

## MINUTES

### Meeting: Commission Meeting

Date: 27 January 2017

Time: 1.00pm

Place: De Vere Holborn Bars, 138-142 Holborn, London, EC1N 2NQ

### Attendees

#### Commission Members:

Rt Hon Lord Adonis	(Chair)
Sir John Armitt CBE	(Deputy Chair)
Prof Tim Besley CBE	(Commissioner)
Sadie Morgan	(Commissioner)
Bridget Rosewell OBE	(Commissioner)

#### Secretariat:

Philip Graham	(Chief Executive)
James Richardson	(Chief Economist)
[REDACTED]	(Commission Secretary)
[REDACTED]	(Head of Strategic Communications and Media)
[REDACTED]	(Head of Water, Waste and cross-cutting issues) Observing
[REDACTED]	(Environment Lead)
[REDACTED]	(Deputy Chief Economist) Observing
[REDACTED]	(Governance and Maintenance Lead) Observing
[REDACTED]	(Head of Transport, Energy and Digital) Observing

### Other guests:

#### For Item 4 (Environment Discussion):

Prof Paul Leinster CBE	(Professor of Environmental Assessment, Cranfield University)
Matthew Bell	(Chief Executive, Committee on Climate Change)
Sue Illman	(Managing Director of Illman Young Landscape Design Ltd)

#### For Item 5 (Study Update: Cambridge/MK/Oxford - Phase 2):

[REDACTED]	(Head of Team)
[REDACTED]	(Senior Local Government Adviser)
[REDACTED]	(Policy Adviser)
[REDACTED]	(Built Environment Lead)

## **1. Apologies and Welcome**

- 1.1 The Chair welcomed attendees and opened the meeting. Apologies for absence had been received from Lord Heseltine (Commissioner), Demis Hassabis (Commissioner) and Adam Cooper (Director of Policy and Engagement).

## **2. Minutes and Matters Arising**

- 2.1 The minutes of the Commission meeting held on 05 December 2016 were agreed as an accurate record of proceedings.
- 2.2 The schedule of forthcoming regional visits and sector workshops was discussed.

**Action: Secretariat to circulate a fortnightly overview of all commission events, visits and invitations.**

## **3. Chief Executive's update**

- 3.1 The Chief Executive provided an update on the major issues and developments occurring since the meeting of the Commission held on 05 December 2016. The following points were raised:
- The NIC had been permanently established as an executive agency of HM Treasury on 24 January 2017. An announcement on the appointment of a permanent Chair and new Commissioners would be made in due course.
  - A programme of events was being planned as part of an early media engagement strategy.
  - As part of the establishment of the NIC as executive agency, Commissioners would be required to review their existing declarations of interests.
  - A meeting with BEIS had been requested to discuss the emerging Industrial Strategy.
- 3.2 The Secretariat would explore how the Commission could respond to the consultation on the industrial strategy Green Paper.
- 3.3 Prof Tim Besley (Commissioner) reported that the LSE Growth Commission was due to publish its second report in early February.
- 3.4 Prof Sadie Morgan (Commissioner) gave an update on the establishment of a 'next generation' panel to better understand young people's attitudes to infrastructure challenges.

**Action: Secretariat to arrange a meeting with BEIS to discuss the Industrial Strategy.**

**Action: Commission Secretary to circulate the existing register of interests for Commissioners to review and, if necessary, update.**

**Action: Secretariat to develop a proposed response to the industrial strategy Green Paper.**

#### **4. Environment Discussion**

4.1 Presentations were received from Paul Leinster (Professor of Environmental Assessment, Cranfield University); Matthew Bell (Chief Executive, Committee on Climate Change); and Sue Illman (Managing Director of Illman Young Landscape Design Ltd) on natural capital, UK climate change targets, and blue-green infrastructure respectively.

4.2 In discussion, the following points were made:

- The cross-cutting nature of certain environmental issues (e.g. air quality) and complex governance arrangements were cited as an obstacle to tackling certain issues.
- Understanding the benefits derived from natural assets could help to prioritise certain routes over others when thinking about new transport links.
- There was a case for revising the existing approach to calculating the cost and benefit of schemes to reflect the importance of natural capital to sustainable economic growth, health and wellbeing.
- The share of carbon dioxide (CO<sub>2</sub>) emissions between different sectors – power, industry, transport, buildings – was roughly even at present, although historically there had been varied reductions: the power and waste sectors had seen large reductions on 1990 levels, against transport and buildings emissions which had remained largely static.
- Infrastructure decisions made today would have a significant impact on future emissions and resilience to risks. For example, it was thought that by 2030 roughly 60% of new cars and vans sold would need to be electric (hybrid or full) in order to meet UK's fifth carbon budget.
- Significant questions remained over the implications of moving towards a lower-carbon heat network. In the meantime energy efficiency offered opportunities to reduce greenhouse gas emission from buildings.
- Carbon Capture and Storage technology was likely to become important for reducing emissions from industry and the wider power sector.

- As the UK reduced its dependence on fossil fuels, renewable energy would become increasingly important, although no one technology yet offered a complete solution.
- Considering blue-green infrastructure alongside other 'hard' engineering measures would be crucial to reducing the number of homes at risk of flooding in the UK: currently one in five properties were at risk of flooding.
- Water companies were increasingly looking towards sustainable drainage as a way of avoiding fines for discharging untreated stormwater and wastewater into the water system.
- Under the EU Water Framework Directive, the UK was required to achieve 'good' status of all water bodies (e.g. rivers, streams, lakes, groundwater) by 2015. Although this target had been missed, there was a view that the target had been helpful in raising the profile of sustainable drainage and blue-green infrastructure.
- Ensuring that sustainable drainage techniques were utilised wherever practical in new developments remained a challenge. There was a view that differing approaches to spatial planning (across LEPs, LAs and regional authorities) had made it difficult to prioritise sustainable drainage.

## **5. Cambridge – Milton Keynes – Oxford Study Update**

5.1 The Head of Team gave a summary of the proposed scope and programme for the second phase of the Cambridge – Milton Keynes – Oxford study. The following points were made in discussion:

- Potentially there was a role for NIC to coordinate a number of existing studies that were underway by the Infrastructure and Projects Authority, Highways England, DfT and East West Rail.
- It was accepted that under current governance arrangements transport links would only be built with the consent of local authorities. There was a need for local planning decisions and spatial strategies to align at a regional level.
- Further work was required on the funding and financing mechanisms for future transport projects in the corridor, including the extent to which private developer contributions could support future infrastructure.
- Care would need to be taken not to identify individual sites or schemes when exploring how future housing need could be met.
- There was an ongoing debate over the role that surplus public sector land – including the planned release of MOD sites – could play in meeting local housing needs.



**Action: Secretariat to arrange a meeting between the Chair and Head of Infrastructure Delivery at IPA to discuss future road and rail links in the corridor.**

**Action: Secretariat to arrange a meeting with the Chief Executive of Highways England to discuss ongoing strategic studies in the corridor.**

## **6. New Technology Study Update**

6.1 The Chief Executive gave a brief update on the New Technology study, including the staffing, scope and timescale of the project. A separate meeting with Demis Hassabis (Commissioner) to discuss the project in more detail was in the process of being arranged.

## **7. National Infrastructure Assessment Update**

7.1 The Chief Economist gave an update on developments with the NIA since the last meeting of the Commission and outlined the emerging themes of the 'Vision and Priorities' document. The following issues were covered in discussion:

- The procurement process for sourcing external research and consultancy.
- The process and method for accommodating the NIC's recommendations within the Fiscal Remit.
- The potential impact of Brexit on the UK's existing regulatory system.
- Opportunities for data visualisation and the benefits of presenting data and findings using static and interactive infographics.
- The emerging themes and overall narrative of the NIA.

## **8. Date of Next Meeting**

8.1 The next meeting of the Commission was scheduled for Tuesday 14 January.

8.2 At the request of the Chair, it was agreed to review the timings of the next meeting and separately the need for a second meeting in February.

**Action: Secretariat to review the need for a second meeting of the Commission in February and report back by Friday 03 February.**

## **9 Any Other Business**

9.1 There was no other business.

9.2 The meeting ended at 16.45.

## MINUTES

### Meeting: Commission Meeting

Date: 14 February 2017

Time: 12.30pm

Place: TfL, Palestra House, 197 Blackfriars Road, London, SE1 8NJ

### Attendees

#### Commission Members:

Rt Hon Lord Adonis	(Chair)
Sir John Armitt CBE	(Deputy Chair)
Prof Tim Besley CBE	(Commissioner)
Rt Hon Michael Heseltine CH	(Commissioner)
Bridget Rosewell OBE	(Commissioner)

#### Secretariat:

Philip Graham	(Chief Executive)
James Richardson	(Chief Economist)
[REDACTED]	(Commission Secretary)
[REDACTED]	(Head of Strategic Communications and Media)
[REDACTED]	(Head of Cambridge-Milton Keynes-Oxford Team)
[REDACTED]	(Senior Policy Adviser, Urban Transport)

### Other guests:

#### *For Item 7 (Transport Discussion):*

Prof Phil Goodwin	(Emeritus Professor of Transport Policy, UCL)
Rachel Skinner	(Director, WSP Parsons-Brinckerhoff; Vice President, ICE)
Paul Buchanan	(Partner, Volterra Partners LLP)

#### *For Item 9 (Industrial Strategy Discussion):*

Niall Mackenzie	(Director of Infrastructure & Materials, BEIS)
Manuela Solera-Deuchar	(Deputy Director for Infrastructure, HMT)

#### *For Item 10 (Discussion with TfL Commissioner):*

Mike Brown MVO	(Commissioner of Transport for London)
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## **1. Apologies and Welcome**

- 1.1 The Chair welcomed attendees and opened the meeting. Apologies for absence had been received from Demis Hassabis (Commissioner), Sadie Morgan (Commissioner), Adam Cooper (Director of Policy and Engagement) and [REDACTED] (New Technology Study Lead).

## **2. Minutes and Matters Arising**

- 2.1 The minutes of the Commission meeting held on 27 January 2017 were agreed as an accurate record of proceedings. There were no matters arising.

## **3. Chief Executive's update**

- 3.1 The Chief Executive provided an update on the recruitment of a permanent Chair and new Commissioners and explained that the Treasury was exploring with Cabinet Office whether there was an option to extend the contracts of current commissioners.

## **4. Draft Conflicts of Interest Policy**

- 4.1 The Chief Executive provided an overview of the draft conflicts of interest policy.
- 4.2 The intention was to publish a public register of relevant interests, alongside the policy for managing potential conflicts, on the new website following the appointment of a permanent Chair.
- 4.3 A range of specific commercial interests – including shareholdings and company ownerships – were raised by individual Commissioners, noting that these would be declared and published on the register of interests.

**Decision: Commissioners approved the draft conflicts of interest policy, subject to any amendments suggested by the Government Legal Department.**

## **5. Study Update: New Technology**

- 5.1 The Chief Executive outlined the emerging scope and programme for the new technology study.
- 5.2 An initial call for evidence seeking to identify key technologies would be published shortly. It was expected that a further round of consultation would follow, focused

on those technologies identified as having the greatest potential for improving the productivity of infrastructure.

5.3 A roundtable discussion was planned for April which would bring together industry experts to inform the selection of individual technologies and gather further evidence.

5.4 The following issues were raised in discussion:

- The Secretariat would look to consult widely with relevant experts and consider international best practice in the deployment of new technologies in infrastructure.
- The Commission would need to adopt a common methodology for identifying which emerging technologies had the most potential in terms of optimising the management and performance of existing and future infrastructure assets.
- The study would be likely to consider institutional and governmental barriers to the adoption of new technologies.
- It was likely that a small number of technologies would emerge as having the greatest potential to transform the use of infrastructure systems over the 10-30 year timescale specified in the NIC's terms of reference.

**Decision: The Commission asked the Secretariat to explore the option of a project management board – combined of lead commissioners, members of the Secretariat and industry experts – to inform the development of the new technology study.**

## **6. Study Update: Cambridge/Milton Keynes/Oxford**

6.1 The Head of Team gave an update on recent developments.

6.2 The Secretariat had hosted a workshop on strategic governance and planning issues, seeking input from officials from across the corridor as well as officials based within the Department for Transport (DfT) and Department for Communities and Local Government (DCLG).

6.3 A discussion paper, intended for publication in March, was currently being prepared to help progress the debate on how interested parties might work together to develop an integrated strategic plan for delivering infrastructure, housing and jobs across the corridor.

6.4 A separate workstream focused on transporting people and goods from across the corridor to their final destination (addressing the so-called ‘first mile/last mile’ problem) was underway.

6.5 A discussion followed during which Commissioners considered the potential role for the NIC in coordinating a number of existing studies that were underway by the Infrastructure and Projects Authority (IPA), Highways England, DfT and East West Rail.

**Action: Secretariat to invite representatives from HMT, DfT and the IPA to attend a future meeting of the Commission to discuss road and rail links in the corridor.**

## 7. Transport Discussion

7.1 A member of the Secretariat introduced the item and gave an overview of recent trends and future challenges in the transport sector.

7.2 Presentations were received from Professor Phil Goodwin (Emeritus Professor of Transport Policy, UCL), Rachel Skinner (Director at WSP Parsons-Brinckerhoff; Vice President of ICE) and Paul Buchanan (Partner at Volterra Partners LLP) on the following topics:

- implications of uncertainty over future demand for transport;
- opportunities and challenges of the transition to autonomous vehicles; and
- limitations of established approaches to analysis and appraisal of transport schemes.

7.3 The following points were made by presenters in discussion:

- There had been a systematic tendency over the previous 30 years to over-forecast car use.
- It was generally accepted that the introduction of connected and autonomous vehicles (CAVs) would have a transformational impact on how people travelled in future. However, the speed at which the technology was adopted would depend on how quickly regulatory frameworks evolved to build public trust on issues of safety and security.
- There was an opportunity for the UK’s professional and financial services sector to position the UK as a global leader in the deployment of CAVs, for example by developing new insurance solutions and shared ownership structures.
- Certain technological benefits – such as the dynamic use of roadspace – would require widespread adoption of CAVs before they could be realised. In the

meantime, it was likely that cars would continue to incorporate features which allowed them to operate semi-autonomously.

- The relationship between transport and land use was increasingly important when considering the costs and benefits of transport schemes. The standard assumption used in transport appraisals was that land use was fixed; this was contrary to the observed effects of large transport investments such as the Jubilee Line Extension and Crossrail.
- It was suggested that time savings alone were a poor indicator of the overall benefits of transport schemes: the amount of time spent travelling per person per year had remained remarkably constant at around one hour per day, suggesting that people often use speed improvements as an opportunity to move further away.
- There was a strong correlation between transport accessibility and employment density as well as productivity (wages) to employment density, suggesting that by increasing capacity to and from employment centres, land could be used more efficiently and generate wider economic benefits. Accurately capturing these benefits remained a challenge, but the links between transport and land use were increasingly clear.

## **8 National Infrastructure Assessment Update**

8.1 The Chief Economist confirmed that the formal 15-week call for evidence to inform the development of the NIA had closed on Friday 10 February 2017. Over 250 responses had been received from a wide range of stakeholders, covering a range of policy issues and individual projects.

8.2 The Secretariat was carrying out detailed analysis of all responses to identify key themes and issues and would report back in due course.

## **9 Industrial Strategy Discussion**

9.1 Niall Mackenzie (Director of Infrastructure & Materials, BEIS) provided an overview of the government's approach to building a modern industrial strategy.

9.2 The green paper had been framed around a set of 10 key policy 'pillars', which included 'upgrading infrastructure' and 'creating the right institutions to bring together sectors'. A white paper was likely to follow in autumn 2017.

9.3 Manuela Solera-Deuchar (Deputy Director for Infrastructure, HMT) gave further details on the government's general approach to increasing overall infrastructure

spending, including its ambition to better support private investment and coordinate local economic plans.

9.4 The following topics were raised in discussion:

- The role of public-private partnerships in delivering new infrastructure projects.
- The importance of skills and training in raising productivity.
- The model of business representation in the UK and other countries.
- The challenges and opportunities of leaving the EU.
- The economic disparities between different regions of the UK.

**Decision: The Commission delegated authority to the Chair to respond to the consultation in the form of a letter to the Secretary of State.**

**Action: Secretariat to draft an initial response to the industrial strategy in discussion with the Chair.**

## **10. Discussion with Mike Brown MVO (TfL Commissioner)**

10.1 Mike Brown (TfL Commissioner) welcomed Commissioners to Palestra House and outlined the long-term infrastructure challenges facing London.

10.2 It was acknowledged that congestion was affecting the overall efficiency and resilience of London's transport system, with many networks now operating at capacity. Relatively small incidents were now capable of causing major disruption across the network.

10.3 Crossrail 2 remained vital for accommodating London's future population growth and wider demand for travel in London.

10.4 The reallocation of carriageway space in some parts of London was continuing to encourage modal shift from private cars to more sustainable and active choices such as walking and cycling.

10.5 The Chair formally thanked Mike Brown for his attendance and for hosting the Commission.

## **11. Date of Next Meeting**

11.1 The next meeting of the Commission was scheduled for Wednesday 29 March. The venue would be confirmed by the Secretary in due course.

## **12. Any Other Business**

12.1 There was no other business.

12.2 The meeting ended at 17.30.



## MINUTES

### Meeting: Commission Meeting

Date: 29 March 2017

Time: 10.30am

Place: The British Academy, 10-11 Carlton House Terrace, London SW1Y 5AH

### Attendees

#### Commission Members:

Rt Hon Lord Adonis	(Chair)
Sir John Armitt CBE	(Deputy Chair)
Prof Tim Besley CBE	(Commissioner)
Dr Demis Hassabis	(Commissioner) (Items 3 – 7)
Prof Sadie Morgan	(Commissioner)
Bridget Rosewell OBE	(Commissioner)

#### Secretariat:

Philip Graham	(Chief Executive)
James Richardson	(Chief Economist)
[REDACTED]	(Commission Secretary)
Adam Cooper	(Director of Policy and Engagement) (Items 6 onwards)
[REDACTED]	(Interim Head of Strategic Communications and Media)
[REDACTED]	(Policy Adviser – Digital) (Item 3)
[REDACTED]	(Economic Adviser) (Item 3)
[REDACTED]	(Environment Lead) (Item 3)
[REDACTED]	(Head of Cam-MK-Ox Team) (Item 6)
[REDACTED]	(Senior Local Government Adviser) (Item 6)
[REDACTED]	(Policy Adviser) (Item 6)
[REDACTED]	(New Technologies Lead) (Item 7)

#### Other guests:

##### *For Item 5 (Conflicts of Interest)*

[REDACTED]	(Landmark Chambers)
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##### *For Item 6a (Cambridge/Milton Keynes/Oxford – Cross-Whitehall Update):*

Hala Audi	(Director of Strategy and Policy, IPA)
Rupert Furness	(Deputy Director - London and South Division, DfT)
Rachel Fisher	(Head of Infrastructure, Cities and Local Growth Unit)
[REDACTED]	(Infrastructure Team, HMT)

## **1. Apologies and Welcome**

- 1.1 The Chair welcomed attendees and opened the meeting. Apologies for lateness had been received from Demis Hassabis (Commissioner) and Adam Cooper (Director of Policy and Engagement).

## **2. Minutes and Matter Arising**

- 2.1 The minutes of the Commission meeting held on 14 February 2017 were agreed as an accurate record of proceedings. There were no matters arising.

## **3. National Infrastructure Assessment**

- 3.1 John Armitt (Deputy Chair) introduced the item, reminding Commissioners that the NIC had committed to publish a 'Vision and Priorities' (V&P) document in the summer setting out priority areas for action and policy options for addressing the infrastructure needs that had been identified by the Commission. A series of presentations on individual topics followed.

### ***Digital Communications***

- 3.2 [REDACTED] (Digital Policy Adviser) gave a presentation outlining the Secretariat's analysis of digital infrastructure, explaining that the sector's growing importance to social and economic activities meant it was increasingly being viewed as a utility.

- 3.3 The following points were raised in discussion:

- Mobile connectivity had become a necessity for many individuals. However, there was an ongoing debate over the need for government intervention beyond improving connectivity on the road and rail network.
- The wider digitisation of infrastructure had increased the need to secure technology, data and networks from crime and malicious attack.
- While fibre remained a key component of both fixed and mobile connections, a range of options were being explored to support fast, reliable and high-capacity 'last mile' connections.
- The UK's position and coverage of adopted technologies relative to other countries.

**Action: Secretariat to review international practice, including in South Korea, Sweden, Estonia and Germany.**

## ***Funding and Financing***

3.4 [REDACTED] (Economic Adviser) gave a presentation outlining the NIC's work on funding and financing issues.

3.5 The following points were raised in discussion:

- The potential difficulties in borrowing from the European Investment Bank following the UK's withdrawal from the EU.
- The role of the Green Investment Bank and Public Works Loan Board (for Local Authorities) in supporting UK infrastructure projects.
- The challenges and opportunities of introducing road user charges alongside the introduction of connected and autonomous vehicles, and the potential for local transport authorities to secure alternative forms of revenue.
- The effectiveness of land value capture in different geographical settings, and the potential for other mechanisms to capture gains that arise following investment in public infrastructure.

## ***Climate change and population growth***

3.6 [REDACTED] (Environment Lead) gave an overview of the interactions between climate change and population growth.

3.7 While the severity of climate change would depend on the level of future emissions of greenhouse gases it was increasingly clear that existing infrastructure would be affected even under the most optimistic climate change projections.

3.8 The following points were raised in discussion:

- The potential for improvements in energy efficiency to mitigate the impact of climate change.
- The level of investment in flood risk management relative to other infrastructure sectors.
- The growing importance of demand management across all infrastructure sectors, and the benefits of adopting a catchment based approach to water management in particular.
- Public understanding of the likely impacts of climate change and the risk of catastrophic consequences.

## **4. Chief Executive's update**

4.1 The Chief Executive provided an update on the recruitment of a permanent Chair and new Commissioners, explaining that new appointments had been formally approved

by both the Prime Minister and Chancellor, but that applicants had not yet been informed of the outcome. Commissioners would be contacted prior to the public announcement.

4.2 At the Chair's request, the Commission agreed to take Agenda Item 7 earlier than that set out on the agenda in order to allow for Demis Hassabis (Commissioner) to participate in the discussion.

## **5. New Technology Study (Item 7)**

5.1 The Head of Team outlined the emerging themes from a recent call for evidence which had closed on 15 March 2017. Digital technologies – such as big data, artificial intelligence and remote sensing – had been mentioned by a number of respondents as having the most potential for improving infrastructure productivity over the coming 10 to 30 years. However, a full review of all responses received was still underway.

5.2 A series of roundtable discussions with industry experts, academics and other stakeholders were being planned in partnership with Nesta and techUK.

5.3 The following issues were raised in discussion:

- The potential for remote sensing and other digital technologies to improve the management, performance and maintenance of existing infrastructure assets.
- The role of government in collecting and managing large datasets.
- The potential need for changes to existing regulatory frameworks in order to build public trust on issues of safety and security.

**Action: The Secretariat agreed to provide Commissioners with a summary of the technologies raised in response to the call for evidence.**

**Decision: The Commission agreed that the key focus of the study should be on digital technologies, but that other technologies should not be ruled out until the full review of responses had been completed.**

**Decision: Demis Hassabis agreed to take on the role of lead commissioner for the study.**

## **6. Conflicts of Interest (Item 5)**

6.1 The Chief Executive welcomed [REDACTED] (DK) (Landmark Chambers) to the meeting.

6.2 DK highlighted a range of recent cases where the courts had considered apparent bias, predetermination and conflicts of interest, explaining the issues that had been taken into consideration in each case.



6.3 DK explained that while financial interests (direct and indirect) remained the area of greatest concern and the highest expectations of law, it was important to consider other private interests too such as personal relationships.

6.4 Commissioners agreed that it would be critical to have a thorough and regularly updated register of interests, in line with the policy that had been adopted by the Commission on 14 February 2017. The Chief Executive explained that a register of interests would be published online once the Government's announcement of the permanent appointments to the Commission had been made.

6.5 The Chair formally thanked DK for his attendance and advice.

## **7. Cambridge/Milton Keynes/Oxford – Cross-Whitehall Update (Item 6a)**

7.1 Sadie Morgan (Commissioner) introduced the item and gave an overview of recent work undertaken by the NIC's Cambridge/Milton Keynes/Oxford study team.

7.2 Presentations were received from Hala Audi (Director of Strategy and Policy, IPA) Rupert Furness (Deputy Director, London and South Division, DfT), Rachel Fisher (Head of Infrastructure, Cities and Local Growth Unit) and [REDACTED] (Infrastructure Team, HMT).

7.3 RF confirmed that a new cross-Whitehall programme board had been established following the NIC's call for a joined-up plan for housing, jobs and infrastructure across the corridor. It was agreed that this board would continue to work closely with the NIC's secretariat whilst respecting the NIC's independence and timescale for making recommendations as part of the second phase of its study.

7.4 A series of bespoke deals to accelerate delivery of housing and infrastructure were anticipated for three economic geographies: Oxfordshire; Milton Keynes and its surrounding area (known as 'Milton Keynes +'); and Cambridge and Peterborough.

7.5 Both the Expressway and East West Rail were seen as critical to maximising the potential of the Cambridge-Milton Keynes-Oxford corridor. Further announcements on both projects were expected as part of the Chancellor's Autumn Budget 2017.

7.6 RF explained that the East West Rail route had been broken into three distinct sections: Western, Central and Eastern. On the Western section, trains were now expected to run between Bicester and Bletchley in 2022, and between Aylesbury and Milton Keynes in 2024. Delivery of a brand new route between Bedford and Cambridge (Central section) was not anticipated until 2031.

7.7 JR confirmed that work was underway to explore new mechanisms for capturing increases in land value that arose around public transport infrastructure. This followed the findings of an independent panel set up by the government to review the Community Infrastructure Levy (CIL) which had found that the levy was 'not providing [the necessary] funding for infrastructure' and had failed to provide a 'faster, simpler, more transparent system' than section 106.

**Decision:** The Commission agreed to work closely with the cross-Whitehall programme board whilst retaining its right to make independent recommendations as part of the second phase of its study. They requested that [REDACTED] (NIC Secretariat) should be invited to attend meetings of the board as an observer.

**Action:** Secretariat to invite Rob Brighouse (Chair, East West Rail) to attend the next meeting of the Commission to discuss the role of the new East West Rail company.

## **8. Cambridge/Milton Keynes/Oxford – Internal Discussion (Item 6b)**

8.1 At the start of the item Tim Besley (TB) raised a potential personal conflict of interest in his capacity as a member of the governing body of All Souls College, Oxford. TB stated that it was possible, though not certain, that the All Souls College held landholdings in the corridor.

8.2 After consideration it was decided to allow TB to continue to participate in the discussion, pending confirmation of the exact nature and location of All Souls' landholdings in the area. The Compliance Officer agreed to provide further advice to the Commission before the next meeting of the Commission, once the extent of All Souls' landholdings in the corridor had been clarified.

8.3 The Head of Study confirmed that a series of meetings had been arranged with the four towns/cities named in the study's terms of reference – Oxford, Milton Keynes, Northampton and Cambridge – to examine their long-term vision for transport and approach to managing the 'first mile/last mile' problem.

8.4 The Senior Local Government Adviser outlined the emerging themes from the NIC's recent consultation on planning and governance, which had sought to progress the debate on how interested parties might work together to develop an integrated strategic plan for delivering infrastructure, housing and jobs across the corridor.

8.5 The study team reiterated their offer to arrange individual briefings with Commissioners in advance of the next meeting to explore any of the issues raised in their presentation.

8.6 At the end of the discussion, Sadie Morgan formally thanked [REDACTED] (Head of Study) and [REDACTED] (Policy Advisor) for their work on the study and wished them well in their new roles outside the NIC.

## **9. Future Commission Meetings (Item 8)**

9.1 It was agreed that the Secretary would investigate the possibility of holding Commission meetings at a regular point in each month from 2018 onwards.

**Action:** Secretariat to arrange the dates for meetings in 2018 following the appointment of new Commissioners.

**10. Date of Next Meeting (Item 9)**

10.1 The next meeting of the Commission was scheduled for Monday 24 April. The venue would be confirmed by the Secretary in due course.

**11. Any Other Business (Item 10)**

11.1 There was no other business. The meeting ended at 16.15.

## MINUTES

**Meeting: Commission Meeting**

**Date: 24 April 2017**

**Time: 12.15pm**

**Place: Institution of Civil Engineers, 1 Gt George St, Westminster, SW1P 3AA**

### Attendees

#### Commission Members:

Rt Hon Lord Adonis	(Chair)
Sir John Armitt CBE	(Deputy Chair)
Dame Kate Barker	(Commissioner) (Items 1 – 8)
Prof David Fisk CB	(Commissioner)
Andy Green	(Commissioner)
Prof Sadie Morgan	(Commissioner)
Julia Prescott	(Commissioner)
Bridget Rosewell OBE	(Commissioner) (Items 1 – 8)

#### Secretariat:

Philip Graham	(Chief Executive)
James Richardson	(Chief Economist)
Adam Cooper	(Director of Policy and Engagement)
[REDACTED]	(Commission Secretary)
[REDACTED]	(Interim Head of Strategic Communications and Media)
[REDACTED]	(Power Lead) (Item 5)
[REDACTED]	(Heat and Efficiency Lead) (Item 5)
[REDACTED]	(Environment Lead) (Item 5)
[REDACTED]	(Policy Adviser) (Item 5)
[REDACTED]	(Senior Economic Adviser) (Item 7)
[REDACTED]	(Economic Adviser) (Item 3)
[REDACTED]	(Head of Cam-MK-Ox Team) (Item 8)
[REDACTED]	(Senior Local Government Adviser) (Item 8)

#### Other guests:

##### *For Item 5 (Discussion with Philip Duffy):*

Philip Duffy	(Director, Enterprise and Growth Unit, HMT)
Manuela Solera-Deuchar	(Deputy Director for Infrastructure, HMT)

##### *For Item 8 (Cambridge/Milton Keynes/Oxford Study):*

Rob Brighouse	(Chair of East West Rail)
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## **1. Apologies and Welcome**

- 1.1 The Chair formally welcomed new Commissioners and opened the meeting. Apologies for absence had been received from Demis Hassabis (Commissioner) and Tim Besley (Commissioner); an apology for lateness had been received from Phil Graham (Chief Executive).
- 1.2 The Chair gave an overview of the Commission's work, including its ongoing programme of reports, studies and stakeholder engagement.

## **2. Minutes and Matters Arising**

- 2.1 The minutes of the Commission meeting held on 29 March 2017 were agreed as an accurate record of proceedings. There were no matters arising.
- 2.2 At the Chair's request, the Commission agreed to take Agenda Items 3 and 4 at a later point than set out on the agenda

## **3 National Infrastructure Assessment – Part 1 (Item 5)**

- 3.1 James Richardson (Chief Economist) introduced the item and gave an update on the Secretariat's recent work to inform the development of the NIA.
- 3.2 [REDACTED] (Power Sector Lead) gave a presentation highlighting the interactions between the power, heat and transport sectors, outlining the potential measures that would be needed to decarbonise these sectors.
- 3.3 The following issues were raised in discussion:
  - The potential impact on consumer bills of meeting UK climate change obligations.
  - The challenges and opportunities facing the energy sector following the UK's withdrawal from the EU.
  - The need to anticipate the opportunities and innovation brought about by the global transition to a low-carbon economy.
  - Carbon capture and storage (CCS) and its potential role in mitigating carbon emissions.
  - The role of nuclear technology in meeting base-load requirements as coal power stations were decommissioned.
  - The potential for improvements in energy efficiency to mitigate the impact of climate change.
  - The increasing interdependence between power generation and distribution, with the emergence of new smart grids and energy storage solutions.

**Decision:** The Commission asked David Fisk and Andy Green to engage closely with the Secretariat on this issue as it developed further the analysis of options to decarbonise the power, heat and transport sectors.

#### **4. Discussion with Philip Duffy (Director, Enterprise and Growth Unit, HMT) (Item 6)**

4.1 The Chair welcomed Philip Duffy (Director, Enterprise and Growth Unit, HMT) to the meeting and invited him to outline the role and work of the Enterprise and Growth Unit (EGU).

4.2 PD gave an overview of HMT's relationship with the NIC and other infrastructure advisory bodies. PD confirmed that ministers remained committed to the long-term future of the NIC following its establishment as an executive agency of HM Treasury.

4.3 A 60% rise in capital expenditure on infrastructure was expected in the coming years, from around £14 billion in 2017/18 to roughly £22 billion in 2020/21. The government remained committed over the longer-term to spending between 1.0% and 1.2% of GDP on economic infrastructure in each year between 2020 and 2050.

4.4 Manuela Solera-Deuchar (Deputy Director for Infrastructure, HMT) outlined the role of NIC sponsorship team based in HMT and its cross-government approach to infrastructure strategy.

4.5 The following issues were raised in discussion:

- Investment in skills and training across the UK workforce to support the pipeline of planned infrastructure projects to 2020 and beyond.
- The potential difficulties in borrowing from the European Investment Bank following the UK's withdrawal from the EU.
- The timing and scope of the NIC's annual monitoring report, 'Vision and Priorities' document and government's Industrial Strategy.
- The role of the NIC in supporting short to medium term objectives through carrying out in-depth studies into pressing infrastructure challenges in addition to its assessment of the UK's long-term needs.
- The opportunity for the NIC to shape the post-election infrastructure agenda.

**Action:** Secretariat to arrange a follow-up meeting between the Director of Enterprise and Growth Unit and the Chair.

**Action:** The Chair and Secretariat to consider and prepare options for a post-election statement on the pressing infrastructure challenges facing the country.

4.6 At the suggestion of the Chair, items 3 and 4 were taken together.

#### **5. Chief Executive's Update and Conflicts of Interest (Items 3 and 4)**

- 5.1 The Chief Executive formally welcomed new commissioners and gave an overview of recent studies and projects, outlining how the Commission had operated to date.
- 5.2 The Chief Executive reiterated his written advice to Commissioners circulated prior to the meeting on handling a potential conflict of interest raised by Tim Besley (TB) in relation to land interests held by All Souls College in the Oxford-Cambridge corridor.
- 5.3 A discussion followed during which Commissioners with interests relating to housing development companies agreed to identify in advance where discussions were likely to cover areas or issues of relevance.

**Action: Secretary to circulate the dates and times of commission meetings for the remainder of the year.**

**Decision: The Commission noted the risk of a conflict of interest in relation to TB's role on the governing body of All Souls, and agreed that TB should recuse himself from any decisions regarding specific routes or locations for housing development or strategic transport infrastructure in the corridor. The Commission agreed that TB should be able to continue to contribute to discussion and consideration of all other elements of this project, and of the Commission's wider business.**

## **6. Cambridge/Milton Keynes/Oxford Study (Item 8)**

- 6.1 [REDACTED] (NIC Secretariat) introduced the item and invited Rob Brighthouse (RB) (Chair of East West Rail) to update Commissioners on the work of East West Rail following the government's recent commitment to accelerate construction of the East-West Rail line.
- 6.2 RB clarified that the proposed East West Rail route fell into three distinct sections: the western section (Oxford to Bedford, Milton Keynes to Princes Risborough); central section (Bedford to Cambridge); and eastern section (Cambridge to Norwich and Ipswich) which were at various stages of development.
- 6.3 RB confirmed that he intended to report back to the Secretary of State for Transport by the end of June on the feasibility of bringing forward the development of the western section of the railway, with a target completion date likely to be set for the early 2020s, subject to the necessary approvals being secured.
- 6.4 The economic case for connecting areas of rapid population, employment and housing growth remained the key justification for the scheme. Given the NIC's ongoing study, RB remained keen to work closely with the Commission to develop a shared vision for the delivery of housing and transport in the corridor.

The following issues were raised in discussion:

- The mixture of local and long distance passenger trains and freight trains that would use the line.

- The impact of different options for the number of stations and frequency of services on the operation and benefits of the line.
- The potential benefits of a single entity being made responsible for the maintenance and operation of the route.
- The potential for capturing increases in land value that were likely to arise around new and improved stations, including through development corporations.
- Recent trends in household size and formation in the corridor.
- The need to balance decisions which would be in the national interest with local concerns.

**Action: The Secretariat to continue its engagement with East West Rail in developing proposals for the delivery of transport and housing in the corridor.**

**Action: Secretariat to invite Rob Brighthouse (Chair of East West Rail) to update the Commission on his early findings in due course.**

## **7. National Infrastructure Assessment – Part 2 (Item 7)**

7.1 [REDACTED] (Senior Economic Adviser, NIC) introduced the item and gave an overview of the secretariat's work to measure the performance of infrastructure assets and services.

7.2 As part of the evidence base to inform the development of the NIA, the secretariat had sought to identify relevant, accurate and informative metrics that could be used to analyse the current performance of the UK's existing infrastructure, as well as providing an objective measure of performance over time.

7.3 The following issues were raised in discussion:

- There was a general need to move away from measuring the quantity of infrastructure assets and towards measurements of the performance of infrastructure services.
- Consistency and comparability of definitions and data.
- The potential to influence the collection of new data by the OECD.
- The challenges of identifying appropriate measures to encourage the pro-active maintenance of infrastructure assets, as opposed to one-off responses to disasters and infrastructure failures.
- The risks of adopting fixed measures that failed to incentivise innovation.

**Action: John Armitt and Tim Besley agreed to lead the Commission's engagement with the Secretariat in further developing proposals for a range of metrics to measure the performance of infrastructure assets and services.**

## **8. Date of Next Meeting (Item 9)**

8.1 The next meeting of the Commission was scheduled for Thursday 11 May at 1pm in the Institution of Civil Engineers.

**9. Any Other Business (item 10)**

9.1 The Chair invited new Commissioners to share their initial thoughts on the scope and content of the meeting.

9.2 Commissioners discussed a number of infrastructure planning organisations similar to the NIC that had been established in other countries.

9.3 It was decided that a dinner should be arranged to allow Commissioners to exchange views in a more informal setting.

9.4 The meeting ended at 17:00.

**Action: Secretariat to circulate a range of international infrastructure assessments for comparison.**

## MINUTES

**Meeting: Commission Meeting**

**Date: 11 May 2017**

**Time: 1.00pm**

**Place: Institution of Civil Engineers, 1 Gt George St, Westminster, SW1P 3AA**

### Attendees

#### Commission Members:

Rt Hon Lord Adonis	(Chair)
Sir John Armitt CBE	(Deputy Chair)
Prof Tim Besley CBE	(Commissioner)
Dame Kate Barker	(Commissioner)
Prof David Fisk CB	(Commissioner)
Andy Green	(Commissioner)
Dr Demis Hassabis	(Commissioner)
Prof Sadie Morgan	(Commissioner)
Julia Prescott	(Commissioner)
Bridget Rosewell OBE	(Commissioner)

#### Secretariat:

Philip Graham	(Chief Executive)
James Richardson	(Chief Economist)
Adam Cooper	(Director of Policy and Engagement)
[REDACTED]	(Commission Secretary)
[REDACTED]	(Interim Head of Strategic Communications and Media)
[REDACTED]	(Head of Transport, Energy and Digital)
[REDACTED]	(Head of Water, Floods and Cross-cutting issues)
[REDACTED]	(Senior Policy Adviser, cities/urban transport) (Item 4)
[REDACTED]	(Senior Policy Adviser, housing) (Item 4)
[REDACTED]	(Senior Policy Adviser, strategic transport) (Item 6)
[REDACTED]	(Senior Economic Adviser) (Item 6)
[REDACTED]	(Head of New technology Study) (Item 7)

#### Other guests:

##### *For Item 5 (Fiscal Outlook):*

Charles Roxburgh	(Second Permanent Secretary, HMT)
Philip Duffy	(Director, Enterprise and Growth, HMT)



## **1. Apologies and Welcome**

- 1.1 The Chair welcomed attendees and opened the meeting. There were no apologies for lateness or absence.

## **2. Minutes and Matters Arising**

- 2.1 The minutes of the Commission meeting held on 24 April 2017 were agreed as an accurate record of proceedings. There were no matters arising.

## **3. Chief Executive's Update**

- 3.1 The Chief Executive gave an update on the key meetings and events that had occurred since the last meeting of the Commission. Although the timing of the publication of the Commission's 'Vision and Priorities' document was under internal review and subject to confirmation (following the announcement that a General Election would be held on 08 June 2017) the intention at this stage was still to publish a document in early summer.
- 3.2 A discussion followed on the pressing infrastructure challenges facing the UK and the potential list of schemes and/or policies for inclusion in the Commission's post-election statement, a copy of which had been circulated prior to the meeting.
- 3.3 It was agreed that the statement should focus on priority actions for Government in areas where there were already commitments in principle to projects or programmes, but where without timely ministerial decisions by the end of 2017 there were also risks that projects could stall or collapse entirely.

**Action: Secretariat to circulate a revised draft of the Commission's post-election statement in advance of the next meeting.**

## **4. National Infrastructure Assessment – Part 1**

*Housing and urban transport.*

- 4.1. [REDACTED] (NIC Secretariat) gave an overview of the secretariat's work on urban transport and housing, outlining the key themes raised in response to the Commission's recent call for evidence and highlighting the growing importance of cities in supporting the UK's economic activity, growth and employment.
- 4.2. Commissioners were reminded that while the NIC had no direct role in decisions relating to housing supply – which sat outside its remit set by Government – it would be important to examine the interactions between infrastructure and housing and the potential for infrastructure to support housing growth.
- 4.3. The following points were made in discussion:

- Higher growth in urban populations and their economies was expected to place greater demand on city infrastructure than elsewhere in the country.
- It was likely that as urban populations rose and economic density increased, rapid mass transport systems would play an increasingly important part in urban transport networks.
- Rising populations and increased pressure on urban transport were likely to require a new approach to the allocation of fixed road space in some areas.
- Maintaining the affordability and reliability of urban transport systems would remain important alongside adding new capacity where needed.
- Ensuring that urban areas across the country could benefit from improved infrastructure systems would play an important role in achieving the Commission's objective to support sustainable economic growth in all regions of the UK.
- At present there was no single definition or criteria for achieving city status in the UK (eg. urban area agglomerations, primary urban areas, population size etc.)

## **5. Fiscal Outlook**

- 5.1. The Chair welcomed Charles Roxburgh (CR) (Second Permanent Secretary, HMT) and Philip Duffy (PD) (Director, Enterprise and Growth Unit, HMT) to the meeting and invited them to provide an update on the UK's fiscal outlook and future levels of infrastructure spending that had been agreed by the Government.
- 5.2. CR set out the background to the development of the Commission's fiscal remit, which stated that the Commission's recommendations must be consistent with gross public investment in economic infrastructure of between 1.0% and 1.2% of GDP in each year between 2020 and 2050.
- 5.3. While the Government's long-term commitment to investing between 1.0% and 1.2% of GDP represented an increase on current levels of public investment in infrastructure, it was likely that the Commission would need to prioritise its recommendations given the scale of investment already committed or being contemplated across the UK over the coming decades, and particularly in the 2020s.
- 5.4. PD confirmed that the fiscal remit covered all capital spending in the public sector on economic infrastructure. It excluded current spending on energy subsidies, such as the Levy Control Framework; spending classified by ONS as being in the private sector; devolved spending in Scotland, Wales and Northern Ireland; and taxes, levies, tolls and fees.
- 5.5. Commissioners were reminded that for private sector spend, the NIC had committed to include a transparent assessment of the impact on costs to businesses, consumers, public bodies and other end users of infrastructure that would arise from implementing its proposals.
- 5.6. A discussion followed, during which Commissioners put questions to CR and PD on the UK's economic and fiscal outlook; the operation of the NIC's fiscal remit; and the classification of public and private spend on infrastructure.



- 5.7. The Chair thanked CR and PD for attending the meeting and for their ongoing support for the work of the NIC.

## **6. National Infrastructure Assessment – Part 2**

### *Strategic and inter-urban transport*

- 6.1 [REDACTED] (Senior Policy Adviser, NIC) gave an overview of the secretariat's work on strategic and inter-urban transport to date, outlining the key challenges and themes raised in the response to the Commission's recent call for evidence.

- 6.2 The following points were made in discussion:

- The importance of strategic transport networks and the need to understand existing capacity constraints.
- Current and planned investments in the rail network; and relative volumes of freight carried on the road and rail networks.
- The balance of investment between the Strategic Road Network (SRN) and local roads; and strategic traffic overlaps with urban journeys on many parts of the SRN.
- Surface access capacity to and from ports and airports.
- Vehicle emissions and air quality; and the impact of connected and autonomous vehicles on the SRN in particular.

### *Governance and decision making*

- 6.3 [REDACTED] (Senior Economic Adviser, NIC) gave an overview of the secretariat's work on governance and decision making to date, outlining the key challenges and themes raised in the response to the Commission's recent call for evidence.

- 6.4 The following points were made in discussion:

- International comparisons of the time taken to approve and build infrastructure.
- The costs of appraisal, design and coordination; and the benefits of making robust, transparent and evidence-based decisions at an early stage.
- The role of the NIC in building consensus on long-term infrastructure strategy in the UK; and the role of public deliberation (eg. France's Commission Nationale du Débat Public) in tackling infrastructure planning issues.
- The role of the 2008 Planning Act in providing certainty of timescales; the adversarial nature of the UK's legal system; and the need to balance flexibility with the lead-time needed to maintain services and deliver infrastructure efficiently.
- Different approaches for ensuring best value infrastructure options were selected, taking account of the whole system and lifecycle, risks, uncertainty and intangibles.

**Action: Tim Besley and John Armitt (lead Commissioners for the NIA) agreed to discuss the approach to incorporating governance and decision making within the NIA.**

## **7. New Technology Study**

- 7.1 [REDACTED] (SH) (New Technology Study Lead, NIC) gave an update on the recent call for evidence and workplan for the New Technology study. SH had replaced [REDACTED], who had left the NIC to take up a role as Director of Telecommunications at DCMS.
- 7.2 The call for evidence had received over 50 responses from across the public and private sectors as well as business and academia. Much of the evidence submitted had focused on the use of data and digital technologies. From among the other issues raised, energy-related technologies and biomimetic materials had featured in more than one response.
- 7.3 Early analysis of the call for evidence had suggested the following themes could form the basis of further study:
- Reducing the cost and disruptive impact of maintenance across all sectors.
  - Addressing congestion and capacity constraints through smarter transport systems.
  - Specific sectoral case studies (eg. sensors and water leakage) to evaluate how new technologies were already being used to increase efficiency at a local level, and what interventions might be needed to reap benefits at a national scale.
  - Consideration of big data, associated issues and potential policy interventions (eg. data handling, coordination and privacy).
- 7.4 The secretariat would be taking a full list of options to the Policy Board which had been established to inform the development of the study and act as a sounding board for emerging thinking, drawing on a range of external experts.
- 7.5 To inform the development of case studies, a roundtable meeting with catapult centres would take place in May, followed by a roundtable event in July, hosted by NESTA (the innovation foundation). Separately, a consultancy report was being procured to examine international case studies, which would be likely to cover the UAE, South Korea and Singapore among other countries.

**Action: Secretariat to circulate dates of forthcoming events relating to the New Technology study to Commissioners.**

## **8. Date of Next Meeting**

- 8.1 The next meeting of the Commission was scheduled for Thursday 25 May in the Institution of Civil Engineers.

## **9. Any Other Business**

9.1 There was no other business. The meeting finished at 17:10.

## MINUTES

**Meeting: Commission Meeting**

**Date: 25 May 2017**

**Time: 10.00am**

**Place: Institution of Civil Engineers, 1 Gt George St, Westminster, SW1P 3AA**

### Attendees

#### Commission Members:

Rt Hon Lord Adonis	(Chair)
Sir John Armitt CBE	(Deputy Chair)
Prof Tim Besley CBE	(Commissioner)
Dame Kate Barker	(Commissioner) (Items 3 – 6)
Prof David Fisk CB	(Commissioner)
Andy Green	(Commissioner)
Prof Sadie Morgan	(Commissioner)
Julia Prescott	(Commissioner)

#### Secretariat:

Philip Graham	(Chief Executive)
James Richardson	(Chief Economist)
Adam Cooper	(Director of Policy and Engagement)
[REDACTED]	(Commission Secretary)
[REDACTED]	(Head of Strategic Communications and Media) (Items 3 – 6)
[REDACTED]	(Head of Transport, Energy and Digital) (Items 3 – 6)
[REDACTED]	(Head of Water, Floods and Cross-cutting issues)(Items 3– 6)

### 1. Apologies and Welcome

- 1.1 The Chair welcomed attendees and opened the meeting. Apologies for absence had been received from Dr Demis Hassabis (Commissioner) and Bridget Rosewell (Commissioner). An apology for lateness had been received from Dame Kate Barker (Commissioner).

### 2. Chief Executive's Update

- 2.1 The Chief Executive gave an update on his key meetings and events that had occurred since the last meeting of the Commission.

### **3. National Infrastructure Assessment: ‘Vision and Priorities’ Document**

- 3.1 James Richardson (JR) (Chief Economist, NIC) introduced the item, reminding those present that the Commission has committed to publish an interim report in 2017 (known as its ‘vision and priorities document’) setting out its proposed long-term vision for UK infrastructure, priority areas for action and policy options for addressing the infrastructure needs identified
- 3.2 JR reminded Commissioners that at its meeting held on 05 December 2016, the Commission had agreed to structure the Vision and Priorities document around a series of key challenges which would provide the basis for further consultation and engagement ahead of making final recommendations in the final NIA.
- 3.3 Following the Commission’s discussion of specific challenges at its meetings of 29 March, 24 April and 11 May, draft chapters had been circulated on the following topics:
- digital communications;
  - cities (including housing and urban transport);
  - decarbonising infrastructure;
  - water and flooding;
  - strategic transport; and
  - funding and financing.
- 3.4 In considering the content of the Vision and Priorities document, Commissioners were reminded of the NIC’s principal objectives, which were to: support sustainable economic growth across all regions of the UK; improve competitiveness; and improve quality of life.
- 3.5 JR confirmed that a formal public consultation would be launched following the publication of the document in addition to a broad programme of regional and sectoral engagement aimed at capturing the expertise and opinions of people from across industry, business, central and local government, academia, and the wider public. This would inform the second stage of the NIA process as the Commission sought to develop its final recommendations to Government, currently scheduled for publication in 2018.
- 3.6 The Chair thanked JR for his overview of the document and invited Commissioners to comment on the content and structure of the document.
- 3.7 A broad discussion followed during which the following issues were discussed:
- Measuring the performance of infrastructure; issues with cost-benefit analysis; and the interdependencies between the six sectors of economic infrastructure in the Commission’s remit.

- The findings of social research commissioned by the NIC to understand the priorities of members of the public and the impact of infrastructure on their quality of life.
- The four drivers of infrastructure which the secretariat had used to understand how demand for infrastructure might change over the coming decades: ‘population change and demography’; ‘technological change’; ‘economic growth’; and ‘environment and climate change’.
- The Commission’s engagement with the devolved administrations; and sectors where there was substantial devolution to the devolved Governments (eg. waste, flood risk and water and sewerage).
- The role of regulators in unlocking private investment in infrastructure.

- 3.8 Following discussion, it was agreed that each chapter should follow a similar structure, setting out: i) why action was needed; ii) the weaknesses of current position; iii) the Commission’s priorities and options identified for improving the current situation; iv) what the UK would look like in 2050 if the Commission’s vision were met; and v) the specific questions on which the Commission was seeking responses.
- 3.9 Commissioners put questions to the Chief Economist on the analysis undertaken and evidence received to date for each topic, following which Commissioners agreed the following priorities where current policies and programmes appeared inadequate to meet the challenges of the future:
- Building a digital society: fast, reliable data services everywhere.
  - Connected, liveable city-regions: linking homes and jobs.
  - Low-cost, low-carbon: ending emissions from power, heat and waste.
  - Revolutionising road transport: seizing the opportunities of electric and autonomous vehicles.
  - Reducing the risks of extreme weather: making sure the UK can stand up to drought and flooding.
  - Financing infrastructure in efficient ways: getting the right balance between public and private sectors.
- 3.10 A vision statement was agreed for each priority in turn setting out what the UK would look like in 2050 if the Commission’s priorities and challenges were met.
- 3.11 In addition, it was agreed that the secretariat would prepare a draft chapter on the interaction between infrastructure and housing – drawn from the existing commentary included in the ‘cities’ chapter – setting out how infrastructure could support the development of new homes and communities. A decision would be taken on whether to include this as a separate chapter, or to incorporate the analysis into the existing structure, at a later meeting.

- 3.12 Separately, it was agreed that the Commission's work on governance and decision-making should be incorporated into individual chapters as necessary.

**Decision: Commissioners agreed the vision and priorities on which they would consult, subject to further discussion on the case for including a separate chapter on the interaction between infrastructure and housing.**

**Action: Secretariat to circulate a revised draft of the 'Vision and Priorities' document reflecting the decisions and steers received from Commissioners.**

**Decision: Commissioners agreed that further research should be undertaken at a later point on the whether the current system of regulation was capable of delivering the kind of transformational investment likely to be required to support the Commission's identified vision for UK infrastructure in 2050.**

#### **4. Post-Election Planning**

- 4.1 The Chief Executive gave an update on various cross-Whitehall meetings he had attended which had informed the development of a list of priority actions for the incoming Government to support existing infrastructure projects and programmes, a draft outline of which had been circulated prior to the meeting.

- 4.2 A discussion followed on the content and timing of the statement, and its relationship to the NIA and wider work of the NIC.

**Decision: Commissioners agreed to include a summary of the priorities identified in any post-election statement within the Vision and Priorities document.**

**Action: Secretariat to circulate a revised draft of the Commission's post-election statement reflecting the steers received from Commissioners.**

#### **5. Any Other Business**

- 5.1 There was no other business. The meeting finished at 17:30.

## MINUTES

**Meeting: Commission Meeting**

**Date: 20 June 2017**

**Time: 1.00pm**

**Place: Institution of Civil Engineers, 1 Gt George St, Westminster, SW1P 3AA**

### Attendees

#### Commission Members:

Rt Hon Lord Adonis	(Chair)
Sir John Armitt CBE	(Deputy Chair)
Dame Kate Barker	(Commissioner)
Prof David Fisk CB	(Commissioner)
Andy Green	(Commissioner)
Dr Demis Hassabis	(Commissioner)
Prof Sadie Morgan	(Commissioner)
Julia Prescott	(Commissioner)
Bridget Rosewell OBE	(Commissioner)

#### Secretariat:

Philip Graham	(Chief Executive)
James Richardson	(Chief Economist)
Adam Cooper	(Director of Policy and Engagement)
[REDACTED]	(Commission Secretary)
[REDACTED]	(Head of Strategic Communications and Media)
[REDACTED]	(Head of Transport, Energy and Digital)
[REDACTED]	(Head of Water, Floods and Cross-cutting issues)
[REDACTED]	(Head of New technology Study) (Item 3)
[REDACTED]	(Head of the 'CaMkOx' Study) (Item 4)
[REDACTED]	(Senior Local Government Adviser) (Item 4)

### 1. Apologies and Welcome

- 1.1 The Chair welcomed attendees and opened the meeting. Apologies for absence had been received from Prof Tim Besley (Commissioner) and Julia Prescott (Commissioner). In addition, Dr Demis Hassabis (Commissioner) and Prof Sadie Morgan (Commissioner) had indicated that they would need to leave the meeting early.

### 2. Chief Executive's Update

- 2.1 The Chief Executive gave an update on the key meetings and events that had occurred since the last meeting of the Commission.



- 2.2 At the suggestion of the Chair, and in order to allow lead commissioners to participate in relevant discussions, it was agreed to take items in a different order than set out on the agenda.

### 3. New Technology Study

- 3.1 [REDACTED] (SH) (New Technology Study lead) introduced the item and outlined the process and methodology that had been used to select a range of case studies, around which it was proposed the final report of the New Technology study should be based. Case studies included: better asset management; optimisation of car and road use; increasing water efficiency; and the benefits of sharing data in the energy sector.
- 3.2 SH confirmed that consultation with relevant stakeholders would continue through a range of workshops, roundtables, individual meetings and a second call for evidence focusing on the range of identified case studies.
- 3.3 A discussion followed during which Commissioners put questions to the Head of the New Technology study on the implications of viewing data as infrastructure; the increasing need to consider security and resilience as critical requirements of any future interdependent infrastructure system; and the potential for big data to enable existing infrastructure assets and resources to be used more efficiently, for example by tackling congestion or reducing waste.

**Decision: Commissioners agreed the proposed selection of case studies and suggested form of the final report, focusing how efficiency gaps could be closed in different sectors (eg. energy, water, transport, digital) through the application of new technologies which used data to optimise the operation and maintenance of infrastructure systems.**

### 4. Cambridge/Milton Keynes/Oxford Study

- 4.1 [REDACTED] (SL) (Head of the Cambridge/Milton Keynes/Oxford study team) gave an update on the timetable for publishing the final Cambridge-Milton Keynes-Oxford (“CaMkOx”) report and outlined the emerging evidence across a range of issues on which the Commission could make recommendations.
- 4.2 Commissioners were reminded that a central finding of the interim report (published in November 2016) had been that a lack of sufficient and suitable housing presented a fundamental risk to the success of the area, and that without a joined-up plan for housing, jobs and infrastructure across the corridor, it would be left behind by its international competitors.
- 4.3 SL outlined how the secretariat had continued to gather evidence on a range of issues since the publication of the interim report, including on the strategic transport impacts of growth, barriers to development and land value capture.
- 4.4 The terms of reference for the study required the Commission to publish its final report in advance of the Autumn Budget; a timetable for meeting this deadline had therefore been drawn up, with the intention of discussing draft recommendations at the next meeting of the Commission on 27 July. Forthcoming events included a seminar with invited guests on various spatial planning concepts (22 June) and a tour of the corridor (21 July).

- 4.5 A discussion followed during which Commissioners put questions to the Head of the CaMkOx study on the content, scope and timing of the final report, and the emerging evidence for potential recommendations.

**Action: Secretariat to circulate a list of forthcoming events and meetings relating to the study.**

## **5. Post-Election Planning (Item 3)**

- 5.1 The Chair gave an update on the development of the Commission's post-election statement listing priority actions for the new Government, a copy of which had been circulated prior to the meeting.
- 5.2 The final priorities that had been identified following the previous discussions of the Commission held on 11 May and 25 May, were as follows: Heathrow 3rd runway; High Speed 2; High Speed 3 (now referred to as Northern Powerhouse Rail); Crossrail 2; eastern crossings of the River Thames; flexible power systems; renewable energy; decarbonisation of energy; Hinkley Point C; broadband and mobile; 5G mobile; and water and flood defence infrastructure.
- 5.3 A discussion followed on the order and final wording of each priority in turn.
- 5.4 Commissioners were invited to attend a launch event that had been arranged to accompany the publication of the post-election statement, scheduled to take place on the morning of 26 June at the Institution of Civil Engineers.
- 5.5 To underline the importance of the '12 priorities' to the UK's competitiveness and productivity, a range of speakers representing business and industry had agreed to speak at the event, including Dr Adam Marshall (Director-General of the British Chambers of Commerce), Josh Hardie (Deputy Director-General of the Confederation of British Industry) and Mike Cherry (National Chairman of the Federation of Small Businesses).

**Decision: Commissioner agreed the list of 12 priorities that would form the basis of the Commission's post-election statement, and delegated final sign-off to the Chair.**

**Action: Secretariat to circulate a final draft of the post-election statement to Commissioners in advance of the launch on 26 June.**

## **6. National Infrastructure Assessment: Vision and Priorities Document**

- 6.1 James Richardson (JR) (Chief Economist) introduced the item and set out the background to a discussion on the structure, content and timing of the 'Vision and Priorities' document. A second draft of the executive summary, a revised 'in brief' and a list of topics on which it was proposed the Commission should consult had been circulated in advance of the discussion.

- 6.2 JR explained that a full draft of the consultation document – reflecting the ‘vision and priorities’ agreed at the Commission meeting of 25 May – would be circulated after the meeting in order to allow for any further steers voiced during the meeting to be incorporated. Bilateral discussions with individual Commissioners would continue alongside correspondence on drafting points.
- 6.3 Further to the outcome of the General Election and following discussions at working level, it was now unlikely that the Government would be in a position to receive the document before summer recess. In view of this timing, it was suggested that the document should be published for consultation in the autumn, potentially around the start of party conference season. JR emphasised that it would be important to close down significant drafting before the end of July to allow the team to prepare the next phase of the NIA; and to allow the designers and infographics consultants to produce a high quality product, bearing in mind the summer holidays.
- 6.4 The following issues were raised in discussion:
- The increasing need for common international standards to underpin smart energy and storage systems to ensure projects and technologies could be connected at the lowest cost.
  - The current system of collecting revenue from road users through fuel duty; and the potential for any new system replacing fuel duty to include an element of pricing linked to congestion.
  - The potential for better quality data to improve the way water resources and flood risks are managed.
  - The impact of future technological change on future infrastructure supply and demand.
- 6.5 The Chair formally thanked the Chief Executive, Chief Economist and wider secretariat for their role in developing the NIA to date.

**Decision: Commissioners agreed a revised timetable for the publication of the Vision and Priorities document; agreed the list of topics which would form the basis of the ‘vision and priorities’ consultation and the future NIA work programme; and delegated final sign-off of the document to the Chair in consultation with lead Commissioners (Tim Besley and John Armitt)**

**Action: Secretariat to circulate a revised draft of the Vision and Priorities document to Commissioners for review.**

## **7. Any Other Business**

- 7.1 There was no other business. The meeting finished at 16:50.

## MINUTES

**Meeting: Commission Meeting**

**Date: 27 July 2017**

**Time: 1.00pm**

**Place: Institution of Civil Engineers, 1 Gt George St, Westminster, SW1P 3AA**

### Attendees

#### Commission Members:

Rt Hon Lord Adonis	(Chair)
Sir John Armitt CBE	(Deputy Chair)
Dame Kate Barker	(Commissioner)
Prof Tim Besley CBE	(Commissioner)
Prof David Fisk CB	(Commissioner)
Julia Prescott	(Commissioner) (Items 1 – 3)

#### Secretariat:

Philip Graham	(Chief Executive)
Adam Cooper	(Director of Policy and Engagement)
[REDACTED]	(Chief Operating Officer)
[REDACTED]	(Commission Secretary)
[REDACTED]	(Head of Strategic Communications and Media)
[REDACTED]	(Head of Transport, Energy and Digital Communications)
[REDACTED]	(Head of Water, Waste and Cross-cutting issues)
[REDACTED]	(Head of Cambridge-Milton Keynes-Oxford Team) (Item 4)
[REDACTED]	(Senior Local Government Adviser) (Item 4)
[REDACTED]	(Senior Economic Adviser) (Item 6)
[REDACTED]	(Senior Policy Adviser – Housing) (Item 6)

#### Other guests:

##### *For Item 6(a) (Road Pricing Discussion):*

Julian Glover	(Director, 2017 Wolfson Economics Prize)
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##### *For Item 6(b) (Land Value Capture Discussion):*

Josh Goodman	(Deputy Director, Housing Planning and Cities, HMT)
[REDACTED]	(Branch Head, Residential Property Tax, HMT)
[REDACTED]	(Policy Adviser, Infrastructure, Digital & Culture, HMT)
[REDACTED]	(Head of Housing Supply and Planning, HMT)

## **1. Apologies and Welcome**

- 1.1 The Chair welcomed Commissioners and opened the meeting. Apologies for absence had been received from Demis Hassabis (Commissioner), Bridget Rosewell (Commissioner), Sadie Morgan (Commissioner), Andy Green (Commissioner) and James Richardson (Chief Economist).
- 1.2 The Chair explained that the invited guest from TfL would be unable to join the meeting due to a recent bereavement. Instead, Julian Glover (Director, 2017 Wolfson Economics Prize) had agreed to discuss the treatment of road pricing and congestion charging in submissions to the recent Wolfson Economics Prize.

## **2. Chief Executive's Update**

- 2.1 The Chief Executive formally welcomed the new Chief Operating Officer to her post and gave an update on recent staffing changes before outlining a range of developments that had occurred since the last meeting of the Commission:
  - An open competition had been launched on 30 June seeking imaginative proposals for how placemaking might be integrated with development and new infrastructure across the Cambridge – Milton Keynes – Oxford corridor.
  - An Innovation Competition was being developed to explore how roads should be designed, managed and used to maximise the benefits of Connected and Autonomous Vehicles (CAVs).
  - Andy Green (Commissioner) had delivered the 2017 James Forrest Lecture at the Institution of Civil Engineers on 20 July on the theme of 'artificial intelligence in the built environment'.
  - A second call for evidence had been launched by the New Technology team asking for input into four detailed case studies – better asset management, water efficiency, smart traffic management, and big data – to inform the final report.
  - Andrew Gilligan had been asked to provide advice to the NIC on how Cambridge, Milton Keynes and Oxford could be transformed into world-class cities for cycling. A report setting out his findings was expected in the autumn.
  - Recent government announcements on HS2, smart energy systems and aviation strategy were also noted.
- 2.2 The Chair reported back on his recent meeting with Sir Peter Hendy (Chair, Network Rail), David Higgins (Chair, HS2 Ltd) and John Cridland (Chair, Transport for the North) to discuss northern rail schemes and priority routes for investment. A follow-up meeting would be arranged in the autumn.
- 2.3 The Chair then gave an update on the following issues:

- The government had publicly declared its support for Crossrail 2, subject to agreeing a funding package that would see the GLA and TfL fund up to half of the scheme during its construction phase.
- The Chair had written to Richard Harrington MP (Minister for Energy and Industry) outlining the case for the NIA to consider the strategic case for tidal lagoons and the role they could play in the UK's future energy mix.
- The Chair and Chief Executive had met with Matt Hancock MP (Minister of State for Digital) and discussed plans to improve mobile connectivity on roads and railways.

2.3 A Commissioner raised Defra's recently published plan to tackle roadside nitrogen dioxide concentrations, highlighting the Government's intention to end the sale of all conventional petrol and diesel cars and vans by 2040. Commissioners agreed that the NIA should take account of the most recent plans to tackle air pollution.

**Action: Secretariat to arrange a visit to and/or commission meeting in Wales to explore the strategic case for tidal lagoons.**

**Action: Commission Secretary to invite Sharon White (CEO, Ofcom) to attend a future meeting of the Commission.**

### **3. Cambridge-Milton Keynes-Oxford**

3.1 The Head of the Cambridge-Milton Keynes-Oxford study team set out the early narrative and draft recommendations of the final report.

3.2 A discussion followed during which Commissioners examined the draft recommendations in detail and put forward a series of amendments. The following general points were made:

- It would be important to identify clear owners for each recommendation together with a timeframe for action in each case.
- Guidance to local authorities on how to accelerate housing growth should avoid being too prescriptive in order to allow local solutions to be developed wherever possible. There remained a case for government intervention where local solutions could not be found.
- While the timing and delivery of social infrastructure to support new and expanding communities was out of the study's scope, it would be important to reference the need for investment in transport and social infrastructure alongside housing growth.
- The distinction between funding and financing in the devolution deals that had been secured to date should be borne in mind when discussing any potential deal for the Cambridge-Milton Keynes-Oxford corridor.

- 3.3 The secretariat offered to meet bilaterally with interested Commissioners and agreed to circulate an executive summary and revised recommendations to all Commissioners ahead of the next Commission meeting.

**Action: Secretariat to circulate an executive summary and revised recommendations in advance of the next Commission meeting.**

#### **4. Road Pricing Discussion**

- 4.1 The Chair thanked Julian Glover (JG) for joining the meeting by phone and invited him to outline the background to the 2017 Wolfson Economics Prize, which had posed the following question: "How can we pay for better, safer, more reliable roads in a way that is fair to road users and good for the economy and the environment?"

- 4.2 JG explained that the starting point for the competition had been to promote ideas which would bring about more investment in the road network and deliver a better deal for road users in the context of shifts to digital technology, new forms of power and self-driving vehicles. Over 120 entries had been received from around the world, with a range of different sectors represented.

- 4.3 The following points were raised in discussion:

- The balance between current revenues raised from motoring taxes and investment in the road network, and future projections for receipts from motoring taxes.
- The challenges of designing a well-targeted and effective system of motoring taxation which reflected the environmental and other external costs associated with motoring (eg. pollution, congestion, safety).
- Public perceptions of road pricing and road users' willingness to endure congestion.
- Recent polling suggested there were differing generational attitudes to vehicle ownership, individuals' willingness to invest in the road network and readiness to embrace technological change and autonomous vehicles.
- A combination of population growth and increases in GDP (per capita) were forecast to increase demand for travel and generate more traffic.

#### **5. Land Value Capture Discussion**

- 5.1 Josh Goodman (Deputy Director, Housing Planning and Cities, HMT) introduced the item and gave an overview of the policy work underway across government.

- 5.2 [REDACTED] (Head of Housing Supply and Planning, HMT) gave a presentation covering the background and history of land value uplift (LVU), the current system of

capturing uplift and the trade-offs involved in making the system more certain without making development unviable.

5.3 The following points were raised in discussion:

- The effectiveness of the current system of taxing capital gains on property.
- The difficulty of determining the area over which land value effects occurred, known as the 'zone of influence'.
- The opportunity to consider bespoke mechanisms for capturing LVU in certain parts of the country to fund strategic infrastructure projects.
- The opportunity to fund specific transport schemes by adopting a system of differential fares increases, thereby linking the cost of a project to the beneficiaries (users) at the point of travel.

## **6. National Infrastructure Assessment: Discussion**

6.1 Commissioners agreed that while the issue of road pricing would be covered predominantly in the 'future roads and vehicles' chapter, it should also be raised in the 'cities' chapter to reflect the potential for urban charging schemes to reduce local congestion.

6.2 A discussion on the placement and prominence of the 'housing chapter' followed. A majority of Commissioners present at the meeting favoured moving the chapter into an appendix, though it was agreed that opinions should also be sought from those not present at the meeting.

6.3 The Chair announced that a provisional date and location for the launch of the document had been for autumn 2017 in Birmingham. Further details would be circulated by the Commission Secretary.

6.4 A discussion followed on the overall messaging of the document and potential media interest.

**Decision: The Commission agreed to delegate final approval of the "top lines" of the document and accompanying press release to the Chair in consultation with lead Commissioners (John Armitt and Tim Besley).**

**Action: Commission Secretary to circulate further details of the launch date and venue.**

## **7. Any Other Business**

7.1 There was no other business. The meeting ended at 17.15.



## MINUTES

**Meeting: Commission Meeting**

**Date: 20 September 2017**

**Time: 1.00pm**

**Place: Institution of Civil Engineers, 1 Gt George St, Westminster, SW1P 3AA**

### Attendees

#### Commission Members:

Rt Hon Lord Adonis	(Chair)
Sir John Armitt CBE	(Deputy Chair) (Items 1 - 5)
Prof Tim Besley CBE	(Commissioner)
Prof David Fisk CB	(Commissioner)
Andy Green	(Commissioner)
Dr Demis Hassabis	(Commissioner) (Items 4 -7)
Julia Prescott	(Commissioner)

#### Secretariat:

Philip Graham	(Chief Executive)
Adam Cooper	(Director of Policy and Engagement)
[REDACTED]	(Commission Secretary)
[REDACTED]	(Head of Strategic Communications and Media)
[REDACTED]	(Head of Transport, Energy and Digital Communications)
[REDACTED]	(Head of Water, Waste and Cross-cutting issues)
[REDACTED]	(Head of Modelling and Analysis Team)
[REDACTED]	(Head of New Technology Study Team) (Item 7)
[REDACTED]	(Senior Economic Adviser) (Item 5)
[REDACTED]	(Cities Adviser) (Item 9)

#### Other guests:

##### *For Item 5 (Land Value Capture Discussion):*

Liz Peace	(Former Chair, CIL Review Team)
Julian Ware	(Senior Principal. TfL Commercial Finance)

##### *For Item 6 (Artificial Intelligence Review):*

Dame Wendy Hall	(Professor of Computer Science, University of Southampton)
[REDACTED]	(Head of Emerging Sectors and Projects, BEIS)
[REDACTED]	(Smart Cities and Artificial Intelligence lead, DCMS)

## **1. Apologies and Welcome**

- 1.1 The Chair welcomed Commissioners and opened the meeting. Apologies for absence had been received from Bridget Rosewell (Commissioner), Sadie Morgan (Commissioner) and Kate Barker (Commissioner). An apology for lateness had been received from Demis Hassabis (Commissioner).

## **2. Minutes and Matters Arising.**

- 2.1 The minutes of the Commission meeting held on 27 July 2017 were agreed as an accurate record of proceedings. There were no matters arising.

## **3. Chief Executive's Update**

- 3.1 The Chief Executive gave an update on the key meetings and events that had occurred since the last meeting of the Commission.
- 3.2 A date for the launch of the Vision and Priorities document was in the process of being confirmed, and likely to be scheduled in the week commencing 09 October. The respective Mayors of London, Greater Manchester, the West Midlands, the West of England, and Cambridgeshire and Peterborough had all confirmed their appearance at the event.
- 3.3 The Chief Executive gave an update on the Cambridge-Milton Keynes-Oxford study and asked Commissioners to delegate final approval of the report to the Chair in consultation with lead Commissioners. A draft of the executive summary would be circulated to all Commissioners for review at the earliest opportunity.

**Decision: Commissioners agreed to delegate final approval of the Cambridge-Milton Keynes-Oxford report to the Chair in consultation with lead Commissioners (Bridget Rosewell and Sadie Morgan).**

## **4. Chair's Update**

- 4.1 The Chair reported back on comments received from Whitehall colleagues in respect of the Vision and Priorities document, and in particular the framing of the potential for a 'UK Infrastructure Bank' to replace the functions currently undertaken by the European Investment Bank (EIB) in the event that the UK lost access following its withdrawal from the EU.
- 4.2 A discussion followed during which Commissioners agreed unanimously that the document should consult on the most effective institutional means to fulfil the different functions currently undertaken by the EIB if the UK lost access. This should include explicit reference to the option of a UK Infrastructure Bank.
- 4.3 It was noted that any potential institutional solution could serve a range of functions, alongside or including the functions currently carried out by the UK Guarantee

Scheme and the Green Investment Bank. With this in mind, the consultation question would ask whether a new institution was needed, or whether an expansion of existing programmes could achieve the same objectives.

## **5. Land Value Capture Discussion**

- 5.1 Presentations were received from Liz Peace (LP) (former Chair, CIL Review Team) and Julian Ware (JW) (Senior Principal, TfL Commercial Finance) on the findings of the CIL Review Team and the recent work of TfL respectively.
- 5.2 LP explained that whilst CIL was never intended to provide all the funds necessary for local infrastructure, the amount raised had been much less than anticipated, owing in part to the ongoing introduction of exemptions. In addition, the patchwork of CIL and non-CIL authorities across the country had undermined the original intention to provide a universal approach to developer contributions.
- 5.3 The CIL Review Team had considered four possible options for change – do nothing, complete abolition, minor reform and lastly more radical change to see whether a new system could achieve some or all of the purposes for which CIL was originally established.
- 5.4 JW outlined how land value capture could be considered in infrastructure planning and highlighted recent research which had examined land value uplift from past London transport projects.
- 5.5 A range of options had been examined as part of TfL's ongoing work to agree a funding package that would see the GLA and TfL fund up to half the cost of Crossrail 2 during its construction phase. This included the potential for new taxation mechanisms (such as a transport premium charge), business rates revaluation growth retention, zonal SDLT value growth and a development rights auction model (DRAM).

The following points were raised in discussion:

- The increasing need to include land value capture as a standard component of project funding for new transport schemes.
- The relative success of the Mayoral CIL in contributing to the funding for a specific piece of infrastructure (Crossrail).
- Public perceptions of the adverse impact of new development on local infrastructure.
- The relationship between CIL and Section 10; the threshold (development size) at which any universal approach to developer contributions could be applied and the continuing need for bespoke models to make certain development proposals acceptable in planning terms.

- International approaches to land value capture (for example, the Hong Kong Mass Transit Railway Corporation) and other UK examples, such as the Milton Keynes Tariff.
- Pooling restrictions on Section 106 payments for large items of infrastructure where these involved funding from more than five different planning obligations.
- The case for considering options which sought to capture some of the value uplift for existing as well as new property owners, as well as the potential to capture value uplift through government acquiring land directly via compulsory purchase.
- The need for forward-funding to support the provision of infrastructure during the earlier stages of development.

**Action: Secretariat to arrange a site visit to Old Oak and Park Royal Development Corporation (OPDC).**

## **6. Artificial Intelligence Review**

6.1 The Chair welcomed Dame Wendy Hall (WH) (Professor of Computer Science, University of Southampton) to the meeting and invited her to provide an update on the Government's ongoing artificial intelligence (AI) review.

6.2 DH explained that both she and Jerome Pesenti (Chief Executive of BenevolentTech) had been asked to examine how Government could create the conditions for the artificial intelligence industry to thrive and grow in the UK.

6.3 A range of challenges had been considered during the course of the review, including access to skills and talent, access to data, finance and investment. The review also followed recent work by the Royal Society on machine learning and ongoing work by the British Academy and Royal Society on data ethics and governance.

6.4 A central finding of the AI Review – which was due to be published the following month – would cover the need to improve the sharing of data between different organisations (eg. government and industry). It was likely that Data Trusts – non-legal entities underpinned by mutually agreed frameworks – would be needed to ensure that exchanges were fair, safe and equitable.

The following points were raised in discussion:

- The difficulty of sharing data with a potentially commercial value and deciding who should capture the value of any improvements made by third parties.
- The economic gains of making certain data freely available, such as with Ordnance Survey data and Met Office historic weather data.

- The pipeline of skilled experts needed to develop AI in the UK and the need to increase the number of students across a range of academic levels, from conversion courses to academic fellowships.
- The value and importance of promoting a diverse workforce in the technology industry to help break down stereotypes and broaden participation.
- Mechanisms for correcting unconscious bias in programs and algorithms used to process information and make decisions.
- The importance of maintaining public trust in organisations holding data, and the wider need to consider the economic, ethical and social implications of advances in artificial intelligence.

## **7. New Technology Study**

- 7.1 [REDACTED] (NIC Secretariat) gave an update on the recent work of the study team before providing an explanation of ‘digital twins’ – dynamic digital representations of networks and assets, that enabled organisations to better understand and predict the performance of their systems.
- 7.2 For the infrastructure sector, digital twin models had the potential to simulate and predict future demand across a range of sectors such as energy, water, transport, digital, waste and flood defence. The study team were also examining the benefits and use cases for a national digital twin, including for resilience planning and disaster management.
- 7.3 A discussion followed on the various forms of predictive modelling and the difficulty of establishing a baseline for human behaviour.
- 7.4 The Chair and study team would be attending the Future Cities Catapult’s ‘Festival of Ideas’ in Bristol on 19 October to discuss the latest innovations in the urban services sector and their potential to have a positive impact on urban design and integrated infrastructure.

## **8. National Infrastructure Assessment**

- 8.1 [REDACTED] (KB) (NIC Secretariat) invited Commissioners to engage bilaterally with the Secretariat where they had individual comments on the latest draft of the Vision and Priorities document, noting that final sign-off had been delegated to the Chair in consultation with lead Commissioners at the previous meeting of the Commission.
- 8.2 KB gave an update on planning for the final phase of the National Infrastructure Assessment (NIA), outlining the proposal to publish analysis and conclusions from across the various workstreams over several months, rather than in one document. In addition to increasing the profile and reach of the NIC’s work – through highlighting topics that were unlikely to appear among the top headlines of the final NIA – this approach would allow for a shorter and more coherent final document, as well as the opportunity to explore different formats for different topics.

**Decision: Commissioners agreed to separate some workstreams from the core NIA programme, with conclusions (if not formal recommendations) on these areas published in the months leading up to the final document.**

## **9. Cities Engagement Strategy**

- 9.1 [REDACTED] (Cities Adviser, NIC) gave an update on the NIC's plans to work with recently elected metro mayors to support their approach to infrastructure planning.
- 9.2 In parallel with the NIA, it was proposed that the Commission should work with metro mayors on developing integrated and comprehensive infrastructure strategies. Whilst transport planning would be central to this work, the Commission would also aim to take a broader perspective, encouraging metro mayors to consider the full spectrum of potential priorities for each city-region.
- 9.3 A discussion followed during which Commissioners indicated their broad support for the proposal, but asked for clear terms of reference and objectives to be set in advance of any engagement with individual city leaders. Commissioners were keen for regional engagement to remain a core function of Commission rather than a separate activity for any potential sub-board.
- 9.4 Commissioners noted that it would be important to continue engaging with devolved administrations and the governments of Scotland and Wales as well as regions with combined authorities.

## **10. Annual Monitoring Report**

- 10.1 The Director of Policy and Engagement gave an update on the proposed structure and content of the Commission's first Annual Monitoring Report, currently scheduled for publication in January 2018.
- 10.2 Commissioners agreed that, in addition to monitoring government's progress in areas where it has committed to taking forward recommendations, it would be important to follow up on the 'top 12' major priorities which the Commission had highlighted as requiring urgent action in its post-election statement.

## **11. Any Other Business**

- 11.1 There was no other business. The meeting ended at 16.55.

## MINUTES

### Meeting: Commission Meeting

Date: 25 October 2017

Time: 1.00pm

Place: Institution of Civil Engineers, 1 Gt George St, Westminster, SW1P 3AA

### Attendees

#### Commission Members:

Rt Hon Lord Adonis	(Chair)
Sir John Armitt CBE	(Deputy Chair)
Dame Kate Barker	(Commissioner) (Items 1 – 9)
Prof Tim Besley CBE	(Commissioner) (Items 1 – 6)
Prof David Fisk CB	(Commissioner) (Items 1 – 10)
Andy Green	(Commissioner) (Items 6 – 10)
Prof Sadie Morgan	(Commissioner)
Julia Prescott	(Commissioner) (Items 1 – 10)
Bridget Rosewell	(Commissioner)

#### Secretariat:

Philip Graham	(Chief Executive)
Adam Cooper	(Director of Policy and Engagement)
James Richardson	(Chef Economist)
[REDACTED]	(Commission Secretary)
[REDACTED]	(Head of Strategic Communications and Media)
[REDACTED]	(Head of Transport, Energy and Digital Communications)
[REDACTED]	(Head of Water, Waste and Cross-cutting issues)
[REDACTED]	(Head of Modelling and Analysis Team)
[REDACTED]	(Senior Economic Adviser) (Item 8)
[REDACTED]	(Head of New Technology Study Team) (Item 6)
[REDACTED]	(Economic Adviser) (Item 6)
[REDACTED]	(Policy Adviser) (Item 9)

#### Other guests:

For Item 7 (Discussion with Exchequer Secretary to the Treasury):

Andrew Jones MP	(Exchequer Secretary to the Treasury, HMT)
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For Item 10 (Cambridge-Milton Keynes-Oxford):

Andrew Gilligan	(former Cycling Commissioner for London)
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## **1. Apologies and Welcome**

- 1.1 The Chair welcomed Commissioners and opened the meeting. An apology for absence had been received from Demis Hassabis (Commissioner). An apology for lateness had been received from Andy Green (Commissioner).
- 1.2 At the Chair's request, and following changes to the Exchequer Secretary's schedule, the Commission agreed to discuss items in a different order than set out on the agenda.

## **2 Chair's Update.**

- 2.1 The Chair reported that the interim National Infrastructure Assessment (NIA) – *Congestion, Capacity, Carbon: priorities for national infrastructure* – had been well received by stakeholders, with a range of positive media coverage following the document's publication. The presence of five metro Mayors at the launch event had been particularly well received. The Chair thanked Commissioners and the Secretariat for the high quality of their work.

## **3 Chief Executive's Update**

- 3.1 The Chief Executive outlined recent changes to the staffing of the Secretariat, including the appointment of a new Commission Secretary.
- 3.2 Study programmes were also in the final stages of completion, with the Cambridge-Milton-Keynes-Oxford study and New Technology study scheduled for publication in the week commencing 13 October and 11 December respectively.
- 3.3 Commissioners noted the list of recent meetings, events and visits undertaken by the Chief Executive. A Commissioner questioned whether, as the volume of stakeholder engagement increased during the consultation phase, a formal protocol for meetings should be adopted.

**Action: Secretariat to consider the adoption of a formal protocol for meetings with external stakeholders.**

## **4 NIA: Phase 2 Stakeholder Engagement**

- 4.1 The Director of Policy and Engagement gave an outline of the proposed programme of stakeholder engagement during the second phase of the NIA.
- 4.2 The phase 2 (NIA) stakeholder engagement would also run alongside an extensive programme of engagement with metro Mayors as part of the Commission's commitment to support them in developing their own infrastructure strategies.
- 4.3 A discussion followed during which Commissioners agreed to lead on individual themes and regions (see appendix 1).



**Action: Secretariat to develop a detailed engagement plan involving Commissioners in relevant events.**

## **5 Annual Monitoring Report**

- 5.1 The Director of Policy and Engagement gave an update on the timing and provisional structure of the annual monitoring report (AMR).
- 5.2 Following discussion at official level, it was proposed that the first AMR should be published in or around January 2018, one year after the Commission's formal establishment as a permanent body and Executive Agency of HM Treasury.
- 5.3 Commissioners agreed it would be important for the AMR to maintain a clear line of separation from the wider work of the NIA and current consultation.
- 5.4 Commissioners also proposed that there should be a review of the 12 priority areas for action identified in the Commission's post-election statement as part of, or alongside, the preparation of the AMR.

**Decision: The Commission agreed to publish the first AMR in January 2018**

## **6 New Technology Study**

- 6.1 Andy Green (Lead Commissioner) gave a summary of the emerging conclusions of the New Technology Study. A recurring theme had been the potential benefits of sharing data across organisations and sectors. In many cases, however, the current regulatory approach and other practical barriers (such as issues of ownership, security and compatibility) had left many of these benefits unrealised. The case for a separate body and/or new framework to manage data on infrastructure appeared strong.
- 6.2 The Head of the New Technology Study presented a range of case studies – covering the transport and water sectors – showing how data sharing could optimise the performance and maintenance of existing infrastructure assets.
- 6.3 [REDACTED] (NIC Secretariat) gave a demonstration of the London Infrastructure Mapping Application which allowed users to explore current and planned infrastructure projects. The intention was to encourage developers and infrastructure providers (eg. utilities) to work together where appropriate to plan the phasing of projects, thereby reducing disruption and costs.
- 6.4 Commissioners discussed the need for a coordinated approach to enable the greatest benefits from data sharing to be realised. Commissioners also agreed it would be useful to consider international examples of best practice in the final report.

## **7 Discussion with Exchequer Secretary to the Treasury**

- 7.1 The Chair welcomed the Exchequer Secretary to the Treasury (XST) to the meeting and invited him to address the Commission.

7.2 The XST thanked the Chair and Commissioners for their recent interim assessment and stated that the Government remained committed to putting infrastructure at the centre of its economic and industrial strategy. The NIC, in turn, was at the heart of infrastructure policy and government looked forward to receiving the recommendations of the final NIA in 2018.

7.3 The following points were raised in discussion:

- the apparent trade-off between investing in digital communication networks and keeping prices as low as possible for consumers; and the role of the regulators in delivering the transformational changes to infrastructure that would be necessary in future years;
- the coverage and availability of superfast and ultrafast broadband;
- the relationship between the NIC, IPA (Infrastructure and Projects Authority) and HMT;
- public procurement of major infrastructure projects and the potential to improve the commissioning and delivery of projects across the infrastructure supply chain;
- the role of metro Mayors in developing infrastructure plans for individual city-regions;
- the challenges and opportunities of land value capture, and its potential to contribute to the costs of new infrastructure projects;
- the importance of incorporating good design principles into major schemes at an early stage to deliver high quality infrastructure;
- the importance of good freight connectivity for increasing international competitiveness and productivity; and
- the role of private finance and institutional investors (eg. pension funds) in meeting the UK's future infrastructure needs, and the need to consider a 'whole life' assessment of the costs and benefits of private finance.

7.4 The Chair thanked the XST for attending and agreed to keep the Minister informed of the NIC's progress across its various workstreams.

## 8 Introduction to the Fiscal and Economic Remit

8.1 [REDACTED] (Head of Modelling and Analysis Team) and [REDACTED] (Senior Economic Adviser) gave an overview of the Commission's fiscal and economic remit.

8.2 In assessing the impacts of privately funded recommendations ('the economic remit'), the Commission agreed that it would be useful to compare future costs to consumers against both current costs and those in a future 'do nothing' scenario. Commissioners also considered the potential for including behavioural and other indirect impacts alongside quantifying non-monetary impacts in its assessment.

8.3 It was agreed that a separate workshop would be arranged in the new year to inform Commissioners' approach to prioritising recommendations against the fiscal and economic remits.

**Action: Secretariat to schedule a workshop in the new year for Commissioners on the fiscal and economic remit.**

## 9 Digital systems Resilience

9.1 [REDACTED] (Policy Adviser) gave an overview of the NIC's recent work on digital systems, which had examined the increased potential for "system accidents" as infrastructure became increasingly reliant on digital technology.

9.2 The NIC had commissioned Arup and UCL to undertake a short study (a copy of which had been circulated in advance of the meeting) examining the extent to which accidents could be pre-empted and failures managed without causing significant disruption. The secretariat was proposing to launch this report at an event hosted by the by the Royal Academy of Engineering in late November, with the aim of bringing together relevant experts and bodies and agreeing next steps to be taken forward by industry.

**Action: Andy Green (Commissioner) agreed to chair an event to disseminate the findings of the NIC's recently commissioned report on the resilience of digital systems.**

## 10 Cambridge-Milton Keynes-Oxford

10.1 The Chair welcomed Andrew Gilligan (AG) (former Cycling Commissioner for London) to the meeting and invited him to provide a summary of his forthcoming report examining what could be done to deliver a step-change in cycling across the Cambridge-Milton Keynes-Oxford arc.

10.2 AG explained that while cycling already had a higher than usual share of journeys in both Oxford and Cambridge (and a higher share than any other transport mode the latter case), there were still opportunities for improving local cycling infrastructure. His report had identified a series of cycle-specific changes alongside a broader package of measures to help bus users and pedestrians, enabling motorists to drive less frequently and freeing up road space for freight users who had no alternative. Though cycling was less established in Milton Keynes, many of the issues were the same.

10.3 A discussion followed during which Commissioners asked questions relating to the draft recommendations and oral update.

10.4 It was likely that the report would be published as a separate item following the launch of the final report on the Cambridge-Milton Keynes-Oxford arc.

## 11 Minutes and Matters Arising.

11.1 The minutes of the Commission meeting held on 20 September 2017 were agreed as an accurate record of proceedings.

## 12 Any Other Business

12.1 There was no other business. The meeting ended at 17.30.

## Lead Commissioners

Topic	Lead Commissioner 1	Lead Commissioner 2
<b>STUDIES PROGRAMME</b>		
Freight Study (tbc)	Bridget Rosewell	Andy Green
<b>NATIONAL INFRASTRUCTURE ASSESSMENT (OVERALL: TIM BESLEY &amp; JOHN ARMITT)</b>		
<b>1. Building a Digital Society</b>		
Digital regulatory structure	Andy Green	Tim Besley
Technology choices: incremental vs big bang	Andy Green	Tim Besley
Rural connectivity	Andy Green	Tim Besley
Resilience of smart infrastructure/system accidents	Andy Green	John Armitt
<b>2. Cities</b>		
Urban transport planning	Bridget Rosewell	Sadie Morgan
Urban transport funding	Bridget Rosewell	Sadie Morgan
Land value uplift	Bridget Rosewell	Kate Barker
<b>3. Infrastructure to support housing needs</b>		
How do we coordinate infrastructure for new developments?	Kate Barker	Sadie Morgan
<b>4. Low cost, low carbon (energy &amp; waste)</b>		
How do we start to decarbonise heat?	David Fisk	John Armitt
Do we need nuclear; if so, how?	David Fisk	John Armitt
Do we need CCS; if so, how?	David Fisk	John Armitt
How best to deliver energy efficiency?	David Fisk	Kate Barker
How to use market mechanisms to drive low cost decarbonisation?	David Fisk	Kate Barker
Efficient charging for packaging waste	David Fisk	Julia Prescott
Biogas or electricity from waste	David Fisk	Sadie Morgan
<b>5. A revolution in road transport</b>		
Road user charging	Tim Besley	Julia Prescott
Electric vehicles and smart charging infrastructure	Tim Besley	Sadie Morgan
CAVs and road use	John Armitt	Bridget Rosewell
<b>6. Reducing the risks of drought and flooding</b>		
How do we get water efficiency measures to be taken quickly at scale?	John Armitt	Andy Green
What new water supply options are needed?	John Armitt	Andy Green
How do we ensure drainage capacity meets rising demand?	John Armitt	Kate Barker
What does a long-term framework for flood protection look like and how do we deliver it?	John Armitt	Kate Barker
<b>7. Financing infrastructure in efficient ways</b>		
What alternatives are needed to the EIB?	Julia Prescott	Tim Besley
PPPs	Julia Prescott	Kate Barker
<b>8. Cross-cutting themes</b>		
Design panel	Sadie Morgan	Bridget Rosewell
Opportunities and risks from Brexit	Tim Besley	Bridget Rosewell
How to generate better options in CBA/land use vs travel time	Bridget Rosewell	Tim Besley
What are the right metrics	Bridget Rosewell	David Fisk



ENGAGEMENT PROGRAMME		
1. Themes	Lead Commissioner 1	Lead Commissioner 2
Cities	Andrew Adonis	Sadie Morgan
Regulators	Andrew Adonis	Andy Green
Financial sector	Julia Prescott	
Youth Engagement	Sadie Morgan	
2. Regions	Lead Commissioner 1	Lead Commissioner 2
London	Sadie Morgan	John Armitt
South West	Andy Green	
South East	Julia Prescott	
East of England	David Fisk	
West/East Midlands	Kate Barker	Sadie Morgan
North West	John Armitt	Julia Prescott
Yorkshire and Humber	Tim Besley	Kate Barker
North East	Bridget Rosewell	
Rural engagement	Andy Green	
Scotland	Tim Besley	
Wales	Bridget Rosewell	
Northern Ireland	Julia Prescott	Kate Barker

# MINUTES

**Meeting: Commission Meeting**

**Date: 23 November 2017**

**Time: 1.00pm**

**Place: Institution of Civil Engineers, 1 Gt George St, Westminster, SW1P 3AA**

## Attendees

### Commission Members:

Rt Hon Lord Adonis	(Chair)
Sir John Armitt CBE	(Deputy Chair)
Dame Kate Barker	(Commissioner)
Prof Tim Besley CBE	(Commissioner)
Prof David Fisk CB	(Commissioner)
Andy Green	(Commissioner)
Dr Demis Hassabis	(Commissioner)
Prof Sadie Morgan	(Commissioner) (Items 1 – 6)
Julia Prescott	(Commissioner)

### Secretariat:

Philip Graham	(Chief Executive)
James Richardson	(Chief Economist)
Adam Cooper	(Director of Policy and Engagement) (Items 7 & 8)
[REDACTED]	(Head of Strategic Communications and Media) (Item 9)
[REDACTED]	(Head of Transport, Energy and Digital Communications) (Items 6&9)
[REDACTED]	(Head of Modelling and Analysis Team)
[REDACTED]	(Head of New Technology Study Team) (Item 5)
[REDACTED]	(Power Sector Lead) (Item 6)
[REDACTED]	(Heat Sector Lead) (Item 6)
[REDACTED]	(Energy Policy Advisor)
[REDACTED]	(Private Secretary to the Chair)
[REDACTED]	(Commission Secretary)

### Other guests:

#### For Item 6 (NIA Energy Discussion):

Sam Foster	(Principal at Element Energy)
Professor Jim Watson	(Director of the UK Energy Research Centre)

### Observing Items 1 – 6

[REDACTED]	(Policy Adviser, Infrastructure, Digital and Culture Team, HMT)
[REDACTED]	(Policy Adviser, Infrastructure, Digital and Culture Team, HMT)

## **1. Apologies and Welcome**

- 1.1 The Chair welcomed Commissioners and opened the meeting. An apology for absence had been received from Bridget Rosewell (Commissioner). An apology for lateness had been received from Adam Cooper (Director of Policy and Engagement).

## **2 Minutes and Matters Arising**

- 2.1 Dame Kate Barker requested an amendment to the minutes of the Commission meeting held on 25 October 2017 to reflect her departure after item 9. The minutes were agreed subject to correction.

**Action: Secretariat to amend the minutes of the previous meeting.**

## **3 Chief Executive's Update**

- 3.1 The Chief Executive provided a summary of announcements from the Budget that were of relevance to the Commission's work, noting the response to the Cambridge-Milton-Keynes-Oxford report, the announcement of a forthcoming study on freight and the "Roads for the Future" competition.
- 3.2 Commissioners discussed the operation and performance of the Commission over the previous 12 months and expressed a desire to participate in any wider review.
- 3.3 Commissioners considered the timing of the final NIA recommendations in relation to updates to National Policy Statements.
- 3.4 Commissioners noted the list of recent meetings, events and visits undertaken by the Chief Executive.

**Action: Secretariat to examine options for carrying out a Commissioner-led review of Commission performance at a future meeting.**

## **4 Chair's Update**

- 4.1 The Chair reported that the Cambridge-Milton-Keynes-Oxford study had been well received by stakeholders, with a range of positive media coverage following the document's publication. The Chair welcomed the Government's decision to accept the majority of the report's recommendations and thanked Commissioners and the Secretariat for the high quality of their work.
- 4.2 The Chair noted recent developments in the delivery of Crossrail 2 and planning for Heathrow expansion.
- 4.3 The Chair congratulated Sir John Armitt and Prof Sadie Morgan on their respective appointments as Chair and Deputy Chair of the Thames Estuary Growth Commission.

4.4 The Chair welcomed the appointment of a new Commission Secretary.

4.5 Commissioners noted the list of recent meetings, events and visits undertaken by the Chair.

**Action: Secretariat to schedule a meeting between the Chair, Deputy Chair and Lead Commissioners with [REDACTED] to discuss the independent review on the funding and financing of Crossrail 2.**

## 5 New Technology Study

5.1 [REDACTED] (Head of the New Technology Study) gave a summary of the report's draft recommendations.

5.2 Commissioners concluded that greater sharing of data should be facilitated by a national framework but cautioned that the right balance would need to be struck between innovation and ethics, with the public's perception of the security of personal data a recurring theme.

5.3 Commissioners agreed that the UK would be well-placed to become a global leader in the development of digital twins but felt that serious consideration should be given to the practical arrangements and institutional routes for achieving this.

5.4 There was consensus among Commissioners about the value of appointing a national champion to advise on how the availability, quality and consistency of infrastructure data could best be improved.

5.5 The Head of the New Technology Study notified Commissioners that the proposed launch date for the report was 14 December. Andy Green (Lead Commissioner) explained that he would be unavailable on that date owing to international work commitments. Commissioners recommended that the Secretariat should explore the possibility of finding another date.

5.6 Commissioners gave their permission to delegate final approval of the full report to the Chair in consultation with Lead Commissioners.

**Action: Secretariat to examine the feasibility of a different date for the report launch.**

## 6 NIA Energy Discussion – Part 1

6.1 Prof David Fisk (Lead Commissioner, Energy) gave a short introduction setting out the context for the discussion.

6.2 [REDACTED] (KB) (Head of Transport, Energy and Digital Communications) gave an overview of the NIC's recent work on energy and explained how their findings had fed into the interim NIA. KB outlined three key decisions the government could take to make progress on its carbon emissions targets, including to decarbonise heat, initiate an enhanced nuclear programme beyond Hinkley Point C and develop carbon capture and storage (CCS).



6.3 The Chair welcomed Sam Foster (SF) (Principal at Element Energy) to the meeting and invited him to address the Commission.

6.4 The NIC had commissioned Element Energy to undertake a study to analyse the costs of future heat infrastructure options. SF gave a presentation which summarised the draft findings of their work to date.

6.5 Commissioners discussed the phasing and affordability of implementing significant carbon reduction measures for heat infrastructure, concluding that these points required further exploration. It was agreed that the Commissioners' comments should be fed into forthcoming peer review workshops and would inform future drafts of the Element Energy report. In addition, the Lead Commissioner and Chief Executive and representatives were asked to produce a paper setting out handling and publication options for the Element Energy work, which would be brought before the Commission at a future meeting.

6.6 The Chair thanked SF for attending.

**Action: Secretariat to follow up on the Chair's recent letter to the Minister for Energy and Industry concerning the UK's approach to reviewing the future case for large scale nuclear schemes.**

**Action: Secretariat to set up a meeting between the Chief Executive and Prof David Fisk.**

#### **NIA Energy Discussion – Part 2**

6.7 [REDACTED] (DS) (Power Sector Lead) provided an update on the NIC's work on power and introduced Prof Jim Watson (JW) (Director of the UK Energy Research Centre).

6.8 The Chair welcomed Prof Watson and invited him to address the Commission.

6.9 JW gave a presentation on CCS and nuclear power. Drawing upon international examples, Prof Watson explained the opportunities and risks involved in the development of CCS.

6.10 Commissioners considered the feasibility and commercial viability of developing CCS, exploring whether, and how, the UK could have a competitive advantage in this area.

6.11 During a discussion about nuclear power, the Chair and Deputy Chair mentioned their recent discussion with EDF regarding the feasibility of extending the operational life spans of existing nuclear power stations. [REDACTED] confirmed that responsibility for these decisions was a matter for the independent safety regulator, the Office for Nuclear Regulation. DS explained that assessing the plausibility of life extension was only possible shortly before a plant was due to cease operating, making planning difficult.

6.12 The Chair thanked Prof Watson for his contribution to the meeting.

## **7 Stakeholder Engagement Strategy**

- 7.1 The Director of Policy and Engagement provided an update on the Stakeholder Engagement Strategy.

## **8 Annual Monitoring Report**

- 8.1 The Director of Policy and Engagement provided an update on the Annual Monitoring Report. Publication of the Annual Monitoring Report was proposed for the w/c 22 January, coinciding with the one year anniversary of the NIC's establishment as an Executive Agency of HM Treasury. Commissioners' approval was also sought on plans to update the Commission's previous list of the twelve infrastructure priorities for Government for publication in the week of 01 January.

**Decision: Commissioners agreed the work programme and timetable as proposed.**

## **9 Diversity Strategy**

- 9.1 [REDACTED] provided an update on the Diversity Strategy, including plans to launch a Young Professionals Panel to give people at the start of a career in infrastructure the opportunity to feed in to the Commission's work.
- 9.2 Julia Prescott (Commissioner) offered to provide advice to the secretariat about the best approach to engage women working in infrastructure with the NIC.
- 9.3 Commissioners approved the Diversity Strategy and the timetable for launching the Young Professionals Panel.

**Action: Secretariat to arrange a meeting between Julia Prescott and the Chief Executive.**

## **10 Any Other Business**

- 10.1 The Chair advised Commissioners that it was Demis Hassabis' last meeting before his planned resignation at the end of the year. The Chair thanked DH for his contribution to the Commission over the course of the last two years and invited Commissioners to bid him farewell. The meeting ended at 17.10.

# MINUTES

## Meeting: Commission Meeting

Date: 13 December 2017

Time: 1.00pm

Place: Institution of Civil Engineers, 1 Gt George St, Westminster, SW1P 3AA

### Attendees

#### Commission Members:

Rt Hon Lord Adonis	(Chair)
Sir John Armitt CBE	(Deputy Chair) (Items 1 – 8)
Prof Tim Besley CBE	(Commissioner)
Andy Green	(Commissioner) (Items 1 – 9)
Prof Sadie Morgan	(Commissioner)
Julia Prescott	(Commissioner)
Bridget Rosewell OBE	(Commissioner)

#### Secretariat:

James Richardson	(Chief Economist)
Adam Cooper	(Director of Policy and Engagement)
[REDACTED]	(Head of Strategic Communications and Media)
[REDACTED]	(Head of Modelling and Analysis Team)
[REDACTED]	(Head of Environment, Water and Cross-cutting)
[REDACTED]	(Head of Freight Study)
[REDACTED]	(Senior Economic Adviser)
[REDACTED]	(Digital Communications Policy Adviser)
[REDACTED]	(Housing and Design Lead)
[REDACTED]	(Private Secretary to the Chair)
[REDACTED]	(Commission Secretary)

#### Other guests:

##### For Item 9 (NIA Digital Discussion):

Dr Stephen Unger	(Board Member and Group Director, Ofcom)
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##### Observing Item 9

[REDACTED]	(Principal, Strategy and Policy, Ofcom)
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## 1. Apologies and Welcome

- 1.1 The Chair welcomed Commissioners and opened the meeting. An apology for absence had been received from Dr Demis Hassabis (Commissioner), Kate Barker DBE (Commissioner), Prof David Fisk CB (Commissioner) and Philip Graham (Chief Executive).

## **2 Minutes and Matters Arising**

- 2.1 The minutes of the Commission meeting held on 23 November 2017 were agreed.
- 2.2 Commissioners noted the paper on heat cost analysis at appendix 2.

## **3 Chief Executive's Update**

- 3.1 Owing to the Chief Executive's absence, an oral update on Commission business was not provided. Commissioners noted the list of recent meetings, events and visits undertaken by the Chief Executive at appendix 1.

## **4 Chair's Update**

- 4.1 Noting the continued success of the Cambridge-Milton-Keynes-Oxford study, the Chair praised VeloCity, the winner of the Growth Arc Ideas competition. Commissioners agreed that a representative from VeloCity should be invited to present at the launch of the forthcoming report on cycling.
- 4.2 The Chair highlighted the opportunity for the Commission to engage the Universities of Oxford and Cambridge with the Cambridge-Milton-Keynes-Oxford study. Commissioners suggested that a meeting should be sought with [REDACTED] (Pro Vice Chancellor of Planning and Resources at the University of Oxford) and [REDACTED] (Chief Financial Officer of the University of Cambridge).
- 4.3 The Chair provided an update on plans for a piece of research on Compulsory Purchase Orders. Commissioners asked the secretariat to consider potential external contributors to this research, such as Robbie Owen from the National Infrastructure Planning Association.
- 4.4 Commissioners noted the list of recent meetings, events and visits undertaken by the Chair.

**Action: Secretariat to work on the plans for the launch of Andrew Gilligan's cycling report and arrange for VeloCity to present alongside the Chair.**

**Action: Secretariat to invite [REDACTED] (National Infrastructure Planning Association) to be involved in a piece of work on Compulsory Purchase Orders.**

**Action: Chair to meet with [REDACTED] and [REDACTED] to discuss the CaMkOx report.**

## **5 Design Panel**

- 5.1 Sadie Morgan (Lead Commissioner) gave a presentation outlining how infrastructure planning could benefit from good design.
- 5.2 Commissioners felt that further work was needed to assess the value of good design, including how costs and benefits could be quantified.

5.3 Commissioners discussed various options for a Design Panel. It was agreed that further consideration should be given to the composition and powers of such a panel; and whether it should be hosted by an existing organisation or established as a new body.

**Action: Secretariat to incorporate Commissioners' feedback on the Design Panel into a revised paper, to be brought forward at January's meeting.**

## **6 Freight Study**

6.1 Commissioners received an oral update on early work on the Freight Study from [REDACTED] (SL) (Study Lead).

6.2 There was consensus among Commissioners that the study could benefit from the expertise of specialists working in the industry and that recruiting the right people in a timely manner should be prioritised. SL said that this would be taken into account in upcoming recruitment.

6.3 Commissioners concluded that the study should examine the relationship between the freight industry and productivity, as well as different methodologies for logistics.

**Action: Commission Secretary to include the Freight Study on the agenda for January's meeting.**

**Action: Secretariat to organise a visit to the Transport Systems Catapult in Milton Keynes.**

## **7 Review of Post-election Priorities**

7.1 The Chair invited Commissioners to note the Government's progress against each of the 12 priorities highlighted in the review of post-election priorities paper.

7.2 The Chair sought Commissioners' feedback on plans to publish the paper in early January 2018.

**Decision: Commissioners agreed the proposed publication approach and delegated final approval to the Chair.**

## **8 Stakeholder Engagement Strategy**

8.1 The Director of Policy and Engagement provided an update on the Stakeholder Engagement Strategy.

## **9 NIA Digital Discussion**

9.1 The Chair welcomed Dr Stephen Unger (SU) (Group Director and Board Member at Ofcom) to the meeting and invited him to address the Commission.

9.2 SU gave a presentation setting out Ofcom's vision for the future of broadband infrastructure. Speaking of Ofcom's keenness to shift the narrative away from focusing solely on broadband



speed, SU said the regulator wanted to assess consumer experience more widely, and particularly the reliability and predictability of broadband.

9.3 SU outlined Ofcom's objective to achieve universality of broadband connectivity. He explained that copper would likely have a role to play for the next decade and that it would be important to ensure those networks were maintained.

9.4 A discussion followed during which Commissioners asked questions relating to the presentation.

**Action: Secretariat to set up a meeting between the Chair, Andy Green and [REDACTED] in the new year.**

## **10 Any Other Business**

10.1 The Commission Secretary provided an update on plans for a dinner on 19 February and a visit to Old Oak Common on 20 February.

10.2 The meeting ended at 5.30pm.

**Action: Secretariat to develop a weekly update to send to Commissioners detailing key information and forthcoming events.**

## MINUTES

### Meeting: Commission Meeting

Date: 18 January 2018

Time: 1.00pm

Place: Institution of Civil Engineers, 1 Gt George St, Westminster, SW1P 3AA

#### Attendees

##### Commission Members:

Sir John Armitt CBE	(Chair)
Prof Sir Tim Besley CBE	(Commissioner)
Andy Green	(Commissioner)
Prof Sadie Morgan	(Commissioner) (Items 1 – 7)
Julia Prescott	(Commissioner)
Bridget Rosewell OBE	(Commissioner)

##### Secretariat:

Philip Graham	(Chief Executive)
James Richardson	(Chief Economist)
Adam Cooper	(Director of Policy and Engagement)
[REDACTED]	(Head of Transport, Energy and Digital Communications) (Items 6 – 11)
[REDACTED]	(Head of Water, Waste and Cross-Cutting) (Items 6 – 11)
[REDACTED]	(Head of Modelling and Analysis Team) (Items 6 – 11)
[REDACTED]	(Head of Strategic Communications and Media) (Items 6 – 11)
[REDACTED]	(Senior Economic Advisor) (Items 6 – 11)
[REDACTED]	(Senior Economic Advisor) (Items 6 – 11)
[REDACTED]	(Private Secretary to the Chair) (Items 6 – 11)
[REDACTED]	(Commission Secretary) (Items 6 – 11)

#### Other guests:

##### For Item 2:

Charles Roxburgh	(Second Permanent Secretary, HM Treasury)
Manuela Solera-Deuchar	(Deputy Director - Infrastructure, Digital and Culture, HM Treasury)
[REDACTED]	(Policy Adviser, Infrastructure, Digital and Culture Team, HM Treasury)

#### 1. Apologies and Welcome

- 1.1 Commissioners were welcomed to the meeting. Apologies for absence had been received from Dame Kate Barker and Professor David Fisk.

#### 2 Charles Roxburgh, Second Permanent Secretary, HM Treasury

2.1 CR provided an update on developments following the resignation of Lord Adonis as Chair of the Commission, including Sir John Armitt's appointment as NIC Chair and Robert Jenrick MP's appointment as Exchequer Secretary with responsibility for infrastructure, and an overview of the wider HM Treasury policy context on infrastructure. Key points made in discussion:

- The importance of a clear Government narrative on private finance, particularly in the context of Carillion's collapse.
- The importance of close engagement with Whitehall departments and local and regional authorities.
- The role of the NIC in driving progress on its recommendations, particularly where these cut across Departmental remits;
- The position in respect of the membership of the Commission, where it was agreed that there was a strong case for stability at least until the completion of the first NIA.

### **3 Chair's Update**

3.1 The Chair set out his intention to continue with the programme of work identified and agreed under Lord Adonis, and in particular the importance he attached to the development of a robust and prioritised National Infrastructure Assessment over the coming months.

### **4 Chief Executive's Update**

4.1 The Chief Executive provided an overview of progress since the last Commission meeting, including the very high level of applications received for the Young Professionals Panel (more than 500), the planned absence of the NIC's Head of Communications and the appointment of her interim replacement ( ), and the closure of the NIA consultation.

### **5 Minutes and Matters Arising**

5.1 The minutes of the Commission meeting held on 18 January 2018 were agreed.

### **6 Design Panel**

6.1 Prof Sadie Morgan (Lead Commissioner, Design) set out how thinking around the Design Panel had progressed in the light of the discussion at the previous meeting, and put forward a revised recommendation for a design task force to be established as a first step, drawing upon members of the Commission's existing expert advisory groups. This would develop a detailed longer-term plan, for publication alongside the finalised National Infrastructure Assessment.

6.2 One of the issues for consideration by the task force would be the home organisation for any permanent panel. The Chief Executive noted that the option for situating the design panel within the NIC should be fully considered, given the direct interest and expertise within the Commission, and the need to ensure that any panel was properly incubated.

6.3 Commissioners welcomed and agreed the revised plan.



**Decision: Commissioners agreed to establish a design task force to draw up a full proposal for publication alongside the NIA.**

## **7 NIA Land Value Capture Discussion**

- 7.1 [REDACTED] (TB) (Senior Economic Advisor), provided an update on the land value capture work and sought Commissioners' views on proposals to publish a separate policy note on the subject in advance of the final NIA.
- 7.2 Commissioners discussed whether the work should form a standalone document, with consensus emerging that it would be better suited to publication as part of a suite of recommendations.
- 7.3 Commissioners highlighted the importance of the narrative around funding infrastructure, and the need to attract 'buy-in' from the public.

**Decision: Commissioners agreed that land value capture should be subsumed into a chapter on funding and financing infrastructure within the NIA and the option of early publication should not be pursued.**

## **8 Freight Study**

- 8.1 [REDACTED] (SL) (Study Lead) provided an update on the Freight Study, informing Commissioners that a call for evidence would be published on 22 January 2018.
- 8.2 The Chief Executive noted the positive and proactive response from the freight industry following the announcement of the study.
- 8.3 SL explained that Bridget Rosewell, who had been appointed Lead Commissioner for the study, was no longer able to take on the role, and asked Commissioners to consider putting themselves forward.

**Action: Identify a new Lead Commissioner for the Freight Study.**

## **9 Annual Monitoring Report**

- 9.1 Commissioners received an update on plans for the publication of the Annual Monitoring Report, and discussed the overall tone that the report should strike.

**Action: It was agreed to delegate responsibility for agreeing the text of the report, taking account of the Commission discussion, to the Chair.**

## **10 Workshop on the Commission's Fiscal and Economic Remit**

- 10.1 Commissioners were invited to take part in a workshop on the NIC's fiscal and economic remit. In one-to-one sessions with members of the NIC's analysis and modelling team, Commissioners carried out a scorecard exercise in which they prioritised a list of potential policy options with different affordability implications, accompanied by an illustrative evidence base.

**11 A.O.B.**

11.1 The Commission Secretary provided an update on forthcoming NIC visits and events.

11.2 The meeting ended at 17.00.

## MINUTES

### Meeting: Commission Meeting

Date: 21 February 2018

Time: 1.00pm

Place: Institution of Civil Engineers, 1 Gt George St, Westminster, SW1P 3AA

### Attendees

#### Commission Members:

Sir John Armitt CBE	(Chair)
Dame Kate Barker DBE	(Commissioner) (Items 4 – 11)
Professor David Fisk CB	(Commissioner)
Andy Green	(Commissioner)
Julia Prescott	(Commissioner)
Bridget Rosewell OBE	(Commissioner)

#### Secretariat:

James Richardson	(Chief Economist)
Adam Cooper	(Director of Policy and Engagement)
[REDACTED]	(Chief Operating Officer)
[REDACTED]	(Head of Transport, Energy and Digital Communications)
[REDACTED]	(Head of Water, Waste and Cross-Cutting)
[REDACTED]	(Head of Modelling and Analysis Team)
[REDACTED]	(Head of Strategic Communications and Media)
[REDACTED]	(Senior Regulatory Advisor) (item 9)
[REDACTED]	(Water Lead) (Item 7)
[REDACTED]	(Heat Lead) (Item 8)
[REDACTED]	(Digital Communications Lead) (Item 10)
[REDACTED]	(Private Secretary to the Chair)
[REDACTED]	(Commission Secretary)
[REDACTED]	(Student Economist)

### Other guests:

#### For Item 10:

Sharon White	(Chief Executive, Ofcom)
[REDACTED]	(Principal, Government and Parliament, Ofcom)

### 1. Apologies and Welcome

- 1.1 The Chair welcomed attendees and opened the meeting. Apologies for absence had been received from Professor Sir Tim Besley (Commissioner), Professor Sadie Morgan

(Commissioner) and Phil Graham (Chief Executive). An apology for lateness had been received from Dame Kate Barker (Commissioner).

## **2 Minutes and Matters Arising**

- 2.1 The minutes of the Commission meeting held on 18 January 2018 were agreed as an accurate record of proceedings.

## **3 Secretariat Update – Director of Policy and Engagement**

- 3.1 The Director of Policy and Engagement, Adam Cooper (AC), provided an overview of recent developments, including the publication of the NIC's first Annual Monitoring Report. Additionally, the NIC's first Annual Report and Accounts had been laid before Parliament. AC noted that 30 candidates had been selected for interview for the Young Professionals Panel out of a pool of 500 who submitted applications. In light of this remarkable response, AC explained that the Secretariat would consider how the passion, expertise and enthusiasm among the unsuccessful applicants could be utilised. AC notified Commissioners that the Senior Cities Advisor, [REDACTED], had left the NIC for a new role, and that [REDACTED] had been appointed as Senior Regulatory Advisor.

## **4 Chair's Update**

- 4.1 The Chair provided an update on his activity since the last Commission meeting and welcomed the positive reception for the Annual Monitoring Report. The Chair informed Commissioners that he had had a constructive meeting with the Shadow Secretary of State for Transport, who had expressed his support for the NIC's work and recognised how influential the NIA would be.

## **5 Commission Governance**

- 5.1 The Chief Operating Officer, [REDACTED] (SM), provided an overview of the NIC's corporate governance arrangements, including the functions and membership of its Oversight Board, Operations Board and Audit and Risk Assurance Committee. Andy Green (Commissioner) questioned whether the Oversight Board reported to the Commission and SM confirmed that it did not. SM said she would include a paper on corporate governance arrangements with the pack for a future Commission meeting.
- 5.2 SM sought Commissioners' approval to carry out a light touch review of NIC performance. The initial review was recommended to be conducted in the coming weeks and precede a more comprehensive evaluation in the autumn. Commissioners agreed the approach and shared some early reflections on the effectiveness of the NIA's performance. Key points made during the discussion included:
- An appetite for future Commission members to be offered a more formal induction.
  - The need for responses to the review to be kept anonymous.

**Decision: Commissioners agreed to participate in a light touch review of NIC performance.**

**Action: Include a paper on corporate governance arrangements with the pack for a future Commission meeting.**

## **6 NIA Timetable**

- 6.1 The Chief Economist, James Richardson (JR), introduced the proposed timetable for topics to be brought before the Commission ahead of the publication of the final NIA. JR highlighted the volume of material that would need to be reviewed, and explained that most topics would come to the Commission at least twice to allow time for full discussion, follow up work and conclusion.
- 6.2 JR sought Commissioners' opinions on whether the work on water should be published early, allowing it to fit in with key milestones in the regulatory timetable and ensuring that the NIC's findings were fed into the process sooner rather than later. Discussion ensued about the merits and challenges this could present, with Commissioners concluding that it would be favourable to publish the work in April.

**Decision: Commissioners agreed to publish a paper on water in April.**

## **7 NIA Water Discussion**

- 7.1 The Chair welcomed the NIC's Water Lead, [REDACTED] (MDM), who introduced this item. MDM set the scene for the discussion, noting that parts of England received less rainfall per capita than Jerusalem and Sydney, and that the UK had one of the highest levels of water consumption per capita in Europe. MDM highlighted how around 25 per cent of water in the UK was lost through leaks.
- 7.2 MDM invited Commissioners to share their views and vision for the work on water, and asked them to provide steers on how specific they wanted to be with their recommendations. Key points made during the discussion included:
- The need for companies to be seen to take action on leakages if consumers were expected to restrict their water usage.
  - The likelihood of a serious drought occurring in the UK and the cost it would have on society.
  - International examples of the experiences and approaches of other countries which have experienced droughts.
  - The trade-off between transfer solutions and building additional reservoirs.

## **8 NIA Energy Efficiency and Heat Discussion**

- 8.1 The NIC's Head of Transport, Energy and Digital Communications, [REDACTED] (KB), provided an update on the work on energy efficiency and heat, before handing over to the topic's Lead Commissioner, Professor David Fisk CB (DF).



8.2 KB outlined the broad options Commissioners would have to consider when deciding what their recommendations in this area would be: converting the gas grid to hydrogen, using electricity or the deployment of a combination of options. Key points made during the discussion included:

- The cost of the different methods and the impact on household energy bills.
- The role of local government and the wider devolution agenda.
- The importance of the timing of key decisions.
- The various options for publishing the paper.

**Decision: Commissioners agreed that the heat paper would be published on the website alongside an explanatory infographic which the Secretariat would commission.**

## **9 Introduction to Review of Infrastructure Regulation**

9.1 [REDACTED] (SH), the NIC's Senior Regulatory Adviser, introduced this item and set out the scope for the review of infrastructure regulation and provided an update on its early work.

9.2 SH shared plans to set up a challenge panel comprising experts from academia and the private sector, as well as a regulatory panel with representatives from the regulators. SH said that an international panel should also be considered to draw upon examples from abroad.

## **10 Digital Telecommunications and Regulation**

10.1 The Chair welcomed the Chief Executive of Ofcom, Sharon White (SW) and invited her to address the Commission.

10.2 SW gave a presentation setting out her priorities and vision for the digital communications sector, and provided an overview of the current regulatory landscape more broadly.

10.3 A discussion followed during which Commissioners asked questions relating to the presentation.

## **11 A.O.B.**

11.1 The Head of Strategic Communications and Media encouraged Commissioners to inform the Secretariat about any events they have coming up which related to their work with the NIC. Commissioners questioned who they should notify and the Commission Secretary confirmed that she would act as a central point of contact and disseminate information to the relevant people within the secretariat.

11.2 The meeting ended at 17.10.

## MINUTES

**Meeting: Commission Meeting**

**Date: 21 March 2018**

**Time: 1.00pm**

**Place: British Academy, 10-11 Carlton House Terrace, Westminster, SW1Y 5AH**

### Attendees

#### Commission Members:

Sir John Armitt CBE	(Chair) (Items 7 – 12)
Dame Kate Barker DBE	(Commissioner)
Professor Sir Tim Besley CBE	(Commissioner)
Professor David Fisk CB	(Commissioner) (1 – 11)
Andy Green	(Commissioner)
Professor Sadie Morgan	(Commissioner)
Julia Prescott	(Commissioner)
Bridget Rosewell OBE	(Commissioner)

#### Secretariat:

Phil Graham	(Chief Executive)
James Richardson	(Chief Economist)
Adam Cooper	(Director of Policy and Engagement) (Items 1 – 6)
[REDACTED]	(Chief Operating Officer) (Item 6)
[REDACTED]	(Head of Transport, Energy and Digital Communications)
[REDACTED]	(Head of Water, Waste and Cross-cutting issues)
[REDACTED]	(Head of Modelling and Analysis)
[REDACTED]	(Interim Head of Modelling and Analysis)
[REDACTED]	(Head of the Freight Study) (Item 5)
[REDACTED]	(Head of Strategic Communications and Media)
[REDACTED]	(Project Manager)
[REDACTED]	(Water Lead) (Items 7 – 9)
[REDACTED]	(Water Supply and Environment Lead) (Items 7 – 9)
[REDACTED]	(Flood Lead) (Items 7 – 9)
[REDACTED]	(Economic Adviser) (Item 11)
[REDACTED]	(Economic Adviser) (Item 11)
[REDACTED]	(Economic Adviser) (Item 11)
[REDACTED]	(Senior Policy Adviser) (Item 10)
[REDACTED]	(Senior Policy Adviser) (item 5)
[REDACTED]	(Private Secretary to the Chair)
[REDACTED]	(Commission Secretary)

## **1. Apologies and Welcome**

- 1.1 Owing to a prior engagement, the Chair unable to join the beginning of the meeting, so Bridget Rosewell (BR) (Commissioner) chaired items 1 – 6. BR welcomed attendees and opened the meeting. The Chair's apology for lateness was noted.

## **2 Minutes and Matters Arising**

- 2.1 The minutes of the Commission meeting held on 21 February 2018 were agreed as an accurate record of proceedings.

## **3 Chief Executive's Update**

- 3.1 The Chief Executive (PG) provided an overview of recent developments. Welcoming the success of the social research sessions organised by Ipsos Mori, PG noted how differing priorities had emerged between participants living in rural areas and those from towns and cities.
- 3.2 Commissioners were informed that [REDACTED] would be taking on the cities work following the departure of [REDACTED].

## **4 Young Professionals Panel**

- 4.1 PG provided an update on the Young Professionals Panel. He explained that the interviews were underway and outlined the timetable for the process.
- 4.2 Having been on the interview panel, Professor Sadie Morgan (Commissioner) noted the energy and enthusiasm of the candidates.

## **5 Freight Study**

- 5.1 The Head of the Freight Study ([REDACTED]) (SL) provided an update on recent work, noting that good progress had been made, with the call for evidence attracting 71 responses. SL notified Commissioners of a forthcoming meeting with the Exchequer Secretary which had been arranged to discuss the study.
- 5.2 Commissioners engaged in discussion about the scope of the study, with the need for clarity about future demand scenarios for freight emerging as a key area for consideration.

## **6 Light Touch Review of NIC Performance**

- 6.1 The Chief Operating Officer, [REDACTED] (SM), outlined the findings of the light touch review and noted areas of consensus among Commissioners about how the NIC could operate even more effectively.



- 6.2 PG invited Commissioners to consider how the work could best be taken forward. It was agreed that SM should identify relevant work streams and come up with proposals to bring back to a future meeting.
- 6.3 Commissioners shared their thoughts about the findings and put forward various suggestions that they felt could have a positive impact, including allocating each Commissioner a lead contact in the secretariat to assist with queries and signposting and holding a full day strategy meeting once a year.
- 6.4 Commissioners noted how quickly their diaries were filling up for 2019 and requested that dates be found for the meetings next year.

**Action: Secretariat to confirm meeting dates for 2019.**

**Action: Chief Operating Officer to come back with a proposed workplan to the 18 April meeting.**

## **7 NIA Flood Discussion**

- 7.1 The Head of Water, Waste and Cross-cutting, [REDACTED] (MC), set out the emerging conclusions from the work on flooding. During the presentation, MC summarised the number and proportion of homes at risk from flooding, differentiating between residential and non-residential, and the risk from surface water and from the river or sea.
- 7.2 MC sought Commissioners' views on the work's direction of travel. Key points made during the discussion included:
- The impact flooding has on the quality of life and wellbeing of the people it affects.
  - The significant increase in the number of areas at risk of surface water flooding.
  - The potential for insurers to incentivise adaptation.
  - How flood risk could best be communicated to the wider public.

## **8 Chair's Update**

- 8.1 The Chair provided a brief overview of his activity since the previous meeting, noting the ongoing budget negotiations with HM Treasury, as well as a recent meeting of the NIC's Oversight Board.

## **9 NIA Water Discussion**

- 9.1 MC recapped on what had been discussed at the last meeting, including the current risk of drought and the twin track approach of managing demand and providing additional supply. Commissioners were updated on the work that had occurred since the last Commission meeting in February.
- 9.2 MC presented Commissioners with analysis of the national water balance, the cost of emergency response and the costs and benefits of metering policies. Commissioners shared their views on the work; the key points in the discussion included:

- The potential difficulty involved in communicating the likelihood of drought to the public given that the UK had not experienced one in the UK in living memory.
- The benefits of smart metering vs ordinary metering.
- The impact of the different options on consumers' bills.
- The accuracy of projections about population growth.
- The costs and benefits of maintaining the status quo.

9.3 MC explained that the work would be brought before the Commission for the final time at the next meeting on 4 April, and invited Commissioners to delegate authority for final sign off to the Chair and lead Commissioners, Dame Kate Barker and Andy Green, which was approved. Commissioners expressed a preference for having more detail about the gaps in and issues with the current system in the papers for the next meeting. It was agreed that during that discussion the recommended level of resilience would be agreed, together with the approach to new supply infrastructure and corresponding level of demand management.

**Decision: Commissioners agreed to delegate authority for final sign off to the Chair and lead Commissioners.**

## 10 Options for NIA Structure

10.1 Commissioners welcomed [REDACTED] (CJ), one of the NIC's Senior Policy Advisers, who would be responsible for writing the NIA. CJ invited Commissioners to share their views about the options for the structure of the document. It was agreed that the chapter themes would be based around those followed in *Congestion, Capacity, Carbon*. A shorter report was opted for, ideally comprising circa 70 pages.

**Decision: Commissioners agreed that the theme of NIA chapter would be the same as those in *Congestion, Capacity, Carbon* and that a shorter document should be the objective.**

## 11 NIA Scorecard

11.1 The Chief Economist, James Richardson (JR), invited Commissioners to note the scorecard and advised them of the secretariat's intention to have it as a regular agenda item in the run up to the publication of the NIA.

11.2 Dame Kate Barker and Julia Prescott (Commissioners) expressed an interest in having a more in-depth meeting about the scorecard with the relevant members of the secretariat.

**Action: Secretariat to organise a meeting with Dame Kate Barker and Julia Prescott about the scorecard.**

## 12 A.O.B.

12.1 It was noted that the Commission meeting on 22 May would start at the earlier time of 12.30pm to accommodate the Chair's availability.

12.2 The meeting ended at 17.15.

## MINUTES

**Meeting: Commission Meeting**

**Date: 4 April 2018**

**Time: 1.00pm**

**Place: British Academy, 10-11 Carlton House Terrace, Westminster, SW1Y 5AH**

### Attendees

#### Commission Members:

Sir John Armitt CBE	(Chair)
Dame Kate Barker DBE	(Commissioner)
Professor David Fisk CB	(Commissioner) (Items 1 – 10)
Andy Green	(Commissioner) (Items 1 – 9)
Professor Sadie Morgan	(Commissioner) (Items 6 – 11)
Julia Prescott	(Commissioner)

#### Secretariat:

Phil Graham	(Chief Executive)
James Richardson	(Chief Economist)
Adam Cooper	(Director of Policy and Engagement)
[REDACTED]	(Chief Operating Officer)
[REDACTED]	(Head of Transport, Energy and Digital Communications)
[REDACTED]	(Head of Water, Waste and Cross-Cutting)
[REDACTED]	(Head of the New Technology Study) (Item 5)
[REDACTED]	(Head of Strategic Communications and Media)
[REDACTED]	(Water Lead) (Item 7)
[REDACTED]	(Economic Adviser)
[REDACTED]	(Waste Lead) (Item 6)
[REDACTED]	(Urban Transport Lead) (Item 8)
[REDACTED]	(Strategic Transport Lead) (Item 8)
[REDACTED]	(Private Secretary to the Chair)
[REDACTED]	(Commission Secretary)
[REDACTED]	(Student Economist)

#### Other guests:

*For Item 5:*

Mark Enzer	(Chair of the Digital Framework Task Group)
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### 1. Apologies and Welcome

- 1.1 The Chair welcomed attendees and opened the meeting. Apologies for absence had been received from Professor Sir Tim Besley and Bridget Rosewell (Commissioners). An apology for lateness had been received from Professor Sadie Morgan (Commissioner). The Chair notified attendees that Andy Green (Commissioner) would be joining the meeting by teleconference.

## **2 Minutes and Matters Arising**

- 2.1 The minutes of the Commission meeting held on 21 March 2018 were agreed as an accurate record of proceedings. Commissioners noted the action log at appendix 1.

## **3 Chair's Update**

- 3.1 The Chair gave a brief overview of his engagements and activity since the last Commission meeting, noting the useful platform provided by his keynote speech at the Environment Agency's 2018 Flood & Coast Conference.
- 3.2 Commissioners noted the list of key meetings, visits and events undertaken by the Chair at appendix 1.

## **4 Chief Executive's Update**

- 4.1 The Chief Executive (PG) outlined recent developments, noting that sixteen people from a diverse range of sectors and backgrounds had been chosen to sit on the Young Professionals Panel. PG informed Commissioners that the candidates would be notified of the outcome that week.
- 4.2 The progress of the Regulatory Review was highlighted. PG explained that a challenge panel had been set up, and that it would meet for the first time on 12 April.
- 4.3 PG notified Commissioners that the refurbishment of the new office had begun, with the project estimated to take eight weeks. Owing to the proximity of the expected move date to the launch of the NIA, PG explained that it would be necessary to run the new office alongside the existing one for a period of time to ensure disruption was kept to a minimum.
- 4.4 Commissioners noted the list of key meetings, visits and events undertaken by the Chief Executive at appendix 1.

## **5 New Technology Study**

- 5.1 The Chair welcomed Mark Enzer (ME), Chair of the Digital Framework Task Group, and invited him to address the Commission.
- 5.2 [REDACTED] (SH), who led the NIC's New Technology Study, provided an introduction. Commissioners were reminded of the recommendations made in *Data for the Public Good*, including that the Government should establish a national framework for infrastructure data to drive up quality and consistency and to promote a move away from data 'silos' and towards greater sharing, whilst ensuring adequate protection of personal data.



5.3 ME gave an update on the work that had taken place to establish a Digital Framework Task Group since the publication of the report. Key points made during the presentation included:

- The opportunities for new technologies that could emerge from collecting better quality data about infrastructure.
- The need to understand the overall landscape and industry's readiness for digital transformation.
- The importance of implementing standards across industry; the pace at which change was expected to occur; and the need for coordination at an early stage.
- The risk that without some coordination from Government, industry could develop a fragmented approach which would be more difficult to converge in the future.
- Industry support for the establishment of a Digital Framework Task Group.
- The process and timescale for formally establishing a Task Group.

5.4 A discussion followed during which Commissioners asked questions relating to the presentation. Key points included:

- The need to understand where responsibility would lie for the maintenance of digital assets and how it could be financed.
- The value of data, including its private and social benefits.
- How the development of digital assets should be regulated.
- The opportunity for the UK to become a world leader in data capture and processing technologies.

5.5 It was noted that HM Treasury was still in the process of preparing a response to *Data for the Public Good* and it was agreed that PG would raise this issue at the next opportunity.

**Action: Chief Executive to follow up with HM Treasury on the establishment of the Task Group and the overall response to *Data for the Public Good*.**

## 6 NIA Waste Discussion (Part 1)

6.1 [REDACTED] (TB) set out the findings from the work on waste, noting particularly the uncertainty around future waste growth, as well as the public support for taking stronger action to tackle waste that had emerged during the NIC's social research sessions.

6.2 PG noted that the work did not represent the totality of the recommendations; at this stage approval of the proposed direction of travel would be sought, with a greater level of detail, particularly on plastic packaging, to follow at future meetings.

6.3 The Chair welcomed the paper, and the Commission agreed that each of the three recommendations put forward should be developed in greater detail.

6.4 Key points made during the discussion included:

- The growing public awareness around the importance of recycling and the opportunity it presents for a 'good news story.'

- The need to consider the role of planning and the availability of land for new plants.
- The need for clear standards for industry.
- The impact the recommendations could have on local authorities' budgets.
- How to promote and draw upon examples of best practice in Wales.
- The need for clarity about who the recommendations would target.

**Decision: Commission accepted 'recommendation 1' for further development: Food waste treatment in anaerobic digestion, associated with separate food waste collection.**

**Decision: Commission accepted 'recommendation 2' for further development: Higher recycling targets, particularly for plastics.**

**Decision: Commission accepted 'recommendation 3' for further development: A cautious approach to expanding the fleet of energy from waste plants.**

## **7 NIA Water Discussion (Final)**

- 7.1 [REDACTED] (MC) reminded Commissioners that the water section of the NIA would be published in a standalone paper in late April. This meeting thus represented the final opportunity to agree the five proposed recommendations.
- 7.2 Dame Kate Barker (KB) (Commissioner) asked for clarity about which definition of drought had been used. MC confirmed that it focused on the point at which supply to households would be cut off or limited.
- 7.3 During the discussion, Commissioners recognised that action taken to reduce risk to public water supplies could also benefit business customers. Other key points included:
- The merit in setting targets further into the future, allowing water companies to take a more long-term perspective.
  - The need for a narrative around reducing water demand.
  - Consideration of the areas that are at higher risk of experiencing drought.
- 7.4 Commissioners signalled that they were content with all five recommendations. Where Commissioners were required to choose from a number of options, for 'recommendation 2', 50% leakage reduction was opted for, for 'recommendation 3', the Commission concluded that it should recommend extending the right of companies to propose compulsory metering beyond water stressed areas, and for 'recommendation 5', Commissioners favoured supporting direct procurement for transfers and additional supply.
- 7.5 MC invited Commissioners to delegate authority for sign-off of the final document to the Chair and the lead Commissioners, which was agreed.
- 7.6 For clarity, Commissioners were informed that the recommendations published in the standalone water paper would also be included in the main NIA document, highlighting the links between water and flooding.

**Decision: Commission accepted recommendation 1: Recommend headroom of 4,000 ml/day at a cost of £20bn (net present value) delivering resilience to a 0.2% drought.**

**Decision: Commission reached agreement on the detail for recommendation 2: Recommend leakage reduction of 50% (optimal with low leakage reduction costs).**

**Decision: Commission reached agreement on the detail for recommendation 3: Recommend extending the right of companies to propose compulsory metering beyond water stressed areas.**

**Decision: Commission accepted recommendation 4: Recommend a national transfer network.**

**Decision: Commission reached agreement on the detail for recommendation 5: Support direct procurement for transfers and additional supply.**

**Decision: Commissioners agreed to delegate authority for sign-off of the final document to the Chair and the lead Commissioners.**

## **8 NIA Transport Discussion**

### **(a): Urban Transport (Part 1)**

- 8.1 [REDACTED] (GM) presented to Commissioners, advising that the purpose of the discussion would be to determine what structures would be needed to put funding for urban transport in the hands of city leaders. The next session on 22 May would provide an opportunity to consider the appropriate level of funding, by which point further analysis on projected costs and the impact on the fiscal and economic remit would be complete.
- 8.2 GM explained that the work focused on cities outside of London. Following a question from KB about the definition of a city, GM confirmed that Centre for Cities' definition had been used, which considered cities to be areas with a population of roughly more than 100,000 people.
- 8.3 GM invited Commissioners to consider three questions. The first sought a steer on whether Commissioners felt that city leaders should be given greater control over urban transport by giving them basic devolved infrastructure budgets, which was agreed. The second question asked how Commissioners thought these budgets could be embedded for the future. There was agreement that this should be achieved through legislation in the first instance, with the option of tax devolution to be kept open for future consideration. Finally, Commissioners were asked to share their thoughts on whether the NIC should oversee a separate fund for major projects. This was agreed in principle although it was felt that further consideration of the detail would be essential.
- 8.4 During Commissioners' discussion, key points included:
- Agreement that a key risk to devolved budgets is that they could be overturned by a future government.
  - Identifying excessive competition as having caused problems for local transport infrastructure.
  - How devolved budgets would work in areas that don't yet have an elected mayor.

**(b): CAVs and Inter-urban Transport (Part 1)**

- 8.5 The NIC's Strategic Transport Lead, [REDACTED] (JH), gave a presentation to Commissioners setting out the work that had been undertaken on CAVs and inter-urban transport.
- 8.6 JH highlighted the potential benefits and risks associated with CAVs, and noted the uncertainty around what the level and speed of uptake might be, as well as the impact on travel patterns.
- 8.7 Commissioners were invited to consider three proposed recommendations. It was agreed that a comprehensive framework should be developed to reduce uncertainties around CAVs. It was noted that the next planning cycle for rail and major roads would start soon after the publication of the NIA, so swift action would be required to fit in with that timetable.
- 8.8 While Commissioners agreed that they should not recommend any major inter-urban road or rail projects beyond existing commitments, it was felt that the narrative around this needed further work, and that the statement should not be considered solely in the context of CAVs. It was felt that advocating this position should also be linked to the effects of road pricing and congestion, and to the significant investment in new inter-urban capacity that would take place over the 2020s. Further consideration was also needed as to the definition of major projects, the interaction with other elements of road and rail expenditure, and the consequences for projects currently under consideration. Commissioners were content that there should be a reassessment of inter-urban transport budgets but concluded that more detailed decisions should be held back until information was available about the implications for the fiscal remit. This would be provided at a future meeting.
- 8.9 During the discussion, Commissioners shared differing views about the extent to which they felt CAVs would change current travel patterns. It was also noted that a single body should be set up to bring together different agencies and coordinate research and policy in this area.

**Decision: Commission agreed the proposed recommendation that city leaders should be given basic devolved infrastructure budgets.**

**Decision: Commission agreed the proposed recommendation that local infrastructure budgets should be embedded through tax devolution and legislation.**

**Decision: Commissioners agreed the proposed recommendation that a comprehensive framework should be developed to reduce uncertainties around CAVs.**

**9 Post-NIA Workplan**

- 9.1 PG invited Commissioners to review a proposed work programme for the NIC in the immediate aftermath of the publication of the NIA. Plans for a review of infrastructure resilience and increased monitoring and implementation functions were particularly welcomed by the Commission.
- 9.2 The paper also provided an overview of initial options for the NIC's longer-term work programme. Commissioners expressed an interest in holding a fuller session on this issue after completion of the NIA.



**Decision:** The Commission agreed that the Secretariat should begin planning for the immediate post-NIA period on the basis of the work programme proposed.

**Action:** Secretariat to organise a longer Commission session after the publication of the NIA to consider the NIC's longer-term work programme.

**10 A.O.B.**

10.1 The Head of Strategic Communications and Media provided an update, noting several recent profile pieces, the positive response to the Annual Monitoring Report and the NIC's growing presence on social media.

10.2 The meeting ended at 17.20.

# MINUTES

## Meeting: Commission Meeting

Date: 18 April 2018

Time: 1.00pm

Place: British Academy, 10-11 Carlton House Terrace, Westminster, SW1Y 5AH

### Attendees

#### Commission Members:

Sir John Armitt CBE	(Chair)
Dame Kate Barker DBE	(Commissioner) (Items 7 – 11)
Professor Sir Tim Besley CBE	(Commissioner) (Items 1 – 9)
Professor David Fisk CB	(Commissioner) (Items 1 – 9)
Andy Green	(Commissioner)
Julia Prescott	(Commissioner) (Items 5 – 11)
Bridget Rosewell OBE	(Commissioner)

#### Secretariat:

Philip Graham	(Chief Executive)
James Richardson	(Chief Economist)
Adam Cooper	(Director of Policy and Engagement)
[REDACTED]	(Senior Regulatory Adviser) (Item 9)
[REDACTED]	(Head of Transport, Energy and Digital Communications)
[REDACTED]	(Head of Strategic Communications and Media)
[REDACTED]	(Power Lead) (Item 6)
[REDACTED]	(Heat Lead) (Item 6)
[REDACTED]	(Electric Vehicles Lead) (Item 8)
[REDACTED]	(Digital Communications Lead) (Item 7)
[REDACTED]	(Senior Policy Adviser)
[REDACTED]	(Senior Policy Adviser) (Item 6)
[REDACTED]	(Senior Policy Adviser) (Item 8)
[REDACTED]	(Private Secretary to the Chair)
[REDACTED]	(Commission Secretary)

### 1. Apologies and Welcome

- 1.1 The Chair welcomed attendees and opened the meeting. Apologies for absence had been received from Professor Sadie Morgan. An apology for lateness had been received from Julia Prescott.

### 2 Minutes and Matters Arising

- 2.1 The minutes of the Commission meeting held on 4 April 2018 were agreed as an accurate record of proceedings. Commissioners noted the action log at appendix 1.

### **3 Chair's Update**

- 3.1 The Chair gave a brief overview of his engagements and activity since the last Commission meeting, noting a particularly constructive meeting with Iain Stewart MP to discuss the 'CaMKOx' report.
- 3.2 Commissioners noted the list of key meetings, visits and events undertaken by the Chair at appendix 1.

### **4 Chief Executive's Update**

- 4.1 The Chief Executive (PG) updated Commissioners on the ongoing budget negotiations with HM Treasury.
- 4.2 PG welcomed the progress of the Regulatory Review, informing Commissioners that a successful first meeting of the Challenge Panel had taken place the previous week.
- 4.3 The recent launch of the Young Professionals Panel was highlighted, as well as the forthcoming publication of the water report.
- 4.4 Commissioners noted the list of key meetings, visits and events undertaken by the Chief Executive at appendix 1.

### **5 Declarations of Interest**

- 5.1 Commissioners noted their revised declarations of interest at appendix 1.

### **6 NIA Energy Discussion (Part 1)**

- 6.1 [REDACTED] (KB) shared the emerging findings from the energy work, highlighting the modelling results which showed that different options around nuclear power were possible. Commissioners noted the outcome and discussed how it would be considered by some stakeholders. Commissioners asked for further detail about the model's underlying assumptions and advised the secretariat to consult experts and 'road test' the findings against other models. After further discussion, the Commission concluded that the Government should commission additional nuclear power stations beyond Hinkley Point C one at a time, enabling the UK to maintain a pipeline, skills base and optionality for the 2030s and 2040s.
- 6.2 KB invited the Commission to share their thoughts on whether the Government should continue to focus on deploying an ambitious programme of renewables throughout the 2020s. Commissioners heard how analysis had shown that such an approach would likely be a 'low regrets' option, and agreed to endorse it.

**Decision: Commissioners agreed that the Government should look to commission additional nuclear power stations beyond Hinkley Point C one at a time, enabling the UK to maintain a pipeline, skills base and optionality for the 2030s and 2040s.**

**Decision: Commissioners agreed that the Government should continue to focus on deploying an ambitious programme of renewables throughout the 2020s.**

**Decision: Commissioners agreed that tidal power projects should be allowed to compete against other renewables for contracts for difference, but that they do not merit special treatment or bilaterally agreed contracts.**

## **7 NIA Digital Discussion (Part 2)**

- 7.1 [REDACTED] (SW) set out the findings from the work on digital. SW put forward the case for recommending a national full fibre broadband plan, revealing that it had emerged as the option that would satisfy all future bandwidth demand scenarios, and that it represented the only viable upgrade path for many rural areas. Commissioners provided their endorsement for the approach.
- 7.2 SW pointed to international case studies which had demonstrated that competition between digital infrastructure providers had driven investment in new and existing broadband networks. Commissioners agreed to support infrastructure competition where it was feasible in the ‘mostly urban areas of the country,’ and asked that international examples be explored in greater detail.
- 7.3 Bridget Rosewell (BR) asked for definitions of the geographical zones that the UK was split into in the context of digital infrastructure, and it was agreed that these would be provided in the paper for the next Commission meeting.
- 7.4 Drawing upon the responses that had come out of the social research sessions, SW noted that participants across the country had broadly supported the principle that all parts of the UK should have equal access to broadband services. In order to aid fibre deployment in places where there is no commercial viability, Commissioners were asked to approve a recommendation to provide subsidies to rural areas, which was agreed.

**Decision: Commissioners agreed to recommend a national full fibre broadband plan.**

**Decision: Commissioners agreed to endorse infrastructure competition where it is feasible in the ‘mostly urban’ areas of the country.**

**Decision: Commissioners agreed that uncommercial rural full fibre provision should be subsidised within the constraints of the fiscal remit.**

## **8 NIA Electric Vehicles Discussion (Part 1)**

- 8.1 [REDACTED] (CJ) presented to Commissioners, outlining the findings from the work on EVs. CJ outlined the possibility of a swifter uptake of EVs than currently projected, suggesting that in one scenario 100 per cent of sales of cars and vans could be electric by 2025, and 100 per cent of all cars and vans on the road could be electric by 2040. The public health and environmental benefits of this scenario were highlighted, with the absence of a national public charging network identified as the biggest barrier to realising it. Commissioners agreed that the swift uptake scenario that had been set out was both credible and desirable.
- 8.2 Commissioners were invited to share their views on different options for government intervention to facilitate the delivery of national charging infrastructure. Various Commissioners

expressed nervousness that the wrong intervention could slow down the market, but recognised that the existence of externalities, such as air pollution, would provide a reasonable basis to justify government involvement. It was agreed that the Commission should support the development of a legal and regulatory framework, look further to assess any gaps that the Government should help to fill, and that Ofgem should be responsible for regulating charging infrastructure. Commissioners requested further information about what the rationale for further intervention beyond a legal and regulatory framework might be and what form it would take.

**Decision: Commissioners agreed to support a rapid uptake scenario for EVs.**

**Decision: Commissioners agreed to support the development of a legal and regulatory framework for the deployment of EV charging infrastructure.**

**Decision: Commissioners agreed that Ofgem should regulate electric vehicle charging infrastructure.**

## 9 Regulatory Review

9.1 [REDACTED] (SH) provided an update on recent progress with the Regulatory Review, noting the recent meeting of the Challenge Panel and welcoming its strong attendance. SH explained that, during the discussion, six main areas were identified which the review could cover. These were: value for money; competition and social outcomes; the case for and regulation of the System Operator Model; adaptive regulation; data regulation; and infrastructure ownership and the role of public finance.

9.2 SH invited Commissioners to consider whether the review should cover each of the areas, or focus on a subset. Commissioners signalled that their preference was to narrow down the scope of the study and prioritise competition, regulation and social outcomes; adaptive regulation; and infrastructure ownership and the role of public and private finance. Key points made during the discussion included:

- The need to explore arguments for and against the introduction of a super-regulator.
- The growing interest in the debate around different models of ownership.
- The need to consider the social outcomes for future generations.

**Decision: Commissioners agreed that the Regulatory Review should cover competition, regulation and social outcomes; adaptive regulation; and infrastructure ownership and the role of public and private finance.**

## 10 Stakeholder Engagement and Communications Strategy

10.1 Adam Cooper (AC) introduced the proposed stakeholder engagement and communications strategy for the NIA. The need to start early and engage key stakeholders ahead of publication

was emphasised, and Commissioners were invited to note a list of individuals and organisations that would be engaged as part of this process.

10.2 AC identified opportunities to maximise media exposure, as well as various events that the NIC could organise or participate in to amplify the launch in the run-up to it, on the day and in the following months.

10.3 Commissioners engaged in discussion about the strategy before providing their endorsement.

## **11 A.O.B.**

11.1 The meeting ended at 17.15.



# MINUTES

**Meeting: Commission Meeting**

**Date: 22 May 2018**

**Time: 12.00pm**

**Place: British Academy, 10-11 Carlton House Terrace, Westminster, SW1Y 5AH**

## Attendees

### Commission Members:

Sir John Armitt CBE	(Chair)
Dame Kate Barker DBE	(Commissioner)
Professor Sir Tim Besley CBE	(Commissioner)
Andy Green	(Commissioner)
Professor Sadie Morgan	(Commissioner)
Julia Prescott	(Commissioner) (Items 1 – 8)
Bridget Rosewell OBE	(Commissioner)

### Secretariat:

James Richardson	(Chief Economist)
Adam Cooper	(Director of Policy and Engagement)
[REDACTED]	(Head of Transport, Energy and Digital)
[REDACTED]	(Head of Water, Waste and Cross-cutting)
[REDACTED]	(Head of Modelling and Analysis)
[REDACTED]	(Head of Strategic Communications and Media)
[REDACTED]	(Interim Head of Strategic Communications and Media)
[REDACTED]	(Senior Policy Adviser)
[REDACTED]	(Senior Economic Adviser) (Item 6)
[REDACTED]	(Waste Lead) (Item 6)
[REDACTED]	(Digital Communications Lead) (Item 7)
[REDACTED]	(Power Lead) (Item 9)
[REDACTED]	(Heat Lead) (Item 9)
[REDACTED]	(Senior Policy Adviser)
[REDACTED]	(Senior Policy Adviser)
[REDACTED]	(Commission Secretary)

## 1. Apologies and Welcome

- 1.1 The Chair welcomed attendees and opened the meeting. Apologies for absence had been received from Professor David Fisk (Commissioner) and Philip Graham (Chief Executive). The



Chair notified attendees that Julia Prescott (Commissioner) would be joining the meeting by teleconference.

## **2 Minutes and Matters Arising**

- 2.1 The minutes of the Commission meeting held on 18 April 2018 were agreed as an accurate record of proceedings. Commissioners noted the action log at appendix 1.

## **3 Chair's Update**

- 3.1 The Chair gave a brief overview of his engagements and activity since the last Commission meeting, noting a recent appearance in front of the Treasury Board Sub Committee alongside the Chief Executive, as well as a meeting with the Member of Parliament for South Cambridgeshire, Heidi Allen.
- 3.2 The Chair observed the appointment of Rt Hon James Brokenshire MP as the new Secretary of State for Housing, Communities and Local Government.
- 3.3 Commissioners were notified of the date for the launch of the Thames Estuary Growth Commission's final report, which had been set for late June.
- 3.4 Commissioners noted the list of key meetings, visits and events undertaken by the Chair at appendix 1.

## **4 Secretariat Update – Director of Policy and Engagement**

- 4.1 Owing to the Chief Executive's absence, an update was provided by the Director of Policy and Engagement, Adam Cooper (AC).
- 4.2 AC noted the outcome of the budget negotiations with HM Treasury and welcomed its decision to grant a multi-year budget to the NIC.
- 4.3 Commissioners were informed that the Government had agreed its response to *Data for the Public Good*, endorsing three of the report's four recommendations, with ministers having not yet committed to initiating the development of a digital twin model.
- 4.4 AC noted that the Government had recently approved the proposal for the Silvertown Tunnel.
- 4.5 An update on the Cambridge-Milton Keynes-Oxford Arc was provided and AC welcomed the establishment of a steering group at Director General level.
- 4.6 Commissioners noted the list of key meetings, visits and events undertaken by the Chief Executive at appendix 1.

## **5 NIA Launch**

- 5.1 [REDACTED] (SS) provided an update on the progression of the media and communications strategy to support the launch of the NIA.

- 5.2 Commissioners were thanked for sharing their thoughts about possible locations for the main launch event. SS confirmed that, following their feedback, a venue in London would be sourced. It was agreed that opportunities would be sought to involve regional stakeholders from across the UK in media coverage during the day of the launch, and a proposed national roadshow to promote the NIA after its publication was welcomed.
- 5.3 SS highlighted that the likely recommendations on digital communications and energy could potentially present engaging topline for the press release to promote the launch, although it was noted that there would be further opportunities for Commissioners to discuss their preferences for the key messages. SS explained that a more detailed plan would be brought forward for discussion at the next meeting.

## 6 NIA Waste Discussion

- 6.1 [REDACTED] (TB) presented to Commissioners and recapped the decisions that had been taken at the meeting on 4 April.
- 6.2 TB sought Commissioners' views on a proposed narrative on the need to increase the rate of recycling for plastic packaging and invited them to discuss a series of draft recommendations that had been put forward. The recommendations included mandatory recycling labelling of all packaging by 2021; clear two-symbol labelling across the UK by 2023; the introduction of a consistent standard for recycling for households and businesses by 2023; and, that an obligation should be placed on Defra to consult with the devolved nations to make standards as consistent as possible across the UK.
- 6.3 Commissioners signalled their support for making recommendations that would represent a strong level of ambition on waste, noting the growing public interest in the issue. Key points made during the discussion included:
- The need to draw upon success stories in other countries that have seen recycling rates rise.
  - The importance of highlighting examples of policy failures.
  - The propensity of the market to respond if certain materials were banned and the design implications such policies would have.

**Decision: Commissioners agreed to the recommendations, but wanted to go further with a ban on hard to recycle plastic packaging and a higher recycling rate than the one proposed at the first Commission meeting.**

## 7 NIA Digital Discussion

- 7.1 [REDACTED] (SW) outlined the points of agreement that had been reached at the meeting on 18 April. Commissioners were invited to discuss their views on a proposed package

of recommendations relating to measures to cut the costs of deploying fibre, and to address areas in the ‘middle zone,’ where it was likely only one commercial operator would be viable.

7.2 Commissioners provided their support for the proposed measures to push down the costs of fibre deployment. The Secretariat was asked to consider whether the recommendation for each local authority to have a ‘digital champion’ could be strengthened by introducing league tables to compare different areas’ progress. Commissioners expressed their preference for setting timeframes for the copper switch-off transition plan. [REDACTED] (KB) explained that this would be a commercial decision for Openreach, but noted that there would be ways to support the company to aid the acceleration of any process. It was agreed that this should form part of the detail of the recommendation.

7.3 Commissioners engaged in discussion about the ‘middle zone’ and agreed that it would not require bespoke regulatory intervention and that the boundaries should be allowed to reveal themselves. The proposed recommendation that the Government should intervene only where the market did not deliver was endorsed.

**Decision: Commissioners agreed to endorse the package of recommendations relating to cost cutting measures.**

**Decision: Commissioners agreed to recommend that the Government should intervene in the ‘middle zone’ only where the market does not deliver.**

## **8 NIA Executive Summary**

8.1 [REDACTED] (CJ) invited Commissioners to share their views on the most recent draft of the executive summary. This had been updated to incorporate feedback on the previous version that had been reviewed by correspondence.

8.2 CJ noted the decisions that had been taken at the meeting on 21 March to opt for a shorter document which would follow the same structure as *Congestion, Capacity, Carbon*.

8.3 Commissioners were invited to discuss their thoughts about the main messages, overall narrative and tone of the executive summary. Key points made during the discussion included:

- The need to highlight the main priorities in the first paragraph and clearly identify topline for each section.
- The need to identify existing failures in policy where appropriate.
- The importance of highlighting issues that cut across different sectors.
- Opportunities to highlight international examples of best practice.
- The value of drawing out how investment in infrastructure could create the conditions for a highly competitive economy.
- The importance of exercising discipline to ensure that the executive summary is kept brief.

## **9 NIA Energy Discussion**

- 9.1 [REDACTED] (KB) presented to Commissioners and explained that the energy discussion would focus on the future of heat; carbon capture and storage (CCS); energy efficiency; and the procurement of nuclear power stations.
- 9.2 Drawing upon the work undertaken by Element Energy, KB shared the results of the analysis on decarbonising the heat sector, which had suggested that it is not possible or desirable to take a decision about the future of the gas grid at present. KB suggested that the next NIA would provide a well-timed opportunity to make a recommendation. It was proposed that the Commission should recommend the Government continue funding research into the viability of hydrogen as a replacement for natural gas, and oversee a community scale trial by 2021. The Commission signaled their support for the recommendation, and it was noted that a clear expectation in the next NIA should be set out. It was felt that examples of other countries attempting to decarbonise heat should be drawn upon for comparison.
- 9.3 KB outlined the role that CCS would have to play in the production of hydrogen, in the event that the UK choose this route for heat. The proposed recommendation that CCS should be trialed in conjunction with hydrogen production, to provide hydrogen for a larger scale trial of 5,000 to 10,000 homes, was accepted.
- 9.4 KB put forward proposed recommendations relating to energy efficiency, including to support speeding up progress across the building stock to achieve 21,000 measures a week by 2020, specifying that this target should be reviewed when a decision is taken on heat. Commissioners provided their endorsement for the package of recommendations, but shared their preference that intervention should only occur in the private and social rented sectors.
- 9.5 KB invited Commissioners to discuss their views on how nuclear power stations could be most desirably procured. The Commission engaged in discussion and agreed that the NIA would not need to include a specific recommendation about the procurement of nuclear power stations.

**Decision: The Commission agreed to recommend that the Government should continue to fund research into the viability of hydrogen as a replacement for natural gas, including a community scale trial by 2021.**

**Decision: The Commission agreed to recommend that CCS should be trialed in conjunction with hydrogen production, to provide hydrogen for a larger scale trial of 5,000 to 10,000 homes.**

**Decision: The Commission accepted the proposed recommendations on energy efficiency and advocated intervention solely in the private and social rented sectors.**

## **10 A.O.B.**

10.1 There were no other items of business.

10.2 The meeting ended at 15.45



# MINUTES

**Meeting: Commission Meeting**

**Date: 30 May 2018**

**Time: 1.00pm**

**Place: British Academy, 10-11 Carlton House Terrace, Westminster, SW1Y 5AH**

## Attendees

### Commission Members:

Sir John Armitt CBE	(Chair)
Dame Kate Barker DBE	(Commissioner)
Professor Sir Tim Besley CBE	(Commissioner)
Professor David Fisk CB	(Commissioner)
Andy Green	(Commissioner)
Professor Sadie Morgan	(Commissioner)
Julia Prescott	(Commissioner)

### Secretariat:

Philip Graham	(Chief Executive)
James Richardson	(Chief Economist)
Adam Cooper	(Director of Policy and Engagement)
[REDACTED]	(Chief Operating Officer)
[REDACTED]	(Head of Transport, Energy and Digital)
[REDACTED]	(Head of Modelling and Analysis)
[REDACTED]	(Head of Strategic Communications and Media)
[REDACTED]	(Interim Head of Strategic Communications and Media)
[REDACTED]	(Urban Transport Lead) (Items 5-7)
[REDACTED]	(Strategic Transport Lead) (Items 6-7)
[REDACTED]	(Senior Economic Adviser) (Items 11-12)
[REDACTED]	(Senior Economic Adviser) (Item 10)
[REDACTED]	(Senior Policy Adviser) (Items 6- 7)
[REDACTED]	(Senior Policy Adviser) (Items 6- 7)
[REDACTED]	(Senior Policy Adviser) (Items 6 –8)
[REDACTED]	(Policy Adviser) (Items 6-9)
[REDACTED]	(Communications Manager)
[REDACTED]	(Private Secretary to the Chair)
[REDACTED]	(Commission Secretary)

## **1. Apologies and Welcome**

- 1.1 The Chair welcomed attendees and opened the meeting. Apologies for absence had been received from Bridget Rosewell (Commissioner).

## **2 Minutes and Matters Arising**

- 2.1 Owing to the close proximity of the previous Commission meeting, it was noted that the minutes for both meetings in May would be reviewed at the next meeting on 20 June.

## **3 Chair's Update**

- 3.1 The Chair gave a brief overview of his engagements and activity since the last Commission meeting and welcomed that five entrants had been shortlisted for the 'Roads for the Future' competition.
- 3.2 Commissioners noted the list of key meetings, visits and events undertaken by the Chair at appendix 1.

## **4 Chief Executive's Update**

- 4.1 The Chief Executive (PG) joined the Chair in welcoming the recent progress of the 'Roads for the Future' competition and noted the positive reception it had received in the media.
- 4.2 PG provided an update on Heathrow expansion and outlined the process that would follow once the Airports National Policy Statement had been laid before Parliament.
- 4.3 PG informed Commissioners of plans for engagement with stakeholders from devolved administrations, noting that he and the Chair would attend a meeting of the Metro Mayors in Liverpool on 13 June, and that visits to Wales, Scotland and Northern Ireland had been organised.
- 4.4 Commissioners noted the list of key meetings, visits and events undertaken by the Chief Executive at appendix 1.

## **5 NIA Urban Transport Discussion**

- 5.1 [REDACTED] (GM) presented to Commissioners and explained that the transport discussion would focus on funding options for urban transport and proposals for funding structures for both urban and local transport.
- 5.2 GM outlined that there would be three key areas within urban transport that would need to be considered, noting that the options put forward would inform the exercise on the fiscal and economic remit, one of the later agenda items. The points for discussion included major new capacity in priority cities; devolved budgets for all cities; and funding for transport in London. GM highlighted three different funding scenarios for major new urban capacity, with analysis showing that each would likely be high value. On devolved budgets, it was noted that all cities would get at least as much funding as they do now. Key points made during the discussion included:

- The difficulty with integrating a conventional approach to appraising the benefits of investment in major new capacity with one focused on productivity gains.
- The current momentum behind city devolution.
- The impact that suburban population and employment growth can have on cities.
- The need to consider cautiously the argument that the fastest growing places should be protected.
- The scepticism that exists around centralised planning at a city level and the need to create sensible economic planning areas.
- The relationship between transport capacity and investment in housing.

## **6 NIA Fiscal and Economic Remit (Part 1)**

*Workshop on the Commission's Fiscal and Economic Remit*

6.1 Commissioners were invited to take part in a workshop on the NIC's fiscal and economic remit. In one-to-one sessions, Commissioners carried out a scorecard exercise in which they prioritised a list of potential policy options with different affordability implications, accompanied by an illustrative evidence base.

## **7 NIA Electric, Connected and Autonomous Vehicles Discussion**

7.1 [REDACTED] (KB) summarised the decisions taken by Commissioners at the meeting on 18 April, noting that recommendations on electric, connected and autonomous vehicles would form one chapter in the NIA.

7.2 To reflect Commissioners' preference that the state should have a minimal role in delivering electric vehicle charging infrastructure, KB highlighted recommendations that would instead create a supportive environment for delivery through the private sector, which was agreed by the Commission, with the additional proposal that local authorities should be required to meet specific targets for the roll out of charge points. Commissioners also recognised that there would be under-provision of rapid charge points in rural areas and that limited government investment should be used to counter this gap.

7.3 KB invited Commissioners to share their views on the proposed recommendations on connected and autonomous vehicles (CAVs). It was agreed that the Commission should recommend that the Government should establish a framework within 12 months of NIA publication. Commissioners engaged in discussion to consider which body would be most appropriate for designing and managing such a framework. Commissioners agreed that it would be favourable to advocate setting up a new body that would be tasked with taking on this responsibility. It was felt that more work would be required to develop the detail of the recommendation, and that it should be discussed further at the meeting on 20 June.

**Decision: The Commission agreed to recommend that Ofgem should deliver the DSO framework in time for rapid EV uptake.**

**Decision: The Commission agreed that that upgrades to the distribution network to support the first wave of charge points should be socialised across energy bills.**

**Decision: The Commission agreed to recommend that there should be limited investment to support a core network of rapid chargers across the country.**



**Decision: The Commission agreed to recommend that targets should be set for local authorities on charge point delivery.**

**Decision: The Commission agreed to recommend that the Government should establish a framework on CAVs within 12 months of NIA publication.**

## **8 NIA UK Infrastructure Fund Discussion**

8.1 [REDACTED] (SV) presented the Secretariat's recommendation that a national independent financing institution should be established if the UK lost its current access to the European Investment Bank (EIB) following Brexit. SV set out the case for an institution centred around catalysing activity in new technologies of importance to the public good, such as decarbonisation and the roll-out of new digital technologies. The institution's balance sheet would likely count towards public debt, under the Treasury's current preferred measure, but would not count towards the NIC's fiscal remit. Key points made during the subsequent discussion included:

- Retaining access to the EIB should be presented as the 'first best' outcome, and any new institution would only be established if this could not be achieved
- Which new technologies any new institution may finance, for example heat and energy storage, plastics and electric vehicle charging points
- The scale of any new organisation, and its potential mandate, including whether this should go wider than just new technologies to encompass 'innovation' and addressing wider market failures. SV and JR noted that the external research commissioned to support this work found the strongest evidence in the deployment of new technologies.
- The importance of ensuring the institution has operational independence.
- The need to consider the potential risk of crowding out private investors.

8.2 Commissioners agreed in principle to recommending that a new, national independent infrastructure financing institution should be established if the UK's current access to the EIB ceases.

**Decision: Commissioners agreed that a new infrastructure financing institution should be established if the UK is required to withdraw from the EIB.**

## **9 NIA Public Private Partnerships Discussion**

9.1 Owing to the time pressures of the agenda, it was decided that Commissioners would share their comments on the public private partnerships paper by correspondence.

**Decision: Commissioners agreed to review the public private partnerships paper by correspondence.**

## **10 NIA Road User Pricing Discussion**

10.1 [REDACTED] (TW) presented the findings of the work on road pricing, which noted three objectives that road pricing could achieve: reducing congestion, paying for road infrastructure and raising tax revenue. Each objective had different implications for road pricing recommendations, and the pros and cons of each were discussed.

- 10.2 Commissioners were invited to share their thoughts on the three objectives for road pricing. Professor Tim Besley (TB) highlighted his view that the NIA provided an opportunity to improve the quality of public debate on road pricing. Julia Prescott (JP) noted the importance of implementing road pricing in a way that was seen to be fair by the public.
- 10.3 Commissioners discussed the possibility of commissioning joint work with the government or potentially a separate workstream on road pricing as part of the preparations for the next NIA. It was agreed that the Commission should do more work on road pricing in the coming years before making a firm recommendation. The NIA should therefore note the inevitability of changes to how drivers would pay for road use in future and the opportunities provided by new technology to create a fair and effective system of road pricing, and indicate the Commission's intention to undertake further work on this issue.

## **11 NIA Land Value Capture and Local Authority Funding Tools Discussion**

- 11.1 It was agreed that Commissioners would share their comments on the land value capture and local authority funding tools paper by correspondence to allow sufficient time for discussion of the other agenda items.

**Decision: Commissioners agreed to review the land value capture and local authority funding tools paper by correspondence.**

## **12 NIA Fiscal and Economic Remit (Part 2)**

*Discussion on the Commission's Fiscal and Economic Remit*

- 12.1 Following the workshop on the fiscal and economic remit, Sarah Rae (SR) informed Commissioners that there had been broad agreement on many of the spending decisions, which was welcomed by the Chair. It was noted that the meeting on 20 June would provide an opportunity to reach final agreement about the allocation of the fiscal and economic remit.

## **13 NIA Launch**

- 13.1 [REDACTED] (SS) provided an update on plans for media and communications activity to promote the launch of the NIA, noting recent work to develop the regional engagement programme that would be held in the months following publication. PG explained that the Government would formally have a year to provide a response to the report, but that it sought wherever possible to respond within six months. The key milestones for gauging the impact of the NIA would be the Budget and Spending Review.

## **14 A.O.B.**

- 14.1 There were no other items of business.

- 14.2 The meeting ended at 17.15.

## MINUTES

### Meeting: Commission Meeting

Date: 20 June 2018

Time: 1.00pm

Place: British Academy, 10-11 Carlton House Terrace, Westminster, SW1Y 5AH

### Attendees

#### Commission Members:

Sir John Armitt CBE	(Chair)
Dame Kate Barker DBE	(Commissioner)
Professor Sir Tim Besley CBE	(Commissioner)
Professor David Fisk CB	(Commissioner)
Andy Green	(Commissioner)
Professor Sadie Morgan	(Commissioner)
Julia Prescott	(Commissioner)
Bridget Rosewell OBE	(Commissioner) (Items 3 – 10)

#### Secretariat:

Philip Graham	(Chief Executive)
James Richardson	(Chief Economist)
Adam Cooper	(Director of Policy and Engagement) (Items 1 – 5)
[REDACTED]	(Chief Operating Officer)
[REDACTED]	(Head of Transport, Energy and Digital)
[REDACTED]	(Head of Water, Waste and Cross-cutting issues)
[REDACTED]	(Head of Modelling and Analysis)
[REDACTED]	(Head of Strategic Communications and Media)
[REDACTED]	(Senior Economic Adviser) (Item 7)
[REDACTED]	(Senior Economic Adviser) (Item 7)
[REDACTED]	(Floods Lead) (Item 5)
[REDACTED]	(Senior Policy Adviser)
[REDACTED]	(Senior Policy Adviser) (Item 8)
[REDACTED]	(Private Secretary to the Chair)
[REDACTED]	(Commission Secretary)

### 1. Apologies and Welcome

- 1.1 The Chair welcomed attendees and opened the meeting. The Chair notified attendees that the Chief Executive would be joining the meeting by teleconference.

### 2 Minutes and Matters Arising

- 2.1 The minutes of the Commission meetings held on 22 and 30 May 2018 were agreed as accurate records of proceedings. Commissioners noted the action log at appendix 1.

### **3 Chair's Update**

- 3.1 The Chair gave a brief overview of his engagements and activity since the last Commission meeting, noting the meetings that had taken place to brief key stakeholders on the emerging conclusions of the NIA.
- 3.2 Commissioners noted the full list of key meetings, visits and events undertaken by the Chair at appendix 1.

### **4 Chief Executive's Update**

- 4.1 The Chief Executive (PG) provided an update on plans for the launch of the NIA, noting that the main event would be held at the Royal Academy of Engineering on 10 July, with other events being held in Leeds and Bristol over the following days. PG confirmed that the lead item for media briefing on the day would focus on the Commission's energy recommendations, with plans to pre-brief some of the other headlines in the run-up to publication.
- 4.2 PG told the Commission that the forthcoming Parliamentary vote on the Airports National Policy Statement was expected to take place on 25 June 2018.
- 4.3 Commissioners noted the list of key meetings, visits and events undertaken by the Chief Executive at appendix 1.

### **5 NIA Floods Discussion**

- 5.1 [REDACTED] (MC) (Head of Water, Waste and Cross-cutting issues) outlined the findings from the work on floods. MC pointed to estimates of the number of properties at risk from flooding, including from the sea and rivers, as well as surface water. It was noted that the effects of climate change would see the level of risk increase in coming years. MC raised the issue of using cost-benefit analysis to allocate flood protection, which he said may appear rational, but in reality, would not always lead to good decision making.
- 5.2 Commissioners considered the findings from a new floods model that the NIC had commissioned using Environment Agency risk and cost data. MC noted that the model looked at two population scenarios (low or high) and two climate change scenarios (2°C or 4°C). The key points raised during the discussion included:
- The need to develop a narrative around flood risk that could be easily understood by the public.
  - The importance of clarifying that 'properties' included both homes and businesses.
  - The option to upgrade flood protection in the future using 'adaptive management' and the need to review the likelihood of a '4°C scenario' in subsequent NIAs.
  - The opportunity to explore flood risk in greater detail in the forthcoming study on infrastructure resilience.

5.3 MC invited Commissioners to review the proposed recommendations and sought their views on the level of flood protection they should advocate. Commissioners agreed each of the recommendations and concluded that where feasible, a nationwide standard of resilience to flooding with an annual likelihood of 0.5% should be delivered, with a higher standard of 0.1% for densely populated areas where the costs per household are lower.

**Decision: The Commission agreed to recommend that the Government should set out a strategy to deliver a nationwide standard of resilience to flooding with an annual likelihood of 0.5% by 2050 where this is feasible. A higher standard of 0.1% should be provided for densely populated areas where the costs per household are lower.**

**Decision: The Commission agreed to recommend that the Government should put in place a rolling 6 year funding programme by the end of 2019 to enable efficient planning and delivery of projects and address the risks from all sources of flooding.**

**Decision: The Commission agreed to recommend that the Environment Agency should update plans for all catchments and coastal cells in England before the end of 2023. These should identify how risk can be managed most effectively using a combination of measures including green and grey infrastructure, spatial planning and property level measures.**

**Decision: The Commission agreed to recommend that water companies and local authorities should work together to publish joint plans to manage surface water flood risk by 2022.**

**Decision: The Commission agreed to recommend that the Ministry of Housing, Communities and Local Government and planning authorities should ensure that from 2019 all new development is resilient to flooding with an annual likelihood of 0.5% for its lifetime and does not increase risk elsewhere.**

## **6 NIA Design Discussion**

6.1 Professor Sadie Morgan (SM) outlined the thinking that had emerged from the work undertaken by the design panel to date. SM noted that the panel had commissioned three pieces of work, which although not yet complete, had provided important context for the suggested recommendations. Highlighting that design can have wider benefits beyond those that are purely aesthetic, SM set out the case for putting design at the heart of national infrastructure.

6.2 Commissioners considered and agreed the design panel's recommendation that each national infrastructure project should have its own design panel and a senior level design champion; and that such panels should be supported by a National Infrastructure Design Group under the auspices of the NIC. PG highlighted the need for specificity about what constituted a national infrastructure project. It was agreed that the wording should refer to Nationally Significant Infrastructure Projects, together with those authorised by hybrid bills.

6.3 SM shared ideas for taking forward the work in the future and suggested that the NIC could consider giving an award to recognise excellent design.



**Decision:** The Commission agreed to recommend that the Government should ensure that all Nationally Significant Infrastructure Projects, including those authorised through hybrid parliamentary bills, have a board level design champion and use a design panel to maximise the value provided by the infrastructure.

**Decision:** The Commission agreed to recommend that the National Infrastructure Commission should publish overarching design principles, based on advice received from a national infrastructure design group, to be hosted by the NIC, to advise the design panels of Nationally Significant Infrastructure Projects.

## **7 NIA Fiscal and Economic Remit**

7.1 [REDACTED] (TB) (Senior Economic Adviser) introduced the item on the fiscal and economic remit, informing Commissioners that their feedback from previous sessions had been incorporated into the funding profile set out in the paper circulated prior to the meeting. TB set out a series of choices and trade-offs for Commissioners to consider. Key points made during the discussion included:

- That Control Period 6 should be included in the glossary of terms.
- The distinction between renewals and enhancements.
- The importance of setting a budget for Northern Powerhouse Rail (NPR) that would, with some prioritisation, enable the broad programme to be delivered.
- The need for government to carefully consider how money is deployed between road and rail beyond CP6 and RIS2.
- The approach to the Housing Infrastructure Fund over the NIA period.
- The importance of cities developing integrated strategies for transport and housing.
- The importance of funding maintenance of the existing road and rail networks.

**Decision:** Commissioners agreed that the local roads backlog should be funded out of Road Investment Strategy 2.

**Decision:** Commissioners agreed an envelope of c. £24bn for Northern Powerhouse Rail and c. £28bn for Crossrail 2 (50% of which should come from London sources).

**Decision:** Commissioners agreed that Transport for London's funding profile should be smoothed.

**Decision:** Commissioners agreed to provide £200m annually, in addition to local and non-urban transport funding, to address funding barriers for new development sites.

**Decision:** Commissioners agreed that the road- and rail-side recommendations set out in the *Connected Future* report should be funded through in the Road Investment Strategy 2 and Control Period 6, or if necessary the 'studies contingency', to the extent that public subsidy was required.

**Decision:** Commissioners agreed to the proposed spending profile for network rail enhancements between 2024/25 and 2029/30.

**Decision:** Commissioners agreed to the proposed spending profile for strategic road enhancements between 2025/26 and 2029/30.

**Decision:** Commissioners agreed to apply a 2% annual efficiency target for road and rail renewals.

## 8 NIA Recommendations

- 8.1 James Richardson (JR) invited Commissioners to share their views on the draft recommendations. In order to focus the discussion on the substance of the recommendations, JR suggested that minor drafting points should be shared by correspondence.
- 8.2 Digital: Commissioners agreed the draft recommendations set out in the paper circulated prior to the meeting.
- 8.3 Energy: Commissioners agreed the draft recommendations set out in the paper circulated prior to the meeting. It was decided that there should also be a specific recommendation about heat pumps and that the suggested recommendation about carbon capture and storage should be removed.
- 8.4 Waste: Commissioners agreed the draft recommendations set out in the paper circulated prior to the meeting.
- 8.5 Electric, connected and autonomous vehicles: Commissioners agreed the draft recommendations set out in the paper circulated prior to the meeting.
- 8.6 Cities: Commissioners agreed the draft recommendations set out in the paper circulated prior to the meeting.
- 8.7 Floods: Commissioners agreed the recommendations on floods during their discussion of item 5.
- 8.8 Drought: To fit with the regulatory timetable for water, the recommendations on drought had been published in a standalone report on 25 April 2018, with Commissioners having agreed them at the meeting held on 18 April 2018.
- 8.9 Data: Commissioners agreed the first of the draft recommendations set out in the document circulated prior to the meeting, requiring public bodies taking decisions on strategic economic infrastructure to publish the forecast costs and benefits of their major infrastructure projects at each appraisal stage and at a suitable point after completion. The recommendation calling on the Infrastructure Projects Authority to work with departments to ensure that costs are comparable between sectors was also agreed. It was decided that the recommendations relating specifically to waste and flooding should be incorporated into their respective chapters.
- 8.10 Design: Commissioners agreed the recommendations on design, as discussed during the earlier item (item 6).
- 8.11 Fiscal remit: The Commission agreed to recommend that the Government should adopt the funding profile (finalised during the discussion of item 7) in Spending Review 2019 and other future spending plans.
- 8.12 UK infrastructure investment institution: Commissioners agreed the draft recommendations set out in the paper circulated prior to the meeting.
- 8.13 Land value capture: Commissioners agreed the draft recommendations set out in the paper circulated prior to the meeting.



## **9 NIA Executive Summary**

9.1 It was decided that Commissioners would share further comments on the executive summary by correspondence.

**Decision: Commissioners agreed to share their comments on the executive summary by correspondence.**

## **10 A.O.B.**

10.1 Commissioners were informed that the minutes from previous meetings would be circulated for final review ahead of their publication.

10.2 The meeting ended at 16.55.