peggy Smyth, US Chief Financial Officer**
They might be highlighting it, we're an exception in some ways because we're growing, we have our - our capex growth is growing so much that we have a lot of construction work in progress. So that is why we were highlighting it because it's been very significant for us where other of our peers do not have the growth rate that we do.

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**James Brand, Deutsche Bank**
Thanks it makes sense.

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**Simon, T…. Capital**
Considering you know the great growth you're showing in the US, will that affect your dividend policy, and how do we think about your dividend policy going forwards?

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**John Pettigrew, Chief Executive Officer**
So in terms of the dividend policy, the dividend policy remains exactly as it's been since 2013, which is you know we look to grow the dividend by at least RPI. We recognise the importance of sustainability of the dividend and as we've done for many years now we look to work through the price controls and the rate filings that we have and we also look to make sure that we maintain and efficient balance sheet. So we're comfortable that policy remains the right policy for us today.

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**Bartek Kubicki, Societe Generale**
Two questions, one on the US ROE achieved versus allowed, do you think - what are the chances that with all the incentives you are trying to convince regulators that you

actually can get to 100%? And actually maybe even more with the incentives, what do you think the volatility could be of the returns, I mean historically it's been quite high, I guess you will be trying to actually decrease the magnitude of the volatilities, what do you think it will be?

And the second thing on RIIO 2 if I may, and especially on the gas transmission, in the draft budget you are proposing to actually shorten the useful life of the gas transmission assets and also accelerate the depreciation of new investments. This is something actually new with other European regulators are not looking at yet. And I wonder what are the chances actually that these sorts of changes could be introduced in the UK? What is the feedback from Ofgem on this proposal you've made? Thank you.

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**John Pettigrew, Chief Executive Officer**
Well I'll hand over to Dean Sir because we talk about how close we get to allowed most weeks. But actually if you look at the breakdown of the operating businesses in the US then actually a number of them are already achieving more than the allowed. So the objective is always to get as close to and then use the incentives to get over.

So you know our aim is to maximise but we've set ourselves, certainly for this year, and guided to 95% of allowed. But Dean what would you like to say on that?

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**Dean Seavers, Executive Director, US**
Probably not much more, I mean - you say we talk about it every week, I thought it was hourly. But at the end of the day …

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**Peggy Smyth, US Chief Financial Officer**
I thought more often.

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**Dean Seavers, Executive Director, US**
Our team is dedicated to getting as close to allowed as we can. I mean like John said it's 95% this year, which we think is a strong performance by us. I think for us it's a number of things. You know we saw Mike stand up here and talk about sort of the regulatory strategy, which with the first phase of that we implemented the primary part of that was the regulatory cadence that we had and refreshing all the rate bases.

We've done that, we're trying to execute within those rate bases now. And I think he knows, if we can get the right incentives then clearly we want to get to you know sort of the allowed rate and if there is an opportunity to overachieve we absolutely will, we absolutely will.

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**Peggy Smyth, US Chief Financial Officer**
I can tell you and you saw in Dean's slide, our controllable costs have been coming down; we're very focused on efficiency. A lot of the earnings adjustment mechanisms

and incentives, it's a new concept fairly recently - and as Mike said they are really hard to obtain, but we're doing a good job - getting about as Terry said about half of them. so you know we're very much focused on trying to over deliver on those and get that allowed - to compare it - that achieved versus allowed up there.

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**John Pettigrew, Chief Executive Officer**
In terms of volatility, I mean I think our expectation is we wouldn't expect a huge amount of volatility.  There are things that are outside of our control that can impact an individual operating business.  So you saw last year if we look at the ROEs, Rhode Island was slightly lower than we would have expected because we had quite a significant issue with the transmission companies disrupting our supplies which meant that we had to get a lot of customers back, which had a significant cost relative to the Rhode Island business.

But in terms of the normal sort of day to day operations as you've seen we've got very clear visibility of the capex, we've got a very good operating model in terms of how we're going to drive performance and therefore I think we're confident that we can deliver the ROEs in a consistent way year after year.  There are sometimes unexpected events which we'll all explain if they are outside of our control.

In terms of RIIO T2 it seems a shame to have the Group CFO here and not to answer a question on depreciation, so I'll ask Andy to answer that one.

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**Andy Agg, Chief Financial Officer**
Thank you.  I think it comes back to something we've talked about previously when we're looking at RIIO T2 there is always a lot of focus on the allowed return and what that will be as the earlier question referenced.

When we look at the framework in total we've talked consistently about the other financial parameters with the potential settlement.  That will include things like asset lives, it will include the fast / slow money ratings as well.

So the proposal that I think was particularly referenced was in gas transmission, we've proposed moving towards what's call a sum of the digits for new gas transmission additions and we just see that as one of the opportunities in terms of looking at the right cash flow parameters for that business.  We will have to wait and see where that goes in terms of the future negotiations with Ofgem.

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**John Pettigrew, Chief Executive Officer**
Thanks Andy.  Any more questions?

Okay, in which case can I say thank you everybody for attending this morning.  I do hope you found it useful.  If you found it really, really useful and you'd like to come again on Monday in New York you are quite welcome, where we'll be repeating the process.  Otherwise I hope to see you all very, very soon.  Thank you.

Applause

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