



Northern Ireland  
Assembly

Committee for Regional Development

# OFFICIAL REPORT (Hansard)

Strategic Drainage Infrastructure/Infraction  
Risk: Northern Ireland Water

17 September 2014

# NORTHERN IRELAND ASSEMBLY

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Strategic Drainage Infrastructure/Infraction Risk: Northern Ireland Water

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**Members present for all or part of the proceedings:**

Mr Jimmy Spratt (Chairperson)  
Mr Joe Byrne  
Mr John Dallat  
Mrs Brenda Hale  
Mr Ross Hussey  
Mr David McNarry  
Mr Cathal Ó hOisín

**Witnesses:**

Mr George Butler	Northern Ireland Water
Mr Bill Gowdy	Northern Ireland Water
Ms Sara Venning	Northern Ireland Water

**The Chairperson:** I welcome to her own building Sara Venning, who is the chief executive of Northern Ireland Water (NIW); George Butler, director of asset management; and Bill Gowdy, director of engineering procurement. You are all very welcome, and thank you again for hosting the Committee meeting here today. It has been a worthwhile exercise. None of you is a stranger to the Committee. I do not think that you are frightened of us any more, Sara, so I ask you to go ahead and make your presentation and then to leave yourself open for questions.

**Ms Sara Venning (Northern Ireland Water):** Members of the Committee, thank you very much. I thank you all very much for coming out and visiting us this morning. We are delighted that you made your time available for us, and I am glad that you found it worthwhile. I hope that we are all suitably refreshed following our spell outside in the fresh air.

As Jimmy said, we appear before the Committee for a number of reasons. Sometimes we are here to explain ourselves and our performance, sometimes we come to provide assurance on how we discharge our duties, and sometimes we come to secure your support for our business plans and forward work programmes. Today, we want to talk to you about the capital side of our business. We want to brief the Committee on the success of the NI Water capital work programme. We will give you a flavour of the scale of investment that we have delivered and the benefits that it has brought to our customers and the wider Northern Ireland economy.

Very shortly, I will hand over — this presentation is not about me today — to Bill Gowdy, who is the director of engineering procurement, and he will brief the Committee on the capital programme, what it has delivered and how it could deliver more for the public purse. George Butler, who is our director of asset management, will then talk about our strategy for the future, reminding the Committee of the capital plans that we have for the next six years and highlighting those areas in which we have

identified that we need additional capital investment but where the funding has not been made available and is not included in our funding model. The presentation ends with an overview of the investment needs that are required to deal with drainage and waste water treatment requirements for the Belfast area.

You will be familiar with this slide. You will have seen it at the Committee before. It is really just an overview of our asset base. All that I want to do is set the context that, with £8 billion of assets, a not insubstantial investment programme is required to maintain and upgrade those assets. You have seen the physical size of just one of the 1,000 waste water treatment works.

I will outline the quantum of physical assets. On the clean water side, there are 23 impounding reservoirs — that is your big, Silent Valley-type impounding reservoir that collects raw water — 25 water treatment works to treat that water and 300 service reservoirs, which are essentially big concrete tanks under the ground in which the treated water is stored. All that water is distributed to homes via 26,700 kilometres of water mains. Similarly, on the waste water side, you have 15,250 kilometres of sewers, which take waste to over 1,000 waste water treatment works. We have had the chance to view one — admittedly, the largest one — this morning. I will now hand over to Bill.

**Mr Bill Gowdy (Northern Ireland Water):** Sara, thank you very much. Members, thank you for the opportunity to tell you a little bit about what we do on the capital side of the business. I have about five slides to go through that will tell you that Northern Ireland Water has a history of successful delivery of capital projects and investment of money. There is much more to do, and George will tell you a little bit about our plans for the future.

The next slide shows you one of the jewels in the crown of the large investment in capital construction, and that, of course, is the Belfast sewers project. It comprised three main tunnels delivering storm water sewage to the treatment works that you find down here. That is £160 million of investment, and all that you see is that little shed that we looked down from. That is a bit of a shame of course, but, nonetheless, that is what it is.

I will demonstrate the size. The depth of the pumping station that you looked into, which you can see in the top right corner, is 34 metres, and that is the equivalent of the height of the Albert Clock down into the ground. The diameter of the pumping station itself is about half the diameter of the Waterfront Hall, and it can hold over four million gallons of sewage, which is a remarkable amount of water. It pumps water at 4,000 gallons every second. So, it is a huge amount of investment. There are six pumps at the bottom, each weighing 20 tons. That is only one part, and I mean only one part, of the solution to some of the flooding in Belfast. You can see on the little inset some of the flooding that occurred in a part of east Belfast. Regrettably, some of that flooding continues. That is why we have much more work to do.

The aim of the scheme was to reduce the risk of flooding from and pollution to the River Lagan, which it has done very successfully. It is one of the big projects that has provided successful delivery of capital procurement in Northern Ireland Water.

**The Chairperson:** Bill, may I stop you in mid-flow? I have just been told to ask members and those sitting around the sides to turn off their mobile phones, because they are causing serious interference to the recording equipment. So, can we switch off mobile phones, please? Sorry about that, Bill. Go ahead.

**Mr Gowdy:** OK. I will move on to the next slide. You can see that, over the number of years since 2007, Northern Ireland Water has invested £1.5 billion worth of capital investment. Some of the notable ones that you can see are the £160 million Belfast sewers project and over £100 million worth of water mains rehabilitation. You can also see that we have been working on a number of other projects: on the north coast; in Antrim; and in Enniskillen. That shows that we are spreading the amount of investment right across the Province. So, those are some of the very large waste water projects that we have invested in.

A point to note is that, on the water mains project, we have laid over 1,000 kilometres — over 600 miles — of new water mains. That has contributed greatly to the service that we give to our customers, and, in a second, I have a slide to show that. By making all that investment, we have reduced significantly the risk of out-of-sewer flooding to our customers, the number of pollution incidents in our rivers and streams, and the risk of low water pressure. We need to make sure that our customers do not get low pressure and avoid supply interruptions. All of that has improved customer service and, indeed, represented what we think is the best water quality and waste water compliance

that we have ever had. That represents a spend of about £2 million every week, but we would love it to be more than that. Nevertheless, we are investing £2 million worth of public money in waste water and water infrastructure every week, which shows that we are dealing with a significant amount of money and, indeed, are delivering on that.

That is, I suppose, the subject of the next slide. You can see two lines representing drinking water quality over the period from 2004 to 2013. The top blue line represents a compliance with the regulations of 99.85%. You can see that the target was 99.7%, so we are exceeding that. I know that those percentages are very high and that the difference between 99.85% and 99.7% seems fairly small. Believe you me, it costs a lot of investment and takes a lot of time to move those percentages up that little bit from 99.7% to 99.85%. All the capital work and all the maintenance that we do in our water mains and treatment works represent that total, and I think that that is a very commendable investment for Northern Ireland Water.

The mirror image of that is the compliance with our discharge standard, which involves taking and treating the dirty water. There are two lines there: a red line and a blue line. The red line represents the percentage of the population — "PE" is "population equivalent" — that is served by a compliant works; that is, a treatment works that is meeting all its compliance standards. You can see that just over 98% of the population is served by a compliant works. The blue line represents the number of works. You can see that about 92% of our works are complying with the regulations, and we continually want to increase that. We have over 1,000 waste water treatment works of a large scale and 250 works that serve a population of less than 250, so there are quite a lot of treatment works around the country.

You can see that the investment that we have put into clean and, indeed, dirty water represents quite remarkable achievements. That demonstrates that, when we receive capital money, we are able to make improvements to the water quality and the sewage quality, which represent a very good investment for our customers. We have a lot more to do, and we want to do more, but we have to do it efficiently and as well as we can. We have identified some barriers that reduce our efficiency to delivery capital works. I will explore those for a second. We believe that we could become more efficient, use the investment more wisely and get more investment for our money — more bang for our buck — if we were to get a little bit of end-of-year flexibility. As you know, we are tied to the financial year that comes with public expenditure. We have to spend it within that year. You will be very well aware of that. If Northern Ireland Water had some relaxations on that, and if we had end-of-year flexibility, which would run into long-term planning, we could look at better ways of procuring works with our contractors, consultants and suppliers. They would know that we have a programme guaranteed for a number of years, not just one year. That way, we believe that we could mine even more efficiencies, be able to make better deals with them and be able to introduce innovation into what we do. We believe that we could increase our efficiency and get much more investment for our capital spend.

There are some other constraints and limitations in the governance models, and so on, for delivery, which we can look at, but long-term planning, tied to end-of-year flexibility would help us enormously. That is something that we are aiming to get.

I will hand over to my colleague George who will, no doubt, explain a little bit more about efficiencies.

**Mr George Butler (Northern Ireland Water):** Thanks very much, Bill, for setting out the significant improvements that Water Service and Northern Ireland Water have achieved over the past 15 years. Not only has that investment removed the threat of infraction from waste water treatment works but it has addressed the public health issues that we had on our drinking water supply. It has also modernised and made more efficient the public water and waste water service that we have in Northern Ireland.

The next slide sets out the price control periods. Reference A is price control 13, which we call PC13. It is the two years from 2013 to 2015 — the current period. The new PC15 price control period in reference B covers the six years from 2015 to 2021. As many of you will know, that is at the draft determination stage with the regulator. Reference C, the wider DRD long-term water strategy, is the 24 years from 2015 to 2039. That is currently out to consultation. It is important to think long term for water and waste water planning. Most significant projects, such as the Belfast tunnel, have taken at least 10 years to get to fruition.

I will set out in summary what will be delivered in the six-year PC15 period and what cannot be included owing to the limitations on funding. However, that is only part of the picture. The

Department's paper sets out the significant areas of need that are outside the price control process and not funded in PC15.

PC15 is a very substantial business plan that has been built up over the past two years. It is based on the Department's draft social and environmental guidance. It is designed on eight principles, and it aims to put the customer at the heart of everything that we do. The principles are providing high-quality customer service; providing safe, clean drinking water; giving value for money; adapting to climate change; protecting and enhancing the environment; reducing pollution incidence; supporting businesses and new customers; and responding quickly when customers contact us.

Some of the Committee will remember from your visit to Capital House, the Northern Ireland Water customer relations centre, the extensive customer engagement and focus groups that we carried out with the Consumer Council so that the customers' voice was heard when preparing the PC15 business plan. From this guidance, and from listening to customers and other stakeholders such as the Committee, we developed the aims for our capital investment for 2015.

The aims for capital investment for PC15 are to be cleaner, greener, safer and leaner.

As you have seen from Bill's presentation, under "cleaner", we have achieved the best ever drinking water quality and waste water compliance in Northern Ireland. The key area is to maintain those high standards and to extend the scope of the treatment where possible, particularly for the waste water treatment capacity and out-of-sewer flooding. This is what customers have told us they want.

Under "greener", we have built sustainability into the basis of our plan. We want to use less energy for efficiency and to reduce our carbon emissions. That is what the environment needs.

Under "safer", we have to deliver our major capital programme safely so that staff and contractors are safe at work. We also have to keep the environment safe. That is what our staff and our communities deserve.

Under "leaner", we have to do all of that in a very efficient and effective manner, because we know that capital is scarce. We also have to deliver the right assets at the lowest sustainable cost. That is what you as our stakeholders want.

Based on those aims, we started the PC15 process by estimating the scale of capital investment needed to deliver all the outputs required in the PC15 period. I term this diagram the "bowling ball" for obvious reasons. The large green ball is an estimate of the costs of dealing with all the capital drivers associated with water and waste water compliance. That is an estimate to complete all the work required for water, waste water and environmental drivers that we have identified in the PC15 period. However, in practice, even if the money were available, we could not efficiently invest £2.8 billion in the PC15 period, as it would take a number of years to prepare the studies, develop the solutions, and procure and deliver them. However, it really sets out the scale of the challenge at £2.8 billion.

The yellow ball is the amount that we could efficiently deliver in the PC15 period if we started work now. That is equivalent to about £280 million a year, which was about the rate of investment during the period 2007-2010 when there was major investment in the waste water treatment works and the Belfast tunnel.

Finally, the blue ball, which is the £990 million nominal, is equivalent to about £165 million a year. It is the sum set out in the social and environmental guidance and will allow Northern Ireland Water to maintain service to customers during the PC15 period and make some improvements but not to satisfy the overall drivers for water and waste water investment. Although we understand the current constraints on public expenditure, it gives us a longer-term problem.

The next slide is a rather detailed graph but with a very simple message, which is that we are not investing enough for the long term in water and waste water services. The historical capital investment in the graph goes right back to 1985 and then predicts right up until the end of the period in 2039. It started in 1985 with about £60 million a year. As you follow the graph along, you will see that there was major investment in water treatment works in order to improve public health and to make sure that we had high-quality drinking water. There was then very significant investment in waste water treatment works, including the public-private partnership (PPP) project, Project Omega. It has dropped very significantly now in the PC10 and PC13 period. However, I want to bring to your attention the dotted red line, which shows the proposed investment during the PC15 period, which I mentioned, and the overall £990 million nominal or £165 million a year. This shows that we will build up

a very significant backlog of investment that will need to be addressed after the end of the PC15 period.

The dotted green line shows what we could do if more money were available. It is a very significant increase in investment over what we are planning over the period. So, the simple message, again, is that we are putting off investment that will be required for the future.

I stress that, overall, there is sufficient funding in PC15 to maintain service to customers. I will set out the key outputs for PC15. We plan to deliver, through Bill Gowdy's good efforts, 816 kilometres of water mains rehabilitation and replacement. That is about 3% of our total stock of assets of water mains, which is 26,500 kilometres. So, we are doing 3% replacement in six years. That gives you an average water main life expectancy of 200 years, and I am afraid that they will not last that length of time. We will deliver two nominated trunk mains and nine water treatment works upgrades.

On the waste water side, it is, perhaps, more stark, because, in the six years, we are planning to deliver only 74 kilometres of new and upgraded sewers out of our total asset base of nearly 15,000 kilometres. So, 0.5% of our asset base will be renewed in six years. That gives an average asset life for sewers of 1,200 years. During this period, we will remove 54 unsatisfactory sewer discharges to help with pollution and upgrade 19 of the larger waste water treatment works, and we are programmed to upgrade about 45 small rural waste water treatment works.

I want to say something about those, because it is there that there are significant constraints. The "measles" map is the map for the 45 smaller rural waste water treatment works that are planned to be completed during the PC15 period. Generally, these smaller rural waste water treatment works have a population equivalent to less than 250 people. This investment will address environmental and growth issues at the same time.

There are about 750 smaller waste water treatment works, so it will address about 6% of our total smaller waste water treatment works in the six years. That is about 1% per year, which gives an average life of about 100 years. There will, of course, be maintenance on them during that period. We would like to do more, but, initially, investment was constrained from about £22.5 million to £12 million for the PC15 period.

We work closely with the Environment Agency to prioritise the investment. That is one of our most efficient and effective delivery mechanisms, because we have standardised the solution, and we can roll them out as a standard solution for many areas.

I want to look at the larger waste water treatment works, in one of the biggest of which you are sitting. We have about £71 million identified in the PC15 period for 19 new starts. Overall, we have about 250 of these works, and there is one major investment of about £20 million in the Dungannon or Moygashel waste water treatment works. That is the big one during the period. This is not the only investment in waste water treatment works. We will also invest in base maintenance, which Davy mentioned during his tour. That will maintain the existing works, but it will not deal with investment for growth or new environmental standards.

This is quite a constrained area for investment as it will mean that a significant number of waste water treatment works may not be able to accept additional flows by the end of the PC15 period. That is shown on a diagram on one of the slides. About £155 million of investment was deferred. It referred to 81 treatment works in which we will not be able to increase the capacity or improve the environmental discharges during the period. About £71 million will be invested to improve the larger works, as shown on the previous slide, but about £155 million of investment for growth or environmental restrictions has had to be deferred. Based on the estimates for growth during the PC15 period and the works that are currently out of capacity, about 58 waste water treatment works will have no headroom at the end of the PC15 period. This is not an exact science, so I cannot predict exactly, but it is likely that we will have to recommend to the planning agencies that no new flows are connected to these 58 works.

To summarise the key constraints for PC15, we are planning to defer phase 2 of the works at Lough Bradan on the water side, and, on the trunk mains side, we are going to defer Glencuil to Cabragh and Killyhevlin to Lough Bradan. We are planning to reduce the water mains rehabilitation by about £60 million. That equates to about 500 kilometres of sewers. We will also have to focus on some of the water supply capacity and translate that to maintenance.

On the waste water side, sewerage maintenance and out-of-sewer flooding pollution has been reduced by about £54 million. The number of new waste water treatment works were set out in the measles map that I talked about earlier. We have also had to cut in other areas, such as management in general, which includes the likes of vehicles, telemetry etc. That funding has been reduced by £10 million. The overall capital maintenance, which is to maintain the standards of the existing works, has been reduced from an average of £96 million per year to £83 million. That is the bottom of the maintenance that we think we can do.

I emphasise that we will continue to prioritise maintenance on the existing assets. Although the maintenance has been cut, it should be sufficient to maintain the existing service to customers. The problem is around renovation and new assets and improving assets to provide additional capacity or to meet higher standards. That is particularly an issue for Belfast which has the combined challenges of keeping up with economic development, flooding and environmental improvements. Sara will pick up on those issues.

**Ms Venning:** There is a fairly stark picture in front of us. To conclude the presentation, I remind you of the success of the programme to date. Since our inception, we have delivered £1.5 billion of capital investment. You have seen, quite tangibly, the improvements that that has delivered in waste water compliance, in protecting the environment and in improvements in drinking water quality — something that everybody in the room, and the people whom they know, feel and experience.

It is clear, as set out in the expenditure graph, that capital investment is decreasing. We have set out for the Committee, in the measles maps and other pieces of information, the impact that that will have on schemes not being delivered, as well as on building up this backlog of capital funding requirements post-2021.

The next slide sets out one of the key strategic projects that is not included in the PC15 business plan. That is the investment required in the greater Belfast drainage area, and in the works that you have just visited, to accommodate growth, to mitigate the flood risk and to deal with more stringent discharge standards. When Davy was showing you the bottle of clear water, he was saying that it was not the most stringent of discharge standards. As they get more stringent, you will need to do more to treat the effluent.

While we absolutely recognise the drivers for the investment, funding is constrained, and that has meant that we have not been able to include that in the PC15 business plan, but we have been working on the issue with all stakeholders, from the customer to the environmental to the financial and to our shareholder. In the planning stages of PC15, it was agreed that the Department for Regional Development would take a lead on establishing a strategic drainage infrastructure project team and that it would lead in working with the Executive to set out the need for that funding. To that end, an interdepartmental group was established to plan properly to enable economic growth; to address environmental risks, including the risk of infraction proceedings in respect of water quality in Belfast lough; and to reduce significantly the risk of flooding, particularly in, but not confined to, the Belfast area.

That initiative is being led by the Department and will be supported by NI Water. As we said, the Department will bring a briefing paper to the Committee on that. When you have that, I hope you will bear in mind the facts and figures that we discussed today.

Thank you very much for your attention and we are happy to open the floor to questions.

**The Chairperson:** Thank you very much indeed, Sara, Bill and George. I found the tour alarming, useful and worthwhile.

The issue of the seriousness of this plant was raised with us a few weeks ago when we were with the Belfast Harbour Commissioners. Off the top of my head, another 75 or 80 acres are being reclaimed in the lough in terms of economic development. Some might see it as a Belfast issue but it is not a Belfast issue; it is an economic issue. In fact, it affects the whole Province in terms of expansion of the economy and all the rest of it. I hope that the Executive are aware of that.

Discussions have been taking place with other Departments. Are you aware of any discussions that have taken place, for instance with DETI, the Planning Service and DARD in relation to the issues around the flooding and stuff like that? There is a multi-departmental issue in terms of stuff. If a major planning application comes in, at what point would you — I know you are not at that point at this minute in time — think that, as a consultee, you would have to say, "Sorry, we can't take any more

infrastructure or waste into the Duncrue plant because we are now on the edge of infraction proceedings"?

There are also issues around water quality in the future, so how close are we to a point where you might have to say, "Sorry but we can't take any more" about something that is maybe bringing hundreds of jobs to the Province?

**Ms Venning:** Unfortunately, I cannot say to you, "On 25 September 2018 the problem has come."

**The Chairperson:** I understand that but I was thinking of a ballpark figure. That time is obviously looming closer. I am not trying to tie you to a date.

**Ms Venning:** We went around the works and Davy explained some of the constraints. The works are performing comfortably at the minute, so that is good. The other thing to consider is that it depends on the type of development.

For example, the harbour development and the signature office space was discussed with us and we have committed to connecting that development into our network, so that is all safe and secure. When you think about the sewage and the load it brings into the works, you heard Davy mentioning PE, which means population equivalent. The strength and type of sewage that is produced from those types of buildings is relatively low-strength and is easily accepted into the works. However, if we had a drive to encourage, say, heavy industry or lots of abattoirs or trade effluent-type load, that would start to eat into the headroom and the ability of the works to cope with the sewage presented to it. The difficulty then lies in the ability to be able to say, "It is 10 abattoirs and 400 office blocks". We do not and cannot say that.

I suppose that what we can say is — George alluded to this — that you need to plan for this quite far in advance, because it can take 10 years from thinking about it to actually having it delivered on the ground. That is why it is important now to start working our way through this and to bring the agencies together to establish the infrastructure project, so that, in planning your way through it, you do not get to a stage where you are potentially refusing connections, because you have taken it bit by bit. It is a holistic approach.

Davy talked about the works accepting storm water. If quite a lot of storm water was coming in, what the strategic group might look at is separating that storm water so that it does not need to come through the works. That, all of a sudden, gives you extra capacity, but it requires investment and thinking through where you will put that storm water so that it does not impact somewhere else and have a knock-on effect.

Unfortunately, I cannot, in any shape or form, really say to you that it is one, two, three, four or five years. What I can say is that now is the time to start looking at this and to understand the quantum of additional expenditure. George, is there anything that you wanted to add?

**Mr Butler:** I have just a couple of specifics. We have had a look at the Belfast harbour plan. We have already accepted, as Sara said —

**The Chairperson:** I was just using that as an example.

**Mr Butler:** On the Titanic Quarter, there is a not a problem. The population equivalent for that is about 1,600, which is a lot of people, but in a works with a 400,000 population equivalent or so, it is relatively small. So, there is not an issue.

The problem mainly with the works is total nitrogen. Again, Davy mentioned suspended solids and biochemical oxygen demand (BOD). There is a limit on the amount of total nitrogen that is allowed to be put into Belfast lough. That is the one that the works are struggling with: suspended solids and BOD. So, again, as Sara said, it really depends on the type of waste.

The problem in Belfast is a wider one. It is not just about the waste water treatment works. If they are going to solve the flooding issue, it is likely that additional storm water flow will come down to the works, which will generate a problem for treatment and hydraulic capacity.



There is the issue of economic development, which you identified, Jimmy, and the issue of infraction associated with the urban waste water treatment directive, because Belfast lough water quality has reduced. So, it is about working out the problem and getting a total solution to those various issues.

I hope that the measles map gave you an idea of the situation across the Province. We will be able to maintain existing standards of service. It is not that there will be sewage on the streets, but we will not be able to provide investment for future growth and any additional environmental drivers that we need to address.

**The Chairperson:** I think that, earlier in the presentation, you said that trade effluent and sludge are coming into Belfast from Province-wide. Is that correct?

**Mr Butler:** Yes. Virtually the whole Province.

**The Chairperson:** Are there no other plants or treatment works in Northern Ireland that can take some of the commercial sludge that is being brought in here by road?

**Mr Butler:** You can put it into other works. Generally, something like trade effluent or leachate is a very concentrated type of waste, so you want to dilute it as much as possible. That is the biggest works by any standard. Generally, you will put it in somewhere where you will not produce a shock load, but you can adjust it and look at where you have headroom.

**The Chairperson:** My understanding is that the work required needs a capital investment of about £750 million.

**Mr Butler:** The £750 million —

**The Chairperson:** That would be over a number of years. I know that we will get the opportunity to speak to officials; I was speaking to some of them today. This is a multi-departmental issue and an Executive issue. Over what period of years do you see that £750 million spend having to take place to complete what is required? Obviously, it could not be done in one year. Is it two, three or four years?

**Mr Butler:** No; you are looking at it over a 10-year period at least. The first thing is that you decide what you are going to do. In major projects like this, there is a lot of planning and also a lot of preliminary work to try to get storm water out of the sewers, to which Sara, again, referred. So, you would spend at least three years in the planning stage before you would even start to put a digger on the ground. In these sorts of major projects — if you are looking at a tunnel, which is potentially what you might be looking at here — you know that you are looking at planning for a 10-year period. Even the building of the tunnel may take two or three years. They are long-term types of projects. Because you are doing them, you hope, only once, you tend to take your time in the planning stage.

**The Chairperson:** One thing that we have had in previous discussions is that the Committee has been and is very supportive and recognises the amount of work that has been done by Northern Ireland Water. We want to be supportive to the Department as well, hopefully even in these difficult economic times, to try to kick-start that at some stage.

I have just one final point on infraction proceedings and equality issues. I know that if we have started a plan, that actually takes that day off, but infraction proceedings could be quite expensive. It would really be shovelling money into a black hole when it would be better invested in the infrastructure here as opposed to giving it to Europe. How big a danger do you see that being?

**Mr Butler:** First, it takes a significant period of time. We were in the process of being infringed for the waste water treatment works earlier. That is why all of the investment got us out of that particular issue. It is at least six years. Once Brussels starts the process, it tends to take a significant period of time. If you are doing something about it, they recognise that within the timescale. So, I think that you are looking at a period of six years.

The results for Belfast lough were not good. Those will go back to Brussels and that will alert them. They would then start the process of questioning. That can take a period of a couple of years because you will take more samples. It may be that there was just a blip and it is not as much of a problem, but it does take a significant time for Brussels to go right through to the fining stage. Once

you are getting into the fining stage, it can be eye-watering because you are fined per day. It can be thousands of euro per day. It is not where you want to be.

**The Chairperson:** OK. That has been helpful.

**Mr McNarry:** In the midst of recognising, and I do, the good work and professional management that is very clear in your presentation, two terms were used which struck me, which were "not investing enough in services" and "this is a stark situation". I take it that you are presenting it as it is today — as you see it and what you know. You may know a bit more than we know; it would be interesting if we could find that out.

With allocations likely to be reduced due to the struggle that we are all having with the welfare reform debate and the pressures there, are you able to say — what I believe you told us is how you see it now — how much further pressure you expect there to be on you over the next three years in terms of what we are being told are likely to be cuts across Departments? Are you in a position at least to pencil in the hit that you are likely to take on top of the situation being stark and there not being enough investment? In other words, are you anticipating a further decline in your ability to service this business?

**Ms Venning:** The slide with the timeline shows that NI Water is unique — we all know that it is unique — and somewhat different from other Departments and arm's-length bodies in that we are regulated. The Utility Regulator and the environmental regulators work together to tell us that we are a water and sewerage undertaker and, as such, have certain responsibilities. They ask us what we feel, as an efficient company, is the operational expenditure and capital expenditure that we need to run the business and provide a level of service to customers. We are in that process at the minute. The Financial Regulator will make its views known on exactly how much money it believes that we need to run our organisation. That may turn out to be higher than government would like to give us —

**Mr McNarry:** Are you in discussions with the regulator?

**Ms Venning:** We are very much in the middle of the business planning process for the next six years. We have submitted our business plan that shows how much money we need. With capital money, given that we are so constrained, and government has said that it believes that it can commit to £990 million nominal, the debate is about how much more you can get for your £990 million. If you thought that you were going to do 100 items, could you do 105 items?

**Mr McNarry:** George said that there was not enough investment in services. You are obviously putting a bid in that states that this is what you need to take you up to the level that you want to be at. However, the regulator will be tossing and turning with the pressures from another direction that we are all facing because of welfare reform, and you have yet to meet that. Is that right?

**Ms Venning:** The regulator looks at what the company needs to do to deliver its outputs. The funding of the company is a matter for the company shareholder, if you like, and the regulator's role is to say to the shareholder, "This is the amount of money that is required to run the company, and this is the amount of money that needs to be invested to deliver the outputs that you have agreed with them". If we get to a point at which government and our shareholders say that they cannot fund this, we are back to saying, "What areas of service need to be cut? Are you going to live with lower-quality water? Are you going to live with more pollution incidents?" Those are the conversations that you would need to have. However, at this stage, we have set out our business plan.

**Mr McNarry:** That is very interesting for where we will all be with the big pot.

One slide showed that you had reduced the risk of sewer flooding. What has it been reduced from, and what is it now? How have you reduced the risk?

**Mr Gowdy:** Flood risk involves looking at the intensity and frequency of rainfall, which is classed as the return period of storms. It is almost like a probability. A number of years ago, we designed our systems for a one-in-20-year storm. Such a storm would be more intense than a normal storm that happens once a year. We upped that to a one-in-25-year storm, and all our designs are now based on a one-in-30-year storm. Obviously, a one-in-30-year storm will be more intense than a one-in-25-year or a one-in-20-year storm. By doing that, we have reduced the risk. All our standards have been like that.

**Mr McNarry:** When are we expecting the next one, then? What 30-year span are you working on? It is just in case I am going on holidays or something. *[Laughter.]*

**Mr Gowdy:** Indeed. Storm intensities can be back to back, which will sometimes stretch our resources. There is no doubt that climate change or extreme weather events have affected what we do. Sometimes in the summer, there are high-intensity, short-duration storms, which can cause localised problems. All our systems are designed for a one-in-30-year storm event, which has significantly reduced the risk of flooding because they cater for that. However, that is not to say that we do not need to do more. There are many places across the country, particularly in Belfast, where we will still get localised flooding. That goes back to what the Chairman said about taking a strategic look at drainage across a number of agencies, particularly in the Belfast area, where there are places that still run the risk of flooding.

**Mr McNarry:** That is very helpful. Thank you.

**Mr Butler:** There is sometimes a little bit of confusion. Northern Ireland Water is responsible for out-of-sewer flooding, especially if it affects somebody's home, so that gives us a higher priority. There is the wider issue of storm water flooding, which involves Roads Service and the Rivers Agency; we have a role, but it is not our primary responsibility. The slide refers to out-of-sewer flooding. I am sorry; I just had to clarify that, because people tend to think of —

**Mr McNarry:** This is all being recorded and written down in evidence against you —

**Ms Venning:** Or for us in support of us, I think.

**Mr Butler:** We hope.

**Mr Dallat:** Thank you for the presentation. Like everyone else, let me acknowledge the significant improvements in the service in recent years.

Of the 81 upgrades that are deferred, I think that you said, Sara, that you might have to tell the planners that there could be no new planning. I know that that is already happening, and it would be useful to know how many of those 81 settlements cannot get planning approval. In my home town of Kilrea — Chairperson, you may be surprised to learn — we are putting in septic tanks. That is an appalling state of affairs.

While we are talking about infractions and septic tanks, we have not mentioned the tens of thousands of seep holes across the North. I know from my journeys into Donegal and from reading local papers there that there are serious concerns about future infractions and the massive outlay that people might have in replacing septic tanks that do not function with modern appliances. None of that is in the presentation. Maybe we could address that in the future. I do not want to frighten the life out of people, but we are better knowing the truth, what exactly we have signed up to in Europe, and what is going to happen in the future.

**Ms Venning:** I will hand over to George to give some clarity on what NI Water can and cannot do.

**Mr Butler:** It is a good point, John. The septic tank issue is significant, not only in Donegal. Roughly 82% of household sewage goes to Northern Ireland Water, and the other 18% goes to septic tanks. We provide a service to empty septic tanks: we desludge them once a year, and it is a free service. Otherwise, they are regulated by the Northern Ireland Environment Agency, and Northern Ireland Water does not have a responsibility for them apart from providing that service. The responsibility for septic tanks, except those for which we took responsibility in 1973, generally does not sit with Northern Ireland Water.

In answer to your first question, John, the slide shows the PC15 period and takes the existing treatment works, which are at headroom. That gives us the total at the end, but we can work out what currently does not have headroom and what will be addressed during the period. We can provide that to you if you like.

**Mr Dallat:** I know that George explained that septic tanks are an environment issue, but surely there are plans to provide proper sewage disposal by creating main sewerage so that these tanks can be abandoned. Your responsibility does kick in at some stage.

**Mr Butler:** That is right, John. A certain amount of money is allowed to put into sewerage, otherwise individuals have to provide an element. Quite a big conurbation is needed to get that individual allowance up. John, you are familiar with this. As I mentioned in my presentation, one of the problems is that this would be new investment, and we are very tight on new investment. I would not hold out for a lot of that being addressed in the PC15 period.

**Mr Dallat:** I accept that. I am simply suggesting that the picture that we are presented with today is much worse than what we have had to absorb. That is probably an issue for future Assemblies to decide; somebody said earlier that a sewer could be overhauled every 1,200 years.

**Mr Butler:** That is right.

**Mr Dallat:** That tells me everything.

**The Chairperson:** George, you set it in context. You said that 82% of household sewage goes to Northern Ireland Water, and the other 18% goes to septic tanks.

**Mr Butler:** That is right, and we will maintain those sewers.

**The Chairperson:** Will you clarify something for me? This is an NIEA issue, which is a matter for the DOE and not this Committee. Are the new types of septic tank, as we called them in the past, more eco-friendly? I assume that that means that there is less sludge or no sludge to pick from them? Is that close to being right?

**Mr Butler:** The newer designs of septic tank are more efficient, and they probably eat more of their own sludge, if you know what I mean, through their biological processes. They still need to be desludged at some stage.

**The Chairperson:** Do they need to be desludged less often than the old type of tank?

**Mr Butler:** I think that it is less often, but I am not an expert on that, Jimmy.

**The Chairperson:** I ask the question because somebody in the building field told me that it is quite expensive to get a septic tank now. It is not just a build job on the ground.

**Mr Ó hOisín:** Thanks for the presentation. While wearing another hat, I was at the Armagh Planetarium, where we were told that rainfall has not increased significantly since records began in, I think, 1725. I suppose the issue is the way in which we deal with it.

Sara, we talked about the £1.5 billion capital investment, a lot of which was for smaller rural waste-water treatment plants, many of which have spare capacity. You said that Duncrue Street is operating comfortably. How much spare capacity is there across the board?

**Ms Venning:** That needs to be considered on a plant-by-plant basis. As we enter the planning period, we look at that. If we have 1,000 waste-water treatment works and put forward in our plans the need for 81 upgrades to large plants and around 90 small plants, you can safely assume that we are saying that we do not need to invest in the 800-odd works outside those works in the next six years, so that is a sign. Northern Ireland is so dispersed that we have lots of very tiny works. Two or three households might feed into a works to be distributed across Northern Ireland, which adds to our cost base. Davy talked about having one field manager, with seven men covering all of Belfast and the outlying areas. They check on these works, so they sometimes have to travel quite far, which builds up our cost base.

**Mr Ó hOisín:** I am thinking about the likes of trade effluent, which you are dragging across from everywhere to Duncrue Street: is there another way to deal with some of that?

**Ms Venning:** To be fair, we take it in bulk. Trade effluent will be accepted across our local larger works. I will try to explain our difficulty with an example of something that happens in our own houses: making cordial. If you are pouring in a little bit of cordial, you can see what the dilution is, but if someone comes along and puts a great dollop in, you cannot control that in a small glass, but you can control it in a larger jug. The bigger the works, the easier it is to deal with very intensive trade effluent loads.

**Mr Ó hOisín:** Another way to increase capacity would be an increase in the separated systems.

**Ms Venning:** Yes, very much so.

**Mr Ó hOisín:** Do you have a ballpark figure of how much? All the investment was put into separated systems, particularly in new builds. Do you have any idea of the percentage either way?

**Mr Butler:** Around £6 million has been identified in PC15 in Belfast for the separation. You must have somewhere to put the relatively clean water. If the water comes off roofs, you do not want to put it into a foul sewer; you want to put it into a watercourse, and the issue is whether there is capacity in the watercourse. That money will certainly help, when we can do it.

**Mr Ó hOisín:** You do not, however, have an idea of the percentages of combined systems?

**Mr Butler:** We do have that, but I do not have the figure in my head, I am afraid. Generally, the older parts of works in the cities are combined in the middle and separate outside. We probably have those figures on our GIS.

**Mr Ó hOisín:** In some recent flooding incidents, combined systems meant that sewage was pouring onto the streets and had to be dealt with.

**Ms Venning:** Yes, it did.

**Mr Ó hOisín:** Obviously, costs are involved.

**Ms Venning:** Yes.

**Mrs Hale:** Sara, you said that end-year flexibility is a constraint on your investment and strategic planning. How is that complicated by an unreliable budget allocation?

**Ms Venning:** It is complicated by it very much. It adds an inordinate amount of difficulty and introduces additional costs.

Before the evidence session, Joe and John talked about quarry people and people from the road-marking association who thought that they had a steady stream of work, but, all of a sudden, the work has been cut off and they have had to lay people off. Similarly, we have very large schemes and deal with large contractors, and, when we ask them to do work for us, they have to think about their overheads as they cost that job. If they cannot see certainty of work this year and next year and cannot even see certainty of work to the end of the year, that feeds into their costs. If they are making a decision about whether to buy or rent plant, that also starts to feed into their costs. So the less certainty and long-termism that we can give them, the higher their costs become to us.

Budgetary uncertainty and trying to deal with issues in an annual cycle make it very difficult to deal with large schemes over a number of years. To commit to a scheme in year 1, you need certainty of funding in years 2, 3, 4 and 5. I guess that it has become very real for people in this financial year: if all you had was £100, and you had committed £50 of that to a long-term scheme and your budget was then cut back to £75, you would probably not have spent the £50 on the long-term scheme because you need other things that will eat into it. It becomes very complicated and is very difficult for Bill's teams to try to manage.

In public expenditure, you are absolutely expected to spend all your money right up to the last 10p, and Bill and his team will be storming ahead, maybe at a certain rate, to deliver their £100 million worth of spend. If £20 million gets switched off six months in, they have to pull back, and it becomes difficult to manage to try not to incur an overspend as well as not incurring an underspend. It is not an efficient way to deliver a capital programme. Through talking to our contractors and the people who

work with us, we know that we could get cheaper prices if we could work with them on a more long-term basis.

**The Chairperson:** I assume, Sara, that you raise that point regularly with the Department and the Minister, and you have raised it before with the Committee. I have certainly raised the issue with the Minister of Finance and Personnel. In my last conversation, DFP said that it was sympathetic and had written to the Treasury. In-year flexibility is a Treasury issue, so we are trying to keep the pressure on. I spoke to you recently about that, and the Committee is very much aware of it. We are certainly very supportive of flexibility, because it is a bit of nonsense as it stands.

**Ms Venning:** I appreciate the Committee's support, and, to be fair to the Department, it has been making similar representations and trying to find some practical solutions, even in the Department. We hope that it will be able to take that forward with DFP.

**Mr Byrne:** I acknowledge the good work over the last 10 years and the capital investment that has been made.

I want to ask about flooding in south Belfast and the Lisburn Road area. Is NIW bringing forward a scheme, or are you waiting on other agencies? I have been asked to raise that issue.

**Ms Venning:** I will let Bill talk about that, because it is another success for us.

**Mr Gowdy:** Thank you, Mr Byrne. A number of years ago, we did some work in the south Belfast/Lisburn Road area as part of the Belfast sewers project, which made some significant improvements to the drainage there. Our recent work on the Ravenhill Road has supplemented that. That work has been successfully completed, although we got a bit of a newspaper story about the cavity or void that we discovered under the road. However, that is all sorted out now. So that has helped.

That whole area of south and east Belfast, to which George and Sara referred, is part of the strategic look not only at Belfast but at the whole country. Areas of south and east Belfast still run a risk of flooding, and it will take significant amounts of money — I am talking about hundreds of millions of pounds — to solve that over the period that George referred to, which is between six and 10 years. Some areas are still vulnerable, but that does not mean that they are in an imminent state of flooding. However, if we continue to get short-duration, high-intensity rainfall, there will be problems, compounded by the large increase in the impermeable area — that is, the hard surface area from which all the water goes into the combined sewers. We have spoken before about how all that flow adds to the flow in the sewers, so there is quite a bit of work to be done to reduce that risk of flooding by separating some of the systems, increasing the capacity and bringing it all down to the treatment works at Duncrue Street and increasing its capacity. There is still a lot of work to be done, but we have been able to go into some areas and improve the sewerage capacity. The Ravenhill Road is one such area, and there are a few other pockets. That will have reduced the risk of flooding, but there is still an awful lot more work to do.

**Ms Venning:** We are investing in Sicily Park and Orchardville in this financial year, so work is ongoing in that part of south Belfast. Bill and his team have undertaken that remedial work to help to mitigate the flooding risk.

**Mr Byrne:** Obviously, there is a gap between the projected capital moneys required against the expected capital moneys. Have you any suggestions or innovative ideas as to how to meet that funding gap?

**Ms Venning:** It is partly to do with making sure that we make the best use of our money. The more we can think long-term and work with our supply chain to get the same outputs for a lower cost, the more we can divert that money to other outputs. As to finding the difference between £990 million and the £1.4 billion that we believe we can spend, we have not really been working on that. Will government come up with that money? That is not something that we have been working on, other than to flag it up and say, "This is our requirement. This is what we could do".

**The Chairperson:** Thank you, Sara, Bill and George, for the presentation. It was very worthwhile, and we will bear it in mind when the Department comes to talk to us. You have our support.

**Ms Venning:** Thank you.