Office for Value for Money

Office for Value for Money (OVfM)

Value for money study: governance and budgeting arrangements for mega projects

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Summary

Mega projects are critical to delivering government's biggest priorities. But when they go wrong – as they often do – this has a large negative impact on public finances and delays the transformational benefits these projects are intended to deliver.

Mega projects typically aren't set up for success. Early cost estimates are difficult and unreliable, perverse incentives push projects into delivery before they are ready and convoluted decision-making and assurance structures blur accountability. **Even where projects start well, they still often go wrong.** Living within annual budgets is prioritised over delivery, contingency is not based on a full assessment of risk, political support waxes and wanes, scope and objectives are changed without a full understanding of the impact on cost or schedule and governance does not evolve.

Informed by a study led by the Office for Value for Money (OVfM), **the government has announced five changes to how it will manage mega projects**:

1. A **Strategy and Delivery Plan will be laid as a Command Paper in Parliament** at the start of the project and at key milestones, including when ministers make material changes e.g. to scope or objectives. This will ensure the project is set up for success and stakeholders are aligned on what it is trying to achieve and how it will achieve it.

2. **Streamlined and bespoke decision-making processes and integrated assurance plans** will be developed by the Senior Responsible Owner (SRO) and agreed with HM Treasury (HMT), the National Infrastructure and Service Transformation Authority (NISTA) and Cabinet Office (CO) to avoid unnecessary delays through multiple layers of non-value adding review and scrutiny.

3. **Feasibility studies** will be required at the outset to scope a project, projects will be given **incremental funding** through development, and **ranges of costs** and schedule will **reflect uncertainty at early stages** and narrowed as risk reduces.

4. In construction, **projects will be given a fixed capital envelope** and delivery bodies will be able to move money forwards and back between years to accelerate work and buy-out risk to achieve better overall value for money. A **fundamental reset** may be triggered if the project is estimated to exceed the fixed capital envelope.

5. Delivery bodies will be granted **automatic freedom to determine pay for specialist roles** that require skills not typically held by civil servants. This will enable projects to recruit and retain the expertise necessary to lead and deliver mega projects. In addition, NISTA will develop a pipeline of project leadership talent across government.

These changes will not be a silver bullet – mega projects are inherently complex and risky – but they will **remove specific obstacles the government has historically put in the way** of these projects that make them even harder to deliver effectively.

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Mega projects: what are they?

The government's largest, most innovative and risky projects sit in the **Government Major Project Portfolio (GMPP).**

GMPP[1]	227 projects	£834bn whole life cost	Average cost	Average duration
Infrastructure & construction	68	£374bn	£5.6bn	12.5 years
Transformation & service delivery	89	£135bn	£1.5bn	6.5 years
Military capability	44	£298bn	£6.9bn	20 years
Information and communications tech	26	£26bn	£1bn	8.5 years

- Broad and large portfolio
- Delivered by 21 departments and their arm's-length bodies (ALBs)

A small subset – **mega projects** – are particularly costly, risky and complex. These projects:

are strategically important, with transformational impacts on the economy, society or national security

are typically in the defence, transport or energy sectors, but have cross-cutting impacts, spanning multiple government departments

take longer to deliver than other major projects – they are typically once in a generation projects that take longer than 10 years and span multiple parliaments

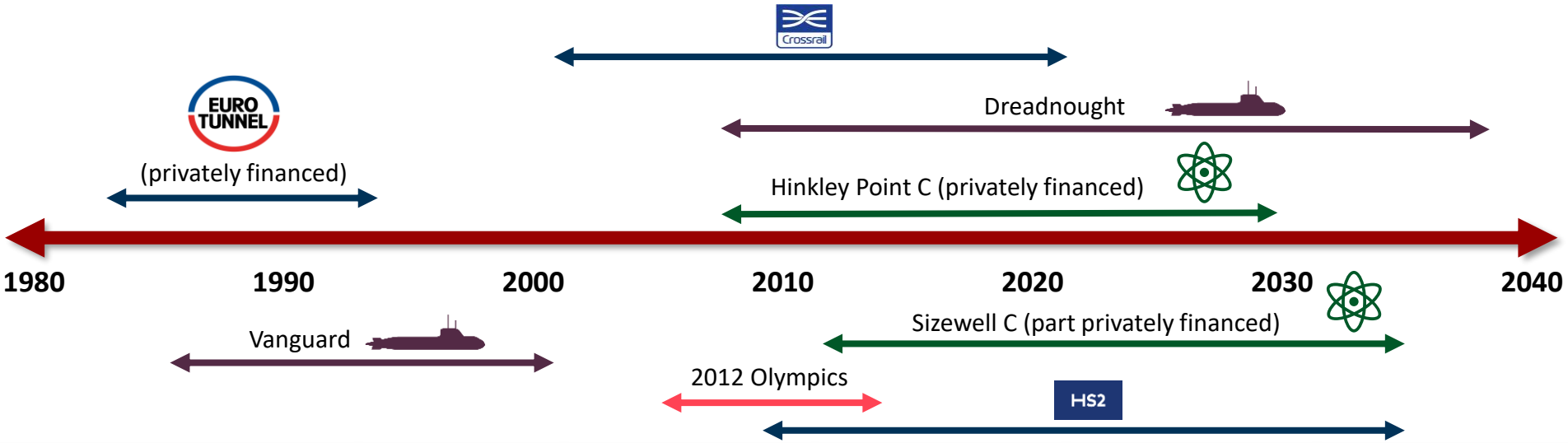
are very expensive, with estimated whole life costs of more than £10bn, meaning proportionately small cost overruns can have a big financial impact

are not scalable and cannot be broken into smaller projects

do not take longer than 50 years to deliver – otherwise they would constitute business as usual

A recent history of UK mega projects*

There are currently more mega projects under construction in the UK than 30-40 years ago. Energy schemes are an increasingly important part of the portfolio.



Project*	Completion date	Length of project	Initial scheduled completion date	Final cost (today's prices unless stated)	Original estimate vs final cost (cash unless stated)
Hinkley Point C (privately financed)[2]	Late 2020s (estimate)	22 years (estimate)**	2023	£31-34bn estimate (2015 prices)	£18.4bn vs £31-34bn est (2015 prices)
Crossrail[3]	2022	21 years	2018	£22.2bn	£14.8bn vs £18.9bn
London Olympics and Paralympics[4]	2014	9 years	2014	£12.5bn	£4bn vs £9.3bn
Channel Tunnel (privately financed)[5]	1994	9 years	1993	£19.1bn	£4.8bn vs £9.5bn
Vanguard submarines[6]	2001	15 years	-	£22.3bn	£5bn vs £12.5bn

* HS2, Dreadnought and Sizewell C detail on next slide

**Planning and development phase took Hinkley Point C from 2008 to 2016 which is when construction started.

UK mega projects under construction: how they compare

The OVfM's terms of reference for this study set out it would review three government projects currently under construction that meet its definition of 'mega projects'.*

	1 High Speed 2 (HS2)[7]	2 Sizewell C[8]	3 Dreadnought[9]
	To support growth by constructing a high-capacity, high-speed railway providing faster and more frequent services between London / West Midlands and London / North West	To construct a nuclear power station to increase energy supply, reduce carbon emissions, enhance energy independence and promote advances in nuclear technology	To supply a new generation of four nuclear-powered submarines to maintain the UK's continuous at sea nuclear deterrent
Latest estimate (original estimate)	£66bn (subject to reset)** (£25bn)	Under negotiation***	£31bn+£10bn contingency**** (£25bn)
% annual dept CDEL	33% (2024-25)	28% (2024-25)	15% (2024-25)
Project length	20-30 years (2009 – 2030s)	20+ years (2012 – mid 2030s)	30+ years (2007 – late 2030s)
	Arm's-length delivery body	Sizewell C Co. and private investment	Ministry of Defence (MOD) and industry alliance

* This study only looked at mega projects that involve public sector funding, so Hinkley Point C is not included here.
** HS2 is currently undergoing a reset, with final estimates to be confirmed. £66bn is in 2019 prices.
*** Sizewell C is in the final stages of commercial negotiations.
**** As at March 2025

Why do we care about mega projects?

1. They represent a large proportion of total capital spending

In 2024-25 the budgets of the three mega projects under construction made up more than 10% of government's total capital budget.

2. Their benefits should transform the nation's economy, society or security

They are typically fundamental to delivering a government's top economic, social or security priorities.

3. They dominate the financial position of their sponsor departments

With estimated annual budgets of more than around 15% of their parent department's capital budget mid-flight.

4. They consistently fail to be delivered on time or on budget – both in the UK and internationally*

Their scale means even small cost overruns relative to total cost can have a big impact on the government's finances, and schedule overruns mean transformational benefits are delayed.

When government commits to a mega project, the **objective should therefore be to deliver the intended benefits as quickly as possible at the lowest possible cost.** There is a strong case for treating mega projects differently to the rest of the capital portfolio to achieve this.

* All of the UK's mega projects since 1980 have been over budget, and the majority have been delivered later than planned.

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Many mega projects are not set up for success…

Budgeting arrangements at the outset can undermine VfM	**This can result in…**
Project complexity and optimism makes early estimates unreliable, and it is difficult to challenge estimates from organisations who are incentivised to understate costs and timelines.	Cost increases which mean management, the sponsor department and HMT need to take time mid-flight to find additional funding and agree new budgets and schedules leading to costly delays; or cancellations or scope changes.
Governance arrangements at the outset can also undermine VfM	
Planning for mega projects often starts too late, partly because of a lack of consideration of the future pipeline, encouraging optimism bias on schedule.	Projects starting on the back foot and likely to need a reset – and costly delays – mid-flight.
Ministers, Permanent Secretaries and SROs incentivised to begin too much construction before design and delivery plans are sufficiently mature.	Expectations about cost and schedule are fixed far too early, meaning they are unrealistic and increase the risk of a mid-flight reset (and accompanying costly delays) when costs escalate.
Convoluted decision-making, approval and assurance structures blur accountability, leading to a focus on process over substance and senior leaders not being trusted to make decisions.	Financial approval levels being set very low, slowing delivery without adding value. The project can also fail to harness the cross-government effort required to deliver benefits.

…and even where mega projects start well, they can still go wrong

Budgeting arrangements mid-flight can undermine VfM	**This can result in…**
Living within annual budgets is prioritised over delivery to schedule.	Stop-start, work being artificially slowed or done out of order to meet budgets, and an inability to use the full project budget to accelerate work and buy-out risk, all resulting in higher overall project costs.
Contingency not fully funded or properly assessed against risk, so no clarity on who owns what risk or where contingency sits.	A lack of incentive to focus on cost control and long delays due to debate on who pays and from which source of funding.

Governance arrangements mid-flight can also undermine VfM	
Lack of political consensus on the strategic case, competing political priorities and long timescales over multiple parliaments.	Political support waxing and waning, ambiguity enabling scope creep and decisions to defer costs and descope for in-year cash flow suppression, all increasing total cost and delaying benefits.
Decision-making, approval and assurance structures fail to evolve as the project develops.	The wrong people being in the wrong roles, senior leaders not being trusted to make decisions, financial approval levels being set very low causing delay without adding value.

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HS2: Poster child for value for money issues in mega projects

HS2 has faced multiple problems, driving cost increases and value for money concerns. It has undertaken three resets, there have been more than five reviews, the scope has been significantly revised, costs have escalated, and delivery timelines have been repeatedly pushed back.

1 Problems from the start

Public reviews[10] have found HS2 problems started early, with an initial objective to increase capacity translated into a speed objective. **At Notice to Proceed in 2020**:

(i) the design was too immature;

(ii) the contracts created the wrong incentives;

(iii) the organisation wasn't set up adequately to manage them; and

(iv) there were overly optimistic budget and delivery estimates.

2 Cost estimates increased over time*

£bn Phase 1** (2019 prices)	Lower estimate	Upper estimate	Notes
Jan 2012		20.5	HS2 Ltd initial estimate
Mar 2014	18.6	31.2	Sir David Higgins review
Jul 2019	32.3	34.0	Cost increases across the entire project
Apr 2020	35	45	Phase 1 Business Case in April 2020
Nov 2023	45	54	DfT Estimate At Completion (EAC)
Nov 2023	49	57	HS2 Ltd's Parliamentary Report
Jun 2024	54	66	HS2 Ltd's Unassured June Board EAC

3 Cost escalation caused government to defer work to manage costs

4 Deferrals further increased costs and slowed delivery

- HS2 deferred work in 2023-24 and 2024-25 to meet annual budgets.
- **HS2 assessed this deferral would increase Phase 1 costs by between £1.9bn and £3.1bn** (2019 costs).[11]
- Within this, £1.8bn of civils works was deferred. HS2 Ltd's modelling indicated that **for every £1 of scope deferred, the total cost increased by an additional £1.25** (e.g. from demobilisation).[12]

5 Cost escalation damaged political support and undermined trust, leading to resets and further delay

- In 2023, the government announced Phase 2 would be cancelled. £2.3bn already spent.
- **£20m per day run rate** so delay for resets and subsequent approvals or scope changes are expensive.[13]

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* Cost estimates include Euston and are converted to 2019 prices for consistency with published figures. This will underestimate later estimates compared to current prices.

** Phase 1 = London to the West Midlands; Phase 2a was West Midlands to Crewe; Phase 2b Western Leg was Crewe to Manchester and Phase 2b Eastern Leg was West Midlands to Leeds.

Through all these issues, governance arrangements remained relatively fixed, while budgeting arrangements have loosened and tightened

Governance

Governance arrangements have followed **a fairly standard approach** for major projects. But problems have arisen due to:

- **blurred lines between roles** (e.g. sponsor and shareholder);
- **different organisational priorities and perspectives** combined with **a lack of an agreed core objective** which made it challenging to establish a unified and collaborative approach across stakeholders;
- a **breakdown of trust** between DfT and HS2;
- **churn** at both ministerial and CEO level, weakening continuity in decision-making at key points and **shifting priorities**;
- **inconsistently applied cost control mechanisms** and **poorly timed budget approval points**, limiting the ability to make timely and cost-effective adjustments; and
- a **lack of capability** to design and manage the programme or intervene when the supply chain is not performing.

Budgeting

Budgeting controls have been **loosened and tightened** over time.

Changes were introduced in the Spending Review 2015 and Spending Review 2020 and continued at Spending Review 2021.

In theory, this included **ringfenced budgets**, to avoid HS2 funds being used for wider transport projects, and vice versa – with a 10% flexibility to move budget between years.

In practice, **DfT's annual budgets** still got in the way and meant DfT funding was used to cover HS2 overspends in some years, and HS2 unspent funding was surrendered to HMT in other years to cover shortfalls elsewhere in DfT's budget or wider government pressures.

In 2023, **budgeting flexibilities were removed** after significant unexpected in-year cost increases caused calls on the Reserve and HS2 deferrals.

The programme is now undertaking a **fundamental reset** under the guidance of a new CEO.

Sizewell C: The scale of investment needed for large scale nuclear meant a new model had to be developed

The scale of funding required, coupled with cost overruns and delays at Hinkley Point C, created complexities for Sizewell C (SZC), leading to the need for a new model of funding and delivery.

1

Planning delays from inception

Delays between the initial SZC proposal (2012) and submitting the Development Consent Order (for planning permission) were caused by:

- a long and complicated planning and consent process; and
- EDF prioritising Hinkley Point C.

2

A new funding model created to secure private sector investment

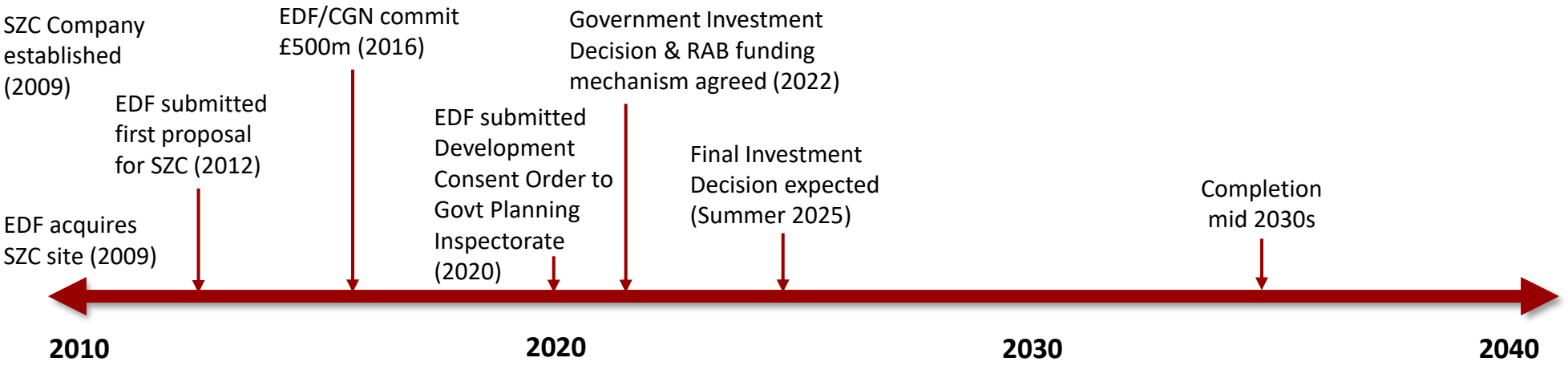
The scale of funding required contributed to investors being unwilling to invest without a return during construction. In response the government announced its intention to use a Regulated Asset Base Model. This strikes a balance of risk and reward between the public and private sectors.

3

Further delays due to the political cycle

The government investment decision (2022) provided funding for continued development of the site to prepare for construction including ancillary work (e.g. construction office accommodation).

But key project decision points have not aligned well with political cycles.



If Sizewell C is approved, private sector contracting arrangements may address some of the problems identified in other mega projects during construction

Governance

- SZC Company is a 'quasi' **private body**, of which government is a shareholder jointly with private partners.
- There are **three government Non-Executive Directors** on the Board, allowing government to influence cost control.
- The government agreed **bespoke delegation levels** in the Interim Shareholder Agreement enabling SZC Company to operate with the freedoms of a private sector company.
- **Nearly all delegation limits were set as unlimited**, except for decisions that were novel, contentious or repercussive or where total cost exceeded agreed envelope.
- Decisions still to be made on the delegations included in the Enduring Shareholder Agreement if the project is approved.

Budgeting

- Contractual arrangements have been designed to **commit shareholders to providing funding as required** by the SZC Company.
- At the Final Investment Decision, all funding must be committed up to an **upper budget limit**, representing the upper cost of the project, and cannot be withdrawn before this limit is reached.
- **Government support package** if costs exceed this upper bound on costs.

The rationale for private investment is based on private investors with significant money on the line delivering greater benefits for consumers relative to the alternative of a shareholding comprising government and the tech vendor alone.

The Department for Energy Security and Net Zero (DESNZ) has assessed that private sector involvement, alongside the bespoke governance and budgeting arrangements for the project, have the following benefits:

- ✓ Investors improving decision-making
- ✓ Greater focus on cost control
- ✓ Infrastructure expertise
- ✓ Government committed to stable environment
- ✓ Avoiding reprofiling spend due to affordability
- ✓ Agreed derogations from MPM / CO controls

It is estimated that the size of savings to the project, and ultimately the bill payer, will be greater than the extra cost of private investment.*

* Subject to Final Investment Decision

Dreadnought: A project that started with lots of problems undermining VfM…

Before 2023, Dreadnought faced many of the same problems we have seen in other mega projects.

1. The programme was initiated following 20 years of **underinvestment** across the entire nuclear deterrent enterprise **and delayed decision-making**.
2. The Vanguard class submarines (Dreadnought's predecessor) were due to go out of service between 2022 and 2029 and then needed to be extended beyond their original life – with **associated costs and operational risks**.
3. There was a **lack of sustained political interest** and understanding of what commitments to the maintenance and renewal of the nuclear deterrent entailed, and the long-term decisions required.
4. **Confusion and debate over roles and responsibilities** between the Ministry of Defence (MOD) Head Office, the Defence Nuclear Organisation (DNO), the Submarine Delivery Agency (SDA) and the Navy.
5. **Difficulty recruiting and retaining the right people to lead the programme,** with insufficient breadth of programme management talent in government.
6. **Decision-making was slow, incremental and duplicative**, and decisions were often second-guessed or disputed on an annual basis, with associated supply chain commitment impacts.
7. **Investment was traded off** against the remainder of the defence budget and work was **artificially slowed to meet annual budgets**.
8. **Lack of trust led to very low financial approval levels**. The SDA had to seek approval for any spend over £250k from the Navy and £10m from the DNO.

What did this mean?

Four-year delay in 2010[14]

In 2010, Dreadnought was delayed by four years due to affordability considerations.

The cost of replacing the deterrent **rose 75% in real terms between 2006-2015.**

The Nuclear Information Service's director: "That delay is probably the single most significant decision in bringing us to where we are now".

The decision will incur other costs for government e.g. expensive refits to extend the life of the Vanguard submarines and associated operational risks.

…showing early signs of promise under new budgeting and governance arrangements

In 2023 all the MOD's nuclear related projects were amalgamated into one portfolio, of which Dreadnought is an integral part, and governance and budgeting arrangements were revised.

Governance

Changes to governance of the nuclear portfolio are a work in progress, but aiming for:

- governance and assurance processes to be on the principle of 'once internally' and 'once externally';
- cross government ministerial approvals to happen in parallel, not sequentially. Not yet implemented, but National Security Council (Nuclear) is used to agree cross-cutting issues, where support is needed from others as part of the national endeavour; and
- a trusted relationship across MOD, HMT and CO with an attitude of trying to work as a team, underpinned by complete transparency.

Budgeting

Arrangements in place for the entire nuclear portfolio in MOD:

- ringfenced budget;
- the spending delegation for whole life costs of projects within the portfolio was increased to £1 billion; and
- full flexibility to move funds forward and back between years in the Spending Review period as long as within the ringfence.

While it is too early to evaluate the impact of these changes, early signs are positive with significant improvement in productivity in the shipyard (Barrow-in-Furness) since wider changes to the enterprise.

Not all projects go badly wrong, and we should learn from those that don't

While the cost of the 2012 Olympic and Paralympic Games far exceeded the original 2005 estimate, once an appropriate budget was set in 2007 delivery was on time, successful and within budget.

By any reasonable measure the Games were a success and the big picture is that they have delivered value for money
- NAO report (December 2012) -

Governance

The Games were delivered using a **purpose-built delivery model**:

1. The **Olympic Delivery Authority** (ODA) was responsible for delivering the infrastructure, with a Board and Executive recruited for their specialist skills.
2. The government's interests were managed by a dedicated team in DCMS – the **Government Olympic Executive** (GOE).
3. The **Olympic Project Review Group** (OPRG), chaired by the GOE, approved business cases and release of some contingency funding.
4. The **Funders Group (**a Cabinet sub-committee) released the highest levels of contingency.

Budgeting

1. The **initial estimate** at the time of the bid in 2005 was £4bn.[4]
2. In 2007 the **Games budget of £9.3bn** was finalised and published, distinguishing between the base budget and contingency and with **flexibility to move funding between years**.[4]
3. There were **three tiers of contingency,** which covered different levels of risk:
   - project-level contingency – managed by the ODA;
   - programme-level contingency – approved by the DCMS SoS; and
   - top level contingency for the biggest risks (e.g. financial crisis) – approved by the Funders Group.
4. The size of the **funding package remained virtually unchanged** and provided a stable basis for financial planning, although the scope of the work covered by the package increased.

Delegations and approvals

- ODA Board scrutinised and challenged all business cases and approved those within its delegated authority.
- All others submitted to OPRG for consideration prior to going to approval from the Funders Group.
- **All members of the Funders Group were required to confirm their approvals within four weeks** of the OPRG meeting.

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Summary of changes to how mega projects will be managed

Informed by a study led by the OVfM, the government has made **five changes to improve the governance and budgeting arrangements for mega projects**. These changes aim to replicate – in part – the benefits of private investment identified in Sizewell C in other government projects. While they will not be a silver bullet, they will help **reduce risks** and put projects in a stronger position to **deliver the intended benefits as quickly and cost effectively as possible**.

1. A **Strategy and Delivery Plan will be laid as a Command Paper in Parliament** at the start of the project and at key milestones, including when ministers make material changes e.g. to scope or objectives. This will ensure the project is set up for success and stakeholders are aligned on what it is trying to achieve and how it will achieve it.

2. **Streamlined and bespoke decision-making processes and integrated assurance plans** will be developed by the Senior Responsible Owner (SRO) and agreed with HM Treasury (HMT), the National Infrastructure and Service Transformation Authority (NISTA) and Cabinet Office (CO) to avoid unnecessary delays through multiple layers of non-value adding review and scrutiny.

3. **Feasibility studies** will be required at the outset to scope a project, projects will be given **incremental funding** through development, and **ranges of costs** and schedule will **reflect uncertainty at early stages** and narrowed as risk reduces.

4. In construction, **projects will be given a fixed capital envelope** and delivery bodies will be able to move money forwards and back between years to accelerate work and buy-out risk to achieve better overall value for money. A **fundamental reset** may be triggered if the project is estimated to exceed the fixed capital envelope.

5. Delivery bodies will be granted **automatic freedom to determine pay for specialist roles** that require skills not typically held by civil servants. This will enable projects to recruit and retain the expertise necessary to lead and deliver mega projects. In addition, NISTA will develop a pipeline of project leadership talent across government.

The following slides summarise the changes, with further detail in the Annex. The OVfM will look at whether and how these changes could be extended to major projects as part of its work wider work on reforms to improve VfM in public spending.

1. Publish a Strategy and Delivery Plan for all mega projects

SRO to develop and **publish a Strategy and Delivery Plan** at the start of each mega project and then at key milestones through development and construction, setting out **what the project is trying to achieve and how it will achieve it**.

Up to a **maximum of 20 pages laid as a Command Paper in Parliament and updated** at key milestones, initially at completion of the Strategic Outline Case (which should be conducted quickly at the start of a project) and when ministers make material changes e.g. to scope or objectives.

Developed by the project's Senior Responsible Owner and agreed by the Prime Minister (PM), Chancellor and relevant Secretary of State (SoS).

Plan to be clear the project is a **multi-Parliament commitment,** and government to consider engaging the opposition.

Ranges or estimates published within the Plan will be signed off by an **independent assurer who will be named** in the plan.

These changes will have the benefit of:

- ✓ ensuring all stakeholders are aligned on **what** the project is trying to achieve and **how** it will achieve it, with key changes transparently reported to Parliament
- ✓ providing **greater transparency** to the public and Parliament, holding the project accountable through **greater scrutiny**
- ✓ ensuring **key risks** have been considered from the outset, with plans for how they will be mitigated (e.g. descoping options)

See Annex B for detail on what a Strategy and Delivery Plan will cover.

2. Streamlined decision-making processes and integrated assurance plans

SRO to design **streamlined decision-making processes and integrated assurance plans** which recognise that people with the necessary expertise are running delivery, with independent assurance by those technically qualified.

Decisions by ministers (PM, Chancellor, SoS) at each stage gate or following material changes to scope or objectives, informed by joint advice from senior civil servants following a **Mega Projects Decision Panel.*** This replaces all other central government approval and scrutiny processes.

The Panel's advice will be based on information that has been independently assured, including on cost and schedule. Assurance arrangements to be designed by the SRO, with support from NISTA, and agreed by HMT and CO.

Bespoke delegated financial authority thresholds, with controls only retained where they are critical for financial management.

Separate arrangements for the **performance management of the delivery body**, and an informal forum for **collaborative issue resolution** as needed.

These changes will have the benefit of:

- ✓ **clearer accountability** – no longer spread across lots of bodies
- ✓ **avoiding unnecessary delays** by removing the need for lots of tiers of civil service reviewers and approvers that often don't have sufficient expertise to add value
- ✓ allowing stakeholders to **focus on key decisions** rather than debating numbers

* See Annex D for further detail

3. Projects given staged, incremental funding through development

Projects are required to conduct **feasibility studies** at the outset, and will be given **incremental funding as the project develops.** In development, **projects should start with broad ranges for cost and schedule**, reflecting uncertainty which reduces over time.

Initial **feasibility study at the very outset** to scope a project, without detailed budget or schedule.

Cost and schedule estimates to **start with broad ranges** (not point estimates), reflecting uncertainty or novelty and only narrowed as risk reduces.

While still in development, funding beyond the next stage gate **held centrally by HMT**, rather than being allocated to the project or department.

SRO to be clear about **what decision will be needed at the next stage gate,** and HMT, CO and NISTA to be clear about what information will be needed to support that decision.

HMT to have a formally recognised position on the project board during development.

These changes will have the benefit of:

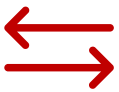
- ✓ improving the likelihood of **realistic forecasts**
- ✓ ensuring projects only proceed **when they are ready**
- ✓ making stage gates **real decision points** where additional funding may or may not be provided
- ✓ decisions at stage gates being **properly informed**
- ✓ **improving alignment** between HMT and the project during important early stages

4. Once a Final Investment Decision has been taken, a fixed capital budget will be set, with flexibility to move money between years

In construction, projects will be given a fixed capital envelope, supported by an Annually Managed Expenditure Budget classification or flexibility to **move money between years,** up to an amount approved by HMT. Contingency will be set based on an assessment of risk, and there will be **clarity** on who owns what **risk** and where **contingency** sits.

After Final Investment Decision (when there is a robust cost estimate and the project is not in fundamental reset), PM, Chancellor and relevant SoS will set **a fixed capital budget** for the entirety of the mega project.

This will include **contingency**, based on an assessment of risk. It should be funded, clear who holds contingency for what risks, and how to access this.



Within the fixed capital envelope, mega projects will be given a **Mega Projects Capital Annually Managed Expenditure budget classification** or **budget flexibility** to move money forward and back between years, up to an amount approved by HMT.*

Firm accountability on the SRO to **highlight when things are off-track**, with quarterly updates to HMT / NISTA on spend over the coming quarter and what that spend will deliver. **HMT representative on delivery body board.**

When cost forecasts exceed the funding envelope (including contingency), a **fundamental reset** can be triggered, with decisions then taken by PM, Chancellor and relevant SoS on how to proceed.

These changes will have the benefit of:

- ✓ allowing projects to choose the best delivery model, rather than the one that meets annual budgeting constraints, which means **quicker delivery at the lowest possible cost**
- ✓ making it **easier to spot problems early**, through targeted reporting
- ✓ clarifying decisions around use of contingency, **avoiding costly delays**
- ✓ **allowing projects to plan over the longer term**, helping incentivise the supply chain

*See Annex C for more details.

5. Pay constraints will be lifted to attract and retain people with the right expertise

HMT will lift pay constraints to give mega projects **the pay flexibility required to attract and retain expertise**. NISTA will consider how to recruit and retain major project leadership talent across government.

Delivery bodies will be granted **automatic freedom to determine pay** for specialist roles that require skills not typically held by civil servants. Delivery bodies will need to be **transparent about these arrangements**.

The government will develop a **greater breadth of major project leadership talent**. NISTA will review how the government recruits and retains project leadership talent for mega projects, and consider how to **develop a pipeline of talent**.

NISTA will ensure it has the **right capacity and capability** to support mega projects and their shareholders across government.

These changes will have the benefit of:

- ✓ enabling HMG to recruit and retain **crucial specialist expertise** to lead and deliver these projects
- ✓ ensuring the sponsor department and HMT have **appropriate support** to fulfil their respective roles
- ✓ ensuring there are **alternative project leaders** available where culture and behaviours of existing leaders are not aligned with expectations

What do these changes mean for mega projects overall?

These changes will sharpen the accountability for mega project delivery. Collectively, they should mean government can spot problems earlier and take action quicker. This will help achieve the objective of delivering the intended benefits of these projects as quickly and cheaply as possible.

Clearer accountability	Credible assurance	Greater transparency	Targeted reporting	New HMT role	Removal of annual budgeting constraints	Bespoke controls and delegations
Accountability no longer spread across multiple bodies: Senior Responsible Owner and delivery body clearly responsible for the project and informing No10, HMT and NISTA about problems early.	Cost and schedule independently assured by qualified experts and used by all. Assurer publicly named and required to sign off the estimates in the Strategy and Delivery Plan.	Making clear to the public and to Parliament (through the Strategy and Delivery Plan) the purpose of the project, how much it is expected to cost, how long it will take and how it will be governed - and how any of these change over time. Allows for greater Parliamentary and public scrutiny.	Harder to disguise problems across the project when having to regularly reaffirm (as part of new quarterly reporting) the cost of the project remains within the fixed envelope. Regular, more targeted reporting to feed into regular ministerial updates that improve ministerial oversight of projects.	• Formal role on the project board during development. • Representation on the board of the delivery body during construction. • Mega Projects Decision Panel role with firmer stage gates and incremental funding during development. • Ability to trigger fundamental reset (with NISTA).	Removal of annual budgeting constraints will allow projects to deliver the intended benefits in the most cost effective way, rather than in the way that best meets rigid annual budgets.	Appropriate controls reflecting the nature and stage of the project, ensuring the project is not slowed by controls and processes that add little or no value.

Annex D sets out how the high-level decision-making process will work under the new arrangements.

Contents

Annex A: A recent history of the UK's largest projects*

Project	Completion date	Length of project	Initial scheduled completion	Final cost (today's prices unless stated)	Original estimate vs final cost (cash unless stated)
Hinkley Point C (privately financed)[2]	Late 2020s (estimate)	22 years (estimate)**	2023	£31 - £34bn (2015 prices)	£18.4bn vs £31 - £34bn (2015 prices)
Astute class submarines[15]	2028 (estimate)	31 years	-	£11.3bn	£8.2bn vs £11.3bn
Thames tideway tunnel (privately financed with contingent HMG support)[16]	2025	18 years	2023	£4.5bn (2024 estimate)	£2.2bn vs. £4.5bn
Crossrail[3]	2022	21 years	2018	£22.2bn	£14.8bn vs £18.9bn
Queen Elizabeth aircraft carriers (x2)[17]	2017	10 years	2015	£8.4bn	£3.6bn vs £6.2bn
London Olympics and Paralympics[4]	2014	9 years	2014	£12.5bn	£4bn vs £9.3bn
Type 45 destroyers (air defence ships)[18]	2010	13 years	2007	£9.4bn	£5.47bn vs £6.5bn
West Coast Main Line modernisation[19]	2008	14 years	2005	£18.7bn	£2.5bn vs £13bn
Jubilee line[20]	1999	10 years	1998	£6.4bn	£2.1bn vs £3.5bn
Vanguard submarines[6]	2001	15 years	-	£22.3bn	£5bn vs £12.5bn
Sizewell B[21]	1995	15 years	1994	£3.9bn	£1.2bn vs £2bn
Channel Tunnel (privately financed)[5]	1994	9 years	1993	£19.1bn	£4.8bn vs £9.5bn
M25[22]	1986	11 years	1983	£3.1bn	Unknown vs £1bn
Concorde[23]	1976	14 years	1973	£11.9-£16.7bn	£70m vs £1.5-£2.1bn

*Both mega projects and the largest major projects

**Planning and development phase took Hinkley Point C from 2008 to 2016 which is when construction started.

Annex B: What a Strategy and Delivery Plan needs to include

What is covered in a Strategy and Delivery Plan, and the degree of specificity provided, will depend on the stage of the project. The below sets out what plans will be expected to cover at appropriate stages.

- **Stage gates** when go / no go decisions taken, cost and schedule estimates refined, Strategy and Delivery Plan updated.
- Agreed and fixed (at appropriate stage) **outcomes and scope**.
- **Cost and schedule estimate ranges** based on precedent projects and benchmarking (where possible) and independently assured (with the assurer being named and signing off the estimates in the Plan).
- The **guardrails or tolerances** below which scope, outcomes, budget or schedule changes to not need to be re-approved.
- **Descoping options** in the case of cost or schedule overruns.
- How **known risks** will be provided for e.g. inflation and cancellation.

- Where **contingency** sits and size (if not commercially sensitive).
- Level of **financial delegations** and when these will be reviewed.
- **The bespoke governance arrangements** including the role of the SRO and sponsor team (e.g. business cases, funding, approvals, benefits) and the Board of the delivery body (organisational effectiveness) and how they are suitably qualified.
- Bespoke, streamlined, **integrated assurance framework**.
- **Lead minister** and cross-government **ministerial forum** to address issues.
- **Delivery and commercial strategy** (at appropriate stage), including risk sharing arrangements with supply chain.

Annex C: How a fixed capital envelope will work

Once a project is in construction, there is a robust cost estimate and the project is not in a fundamental reset, the PM, Chancellor and Secretary of State (SoS) will set a fixed capital envelope.

PM, Chancellor and relevant SoS to **set a fixed capital budget** for the entirety of the project (including contingency) at Final Investment Decision. Delivery bodies and sponsors able to move money forward and back between years.

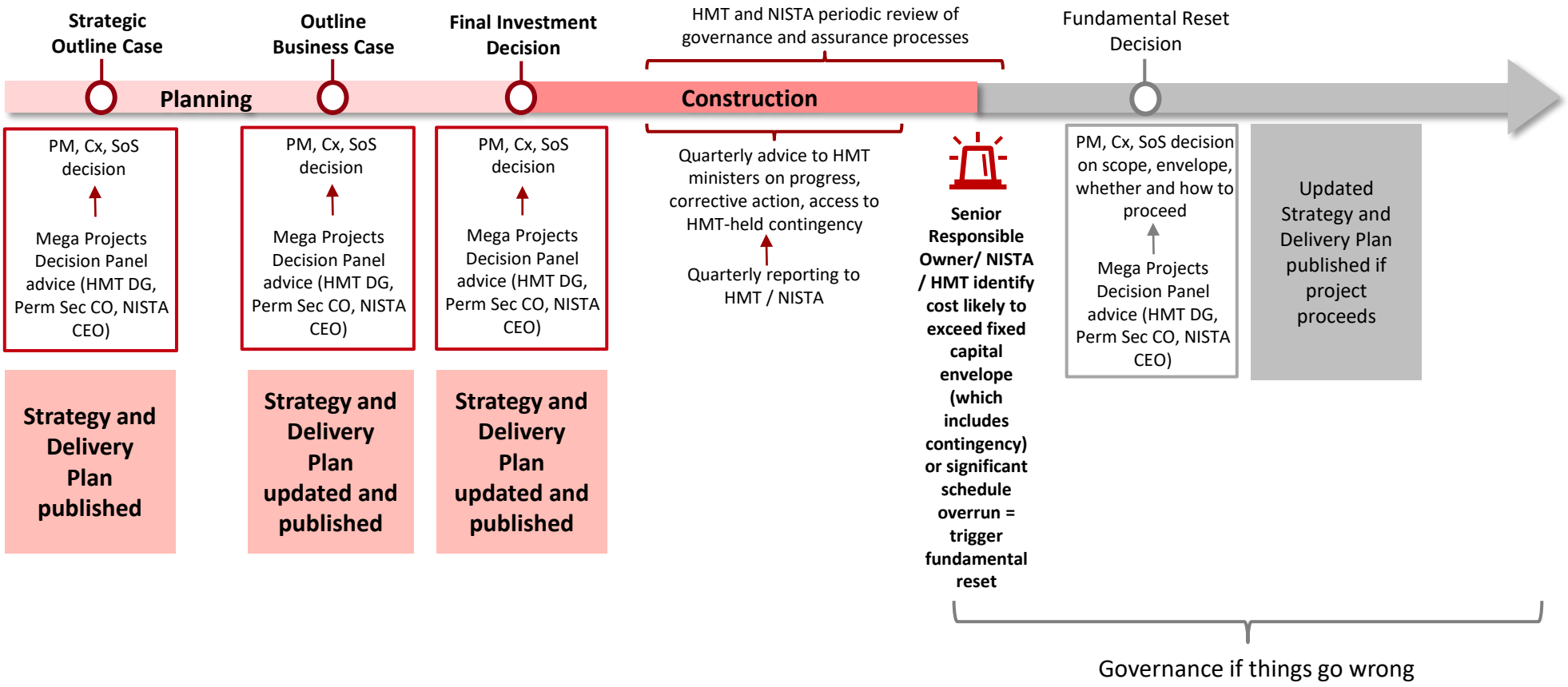
Only available when a robust cost estimate has been established and the project is not in fundamental reset. Could be in Annually Managed Expenditure (AME) or Departmental Expenditure Limits (DEL).

Creation of '**Mega Projects Capital AME**': where HMT determine there are robust external mechanisms to push costs down and find efficiencies (e.g. private investors), then they will consider classifying spend as MPCAME.

Where HMT and NISTA determine there are insufficient cost control mechanisms, then the **fixed capital budget should be in DEL** with indicative annual budgets and projects allowed to move money between years up to an amount agreed by HMT.

Annex D: Proposed high level decision-making process

The diagram below sets out what the new arrangements are likely to mean for the decision points in a mega project – both through development and then if there are significant problems during construction.



Annex E: Our evidence base

We facilitated a series of discussions with experts from government and the private sector. This included two roundtable discussions with project delivery experts from across government on 23 January 2025 and 14 February 2025. We also held bilateral and small group discussions with those involved in the analysis, audit, assurance and funding of large and complex government projects.

Our discussions involved people from the following bodies:

The UK Atomic Energy Authority
The Atomic Weapons Establishment
Bechtel
Cabinet Office
The Department for Energy Security and Net Zero
The Department of Health and Social Care
The Department for Science, Innovation and Technology
The Department for Transport
Expedition Engineering
GB Nuclear
HS2 Ltd
The Infrastructure and Projects Authority
The Institute of Civil Engineers
Lower Thames Crossing
The Major Projects Association
The Major Transport Projects Governance and Assurance Review
The Ministry of Defence
The National Audit Office
The National Energy System Operator
National Highways
The National Infrastructure Commission
The National Infrastructure and Service Transformation Authority
Network Rail
Saïd Business School
Sizewell C
The Submarine Delivery Agency
Thames Water
Transport for London
Megaproject Delivery Centre, University College London (UCL)
UK Government Investments
Yorkshire Water

Annex F: Terms of Reference

1. Overview

The government's most complex and strategically significant projects sit in the Government Major Projects Portfolio (GMPP). In 2023-24 there were 227 projects in the GMPP, with a total whole life cost of £834 billion.[1] Within this, there is a subset of "mega projects", with an estimated whole life cost of more than £160 billion.[2] The National Audit Office (NAO) defines mega projects as those whose risks are too large to be managed by the relevant departments and arms-length bodies, with overall budgets in the tens of billions and long project lifetimes.

Independent experts, including the National Infrastructure Commission, the NAO and the Public Accounts Committee, have identified shortcomings in the existing budgeting framework and governance arrangements for mega projects, which can undermine value for money. These include:

- funding decisions being too short-term and restrictive, leading to stop-start, driving higher whole life costs and undermining delivery planning[3,4]
- insufficient flexibility to reallocate funding within and across departments to expedite the delivery of projects[5]
- the cost and time overruns of mega projects having a knock-on impact on all the other projects a department is running and the mega project's risks being too large for a department to manage[6,7]
- excessive optimism in the initial estimates of the cost and timeline of projects, which mean decisions to proceed are not accompanied by sufficiently robust and realistic assessments of affordability[7,8]
- projects being initiated before they are ready, locking in costs and timings before the scope and benefits are defined[9]
- governance and accountability arrangements put in place at the set-up stage of projects not reflecting the scale and nature of the risks involved, and then not evolving as the project develops, particularly where multiple departments are involved[7,10]

Given the complexity, size and strategic significance of mega projects, there is a value for money case for improving the governance and budgeting arrangements.

2. Scope, issues and challenges

This study will look at the budgeting framework and governance arrangements of current and future mega projects. In line with the NAO's definition of mega projects, it will review the current arrangements for HS2, the proposed new nuclear power plant Sizewell C, and the Ministry of Defence's nuclear programme. The OVfM may, in the course of carrying out its study, bring other projects into scope.

The study will not look at, or make recommendations on, the funding level or delivery mechanism for specific projects or whether any specific mega project should proceed.

The study will need to explore a range of issues, including how to:

- manage affordability constraints and fiscal risks if annual budget flexibility is increased, to improve delivery of projects within whole life cost forecasts

[1] Infrastructure and Projects Authority (2024), Annual Report on Major Projects 2023-24
[2] Using latest public whole life cost estimates for HS2 (Major Projects Data, gov.uk) and the nuclear deterrent (House of Commons library)
[3] National Infrastructure Commission (2023), The Second National Infrastructure Assessment
[4] Resolution Foundation (2020), Euston, we have a problem.
[5] International Monetary Fund (2022), UK Technical Assistance Report – Public Investment Management Assessment

Annex F: Terms of Reference continued

- balance flexibility with appropriate scrutiny and oversight, based on clear and agreed cost and benefit forecasts, with reliable mechanisms for assessing delivery against forecasts
- create the right incentives for all parties involved in the delivery of mega projects to achieve the project's objectives on time and within a realistic budget

3. Governance and resourcing

The Chief Secretary to the Treasury will oversee the study at a ministerial level, supported by the Defence Secretary, the Energy Secretary and the Transport Secretary.

A senior official group, with representatives from relevant departments, will oversee policy development and recommendations to ministers. Provisional recommendations will be reviewed by the interim CEO of the National Infrastructure and Service Transformation Authority (NISTA). The study will be resourced by officials from the Office for Value for Money (OVfM), the Ministry of Defence, the Department for Energy Security and Net Zero, the Department for Transport, and HM Treasury, with input from the Infrastructure and Projects Authority, the National Infrastructure Commission, NISTA and the Cabinet Office.

The study will be informed by consultation with the NAO and leading experts in the field. It will also draw on the Major Transport Projects Governance and Assurance Review, being led by James Stewart.

In line with his Terms of Reference on appointment, David Goldstone (Chair of the OVfM) will not participate in the discussion or determination of a matter where he has a non-financial interest where the interest might suggest a danger of bias. This includes not participating as Chair of the OVfM in discussions or determinations relevant to issues related to his other roles, such as his role as HM Treasury's nominee for the HS2 Board, and his role as Non Executive Director of the Submarine Delivery Agency. For this study, David's expertise will be used to inform recommendations on the overarching governance and budgeting arrangements for all mega projects, with any discussions on the specifics of HS2 or the Submarine Delivery Agency being led by the Director of the OVfM.

4. Timetable and output

The study will inform decisions at the upcoming Spending Review, and progress to the following timetable:

- February: terms of reference published
- February-March: policy development
- April: update to the ministerial oversight group
- May: Spending Review negotiations
- June: publication of the study's conclusions in the Spending Review

The OVfM will consider the conclusions of this study as it develops options for system reform. Given the OVfM is a time-limited organisation, implementation of the conclusions of the study will be overseen by NISTA.

[6] Resolution Foundation (2023), Cutting the Cuts: How the public sector can play its part in ending the UK's low-investment rut
[7] Gareth Davies, NAO (2024), Getting the most from every public pound – a blueprint for value for money
[8] Institute for Government (2020), Capital investment: why governments fail to meet their spending plans
[9] House of Commons Public Administration and Constitutional Affairs Committee (2020), Delivering the government's infrastructure commitments through major projects
[10] House of Commons Committee of Public Accounts (2024), Delivering value from government investments in major projects.

References

1. Infrastructure and Projects Authority (2024), Annual Report on Major Projects 2023-24
2. Hinkley Point C:
   - Completion date: EDF (2024), Hinkley Point C update
   - Start date: National Audit Office (2017), Hinkley Point C (point at which EDF submit design to regulator 2007)
   - Initial scheduled completion date: Gov.uk (2013), Initial agreement reached on new nuclear power station at Hinkley
   - Final cost estimate (today's prices using GDP deflator): EDF (2023), Annual report and financial statements
   - Original cost estimate: National Audit Office (2017), Hinkley Point C (point when government approved the deal in 2016)
3. Crossrail:
   - Completion date: National Audit Office (2021), Crossrail – a progress update
   - Start date: National Audit Office (2014), Crossrail (Cross London Rail Links established to develop the business case for Crossrail 2001)
   - Initial scheduled completion date: National Audit Office (2014), Crossrail
   - Final cost estimate (today's prices, using GDP deflator): House of Commons Committee of Public Accounts (2021), Crossrail, a progress update
   - Original cost estimate: National Audit Office (2021), Crossrail – a progress update (Crossrail budget in 2010)
4. Olympics:
   - Completion date: Olympic Delivery Authority (2014), Report and Accounts presented to Parliament
   - Start date: National Audit Office (2012), The London 2012 Olympic Games and Paralympic Games: post-Games review (when Games were awarded in 2005)
   - Final cost estimate (today's prices, using GDP deflator): Gov.uk (2013), London 2012 public sector funding package £528m under budget
   - Original cost estimate: National Audit Office (2007), The budget for the London 2012 Olympic and Paralympic Games (estimated cost at time of 2005 bid)
5. Channel Tunnel:
   - Completion date: Getlink (2024), 1994-2024 The Channel Tunnel – 30 years of unique history
   - Start date: Department for Transport (1986), Concession Agreement (Invitation to Promoters for development of the tunnel in 1985)
   - Initial scheduled completion date: Global Infrastructure Hub (2020), The Channel Tunnel
   - Final cost estimate (today's prices, using GDP deflator): Global Infrastructure Hub (2020), The Channel Tunnel
   - Original cost estimate: Global Infrastructure Hub (2020), The Channel Tunnel
6. Vanguard submarines
   - Completion Date: The Ministry of Defence, The Future of the UK's Nuclear Deterrent Fact Sheet 4
   - Start date: The Ministry of Defence, The Future of the UK's Nuclear Deterrent Fact Sheet 4 (first ordered in 1986)
   - Final cost estimate (today's prices using GDP deflator): House of Commons Library (2024), The cost of the UK's strategic nuclear deterrent
   - Original cost estimate: Hansard (6 May 1981) Trident: Cost Estimate

References

7. HS2:
   - Latest cost estimate: Department for Transport (2024), HS2 6-monthly report to Parliament: December 2024
   - Original cost estimate: government internal data (2019 prices)
   - % annual department CDEL: government internal data for level of spend in 2024-25; HMT data for annual CDEL budget (as published in Autumn Budget 2024)
   - Project length: Department for Transport (2010), High Speed Rail (2009 start date). Department for Transport (2024), HS2 6-monthly report to Parliament: December 2024 (estimated completion date of 2030s)
8. Sizewell C:
   - Original cost estimate: EDF Energy and Sizewell C (2020), The Sizewell C Project – Funding Statement
   - % annual department CDEL: government internal data for level of spend in 2024-25; HMT data for annual CDEL budget (as published in Autumn Budget 2024)
9. Dreadnought:
   - Latest cost estimate: House of Commons Library research briefing (2025), UK submarine fleet (current prices)
   - Original cost estimate: Ministry of Defence (2011), The United Kingdom's Future Nuclear Deterrent: The submarine initial gate parliamentary report
   - % annual department CDEL: government internal data for level of spend in 2024-25; HMT data for annual CDEL budget (as published in Autumn Budget 2024)
   - Project length: Ministry of Defence (2011), The United Kingdom's Future Nuclear Deterrent: The submarine initial gate parliamentary report (2007 start date); government internal estimates for end date.
10. House of Commons Committee of Public Accounts (2013), High Speed 2: a review of early programme preparation; House of Commons Committee of Public Accounts (2025): HS2: update following the Northern leg cancellation; House of Commons Committee of Public Accounts (2024). Eighth Annual Report of the Chair of the Committee of Public Accounts; National Audit Office (2020), High Speed Two: A progress update
11. National Audit Office (2024), HS2: Update following cancellation of Phase 2.
12. Internal government data
13. Department for Transport (2024), HS2 6-monthly report to Parliament: December 2024
14. Financial Times (2024), UK faces difficult and expensive choice over 'essential' nuclear deterrent
15. Astute class submarines
    - Completion date: government internal data
    - Start date: National Audit Office (2013), Major Projects Report 2013 (approval for the seven boat programme 1997)
    - Final cost estimate (today's prices, using GDP deflator): Ministry of Defence (2025), Ministry of Defence Government Major Projects Portfolio Data March 2024
    - Original cost estimate: National Audit Office (2013), Major Projects Report 2013

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16. Thames tideway tunnel:
    - Completion date: Tideway (Basalgette Tunnel Limited) (2025), London's Super Sewer Now Fully Connected – Promising A Greener, Healthier River Thames
    - Start date: National Audit Office (2017), Department for Environment, Food & Rural Affairs: Review of the Thames Tideway Tunnel (the Department for Environment, Food & Rural Affairs announced support for the Tunnel as the preferred option in 2007)
    - Initial scheduled completion date: Water Projects Online (2015), Thames Tideway Tunnel: one of Europe's largest infrastructure projects, the 25km 'super sewer' will tackle sewage discharges into the River Thames
    - Final cost estimate (today's prices using GDP deflator): Thames Tideway (2023), Annual report 2022/23
    - Original cost estimate: Consumer Council for Water (2011), Thames Water's Thames Tunnel Consultation
17. Queen Elizabeth aircraft carriers:
    - Completion date: Royal Navy (2025), HMS Queen Elizabeth (R08) (point at which it was formally commissioned into the Royal Navy)
    - Start date: Hansard (25 July 2007), CSR and Aircraft Carriers (contract announced 2007)
    - Initial scheduled completion date: National Audit Office (2010), Ministry of Defence Major Projects Report
    - Final cost estimate (today's prices, using GDP deflator): Hansard (6 November 2013), Aircraft Carriers and UK Shipbuilding
    - Original cost estimate: Hansard (6 November 2013), Aircraft Carriers and UK Shipbuilding
18. Type 45 destroyers:
    - Completion date: BBC News (2013), Type 45 destroyer HMS Duncan 'christened' at Portsmouth Naval Base
    - Start date: National Audit Office (2009), Providing Anti-Air warfare capability: The Type 45 Destroyer (point at which ministers approved expenditure 2000)
    - Initial scheduled completion date: National Audit Office (2009), Providing Anti-Air warfare capability: The Type 45 Destroyer
    - Final cost estimate (today's prices, using GDP deflator): Hansard (5 January 2010), Type 45 Destroyers
    - Original cost estimate: National Audit Office (2009), Providing Anti-Air warfare capability: The Type 45 Destroyer
19. West coast mainline modernisation:
    - Completion date: Hansard (8 July 2008), Railways: West Coast Main Line
    - Start date: West Coast Main Line Development Company Limited (1994), West Coast Main Line Modernisation feasibility study
    - Initial scheduled completion date: National Audit Office (2006), The modernisation of the West Coast Mainline
    - Final cost estimate (today's prices, using GDP deflator): House of Commons Library research briefing (2010), Railways: West Coast Main Line
    - Original cost estimate: National Audit Office (2006), The modernisation of the West Coast Mainline

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20. Jubilee Line:
- Completion date: Hansard (1999) Jubilee Line Extension
- Start date: Hansard (1992), Jubilee Line Extension (authorisation for London Regional Transport to deposit Bill 1989)
- Initial scheduled completion date: Hansard (28 June 1993), Jubilee Line Extension
- Final cost estimate (today's prices, using GDP deflator): Railway Technology (2000), London Underground Jubilee Line
- Original cost estimate: Mitchell, Bob, C. Eng. (2003), Jubilee Line extension: from concept to completion

21. Sizewell B:
- Completion date: Institute of Civil Engineers (2025), Sizewell B: Build the UK's first commercial pressurised water reactor power station
- Start date: Institute of Civil Engineers (2025), Sizewell B: Build the UK's first commercial pressurised water reactor power station (announced 1980)
- Initial scheduled completion date: Hansard (3 April 1990), Sizewell B
- Final cost estimate (today's prices, using GDP deflator): Institute of Civil Engineers (2025), Sizewell B: Build the UK's first commercial pressurised water reactor power station
- Original cost estimate: Hansard (20 April 1990), Sizewell B Power Station: Costs

22. M25:
- Completion date: Hansard (3 February 1986), Transport
- Start date: Chartered Institute of Highways & Transportation (2025), Origins of the M25 (point at which the Transport Minister announced a single orbital motorway to be known as M25 in 1975)
- Initial scheduled completion date: Hansard (13 March 1979), M25 Construction
- Final cost estimate (today's prices, using GDP deflator): Hansard (2 March 1994), Transport

23: Concorde:
- Completion date: Strang, Dr. W.J; R. McKinley (1978), Concorde in Service. Aircraft Engineering and Aerospace Technology, Vol 50 (12) pp. 2-10
- Start date: FlightGlobal (2003), Concorde Special – Concorde timeline (point at which the Anglo-French agreement on supersonic aircraft development was signed in 1962)
- Initial scheduled completion date: Gov.uk (2019), Concorde's first British test flight, 50 years on
- Final cost estimate (today's prices, using GDP deflator): Seebass, A. R. (1997), The Prospects for Commercial Supersonic Transport, in Sobieczky, H. (ed.) New Design Concepts for High Speed Air Transport
- Original cost estimate: Gov.uk (2019), Concorde's first British test flight, 50 years on