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Policy Essays

Research for better public projects in Norway: The Concept Programme

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A B S T R A C T

For more than twenty years, Norway has used a distinctive approach to managing its largest government-funded projects. This approach combines quality assurance with ongoing research. It has not only increased the likelihood of project success but also created opportunities for learning among ministries, agencies, and researchers. The Concept Research Programme has been particularly important in providing practical insights, shaping policies, and connecting academic ideas with real-world applications. In this essay, we examine how this approach has worked, what has made it successful, and how other countries might learn from similar lessons.

1. Doing the right projects right: the importance of effective governance arrangements for public projects

Public projects can act as powerful catalysts for economic growth and societal change. However, success requires that projects constitute the right solution to the underlying problem and are implemented effectively, i.e. the dual imperative of "doing the right projects" and "doing projects right" (Samset and Volden, 2016). This is often easier said than done, and experience shows that public projects often fail on multiple levels (Flyvbjerg, 2017).

The literature has therefore highlighted the need for governance arrangements that support quality at entry (Volden and Samset, 2017). One such arrangement, which is the topic of this essay, is the State Project Model (SPM) in Norway. It requires rigorous early-stage evaluation of project scope, strategy, and feasibility, supported by external quality assurance of decision documents. The model is a stage-gate model tailored specifically for public investment governance. Other countries, such as the UK and Denmark, have similar arrangements (Zerjav et al., 2026), but the Norwegian approach has one feature that makes it unique. It is supported by long-term research that fosters a culture of learning and knowledge transfer through the Concept Research Programme at the Norwegian University of Science and Technology (NTNU). The link between governance, practice, and research is crucial because it creates a feedback loop that continuously improves how public projects are conceived, planned, and delivered. This helps improve project outcomes, reduce risk and waste, build public trust, and support long-term capacity building.

2. The State Project Model

Norway consistently ranks among the top OECD nations in public investment as a share of its economy. The country's investment as a share of GDP was 5.2% in 2024, almost 2 percentage points higher than the OECD average (3.4%) (OECD, 2025).

In 1999, an inter-departmental committee conducted a review of failed public projects in Norway. The committee identified persistent challenges, including cost overruns, delays, and poor project outcomes across government sectors. They concluded that the root causes of project failure were found in the front-end phase. Too many projects had been initiated by agencies and local stakeholders with little regard for strategic alignment or value for money. Project appraisals were poor, with unrealistic cost assessments and far too little focus on value for money and exploration of different options.

To address these problems, the Ministry of Finance (MoF) introduced the initial part of the model in the year 2000. Today, the model consists of two formal checkpoints: QA1 and QA2 (see Fig. 1). The first gate (QA1) focuses on identifying the *right project* through strategic needs analysis, alternative assessments, and cost-benefit evaluations. The purpose of QA1 is to ensure that projects with a strong rationale and clear public value move forward after a government decision. The second gate (QA2) assesses whether the project is *ready for execution*, reviewing budget robustness, risk management, and procurement strategies, before the final approval by Parliament. Many of the ministries and agencies covered by the model have their own guidelines and handbooks on project appraisal and management. Still, all of these must comply with the requirements set out in a 17-page MoF circular

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(Ministry of Finance, 2025) that guides the model.

The model is "simple" in terms of the number of gates and requirements. On the other hand, it is strictly managed – projects cannot be presented to political decision-makers without a QA report. The SPM is mandatory for all government-funded projects with a presumed budget above NOK 1 billion (c. EUR 95 million). The threshold value for digitalisation projects is NOK 300 million. The model applies to all major government-funded projects across sectors, except those justified on a commercial basis (for example, offshore oil and gas investments) and those in state-owned enterprises. Each year, approximately 20 projects are large enough to fall under the SPM requirements.

Since its inception in 2000, the SPM has undergone gradual development in both scope and content (see Appendix). Initially, the scheme was limited to QA2 and governed primarily through framework agreements, but it was subsequently expanded to include both QA1 and QA2, alongside increasing cost thresholds. Over time, additional analytical requirements were introduced in the conceptual appraisal (CA), as well as a formal mandate prior to the conceptual phase. In 2019, the scheme was further institutionalised through a circular and rebranding, signalling its maturation as a governance framework. Procedural refinements were also added, such as change logs between QA1 and QA2, updated cost–benefit analyses, and requirements for benefits realisation plans. In parallel, the Concept Research Programme began conducting ex-post evaluations of completed projects from 2012. This evolution reflects a shift from a relatively narrow quality assurance mechanism towards a more comprehensive and structured model for project governance and learning.

The agencies' and ministries' conceptual appraisals, the subsequent QA reports, and the ex-post evaluation reports are, with some exceptions (notably defence projects), public and published online, thereby promoting transparency, accountability, and cumulative learning over time.

3. The Concept Research Programme

Since 2002, with funding from the MoF, the Concept Research Programme has systematically monitored the projects and processes involved in the scheme and provided feedback to the relevant parties to continuously improve the projects and the scheme itself.

The establishment of the programme was shaped by a fortunate historical coincidence. Professor Knut Samset, a leading professor in project management at NTNU, had a vision to initiate research focused on the early phases of major projects – a period often overlooked but critical to long-term success. He found a like-minded partner in the man behind the State Project Model, the then Deputy Director General at the MoF, Peder Berg, who saw a potential in the establishment of a research programme that could systematically develop and document the results of the newly established governance scheme. It is unclear how well the business case for the Concept Programme was defined from the outset, but there is much to suggest that Berg already understood that the governance model would be stronger if supported by mechanisms that promote knowledge transfer and continuous learning.

More commonly, research in Norway is funded by the Ministry of Education and Research or the Research Council, which often results in a greater distance between research and its application, and projects staffed by PhD candidates rather than senior researchers. In the case of the Concept Programme, however, the MoF decided to provide direct funding and to be an active client and user of the research.

Concept is often referred to as a trailing research programme. Based on action research thinking, the idea was to have a team of researchers track projects in real time and provide feedback to their owners. Since its inception, a small and relatively stable research group has been responsible for collecting data and coordinating the research activities. Based at NTNU, the programme has a clear strategy to collaborate with leading research and academic institutions in relevant fields.

Fig. 2 illustrates how the programme is organised. Concept has a small steering group led by the MoF. NTNU has the other two members. Each autumn, the steering group helps prioritise research topics but does not influence the publication of results. The programme also works closely with all the key actors involved in the State Project Model. Since it relies on data from government agencies and ministries, building trust and ensuring mutual benefit are essential for identifying relevant research topics and conducting studies effectively.

All project-specific data is stored in the Trailbase database, which is accessible to other researchers and students studying public projects. In addition to ex-ante appraisal and planning documents produced by ministries, agencies, and external reviewers, the database includes ex-post data from completed projects.

The Concept Programme has conducted well over 150 individual research studies, covering areas such as planning, decision-making, quality assurance, cost control, contract management, benefits management, and incentive structures. Around 50 completed projects have undergone ex-post evaluation, which is now a crucial activity for Concept. The purpose of the evaluations is to assess project success across multiple dimensions – from short-term execution goals to longer-term strategic alignment and impact (Volden and Welde, 2022). The evaluations are published online, providing a robust foundation for evidence-based learning.

4. Tracking the effects of the State Project Model: performance and accountability

Over the 26 years since the scheme was introduced, approximately 300 projects have undergone QA1 and/or QA2, out of which about half have been under the auspices of the Ministry of Transport.

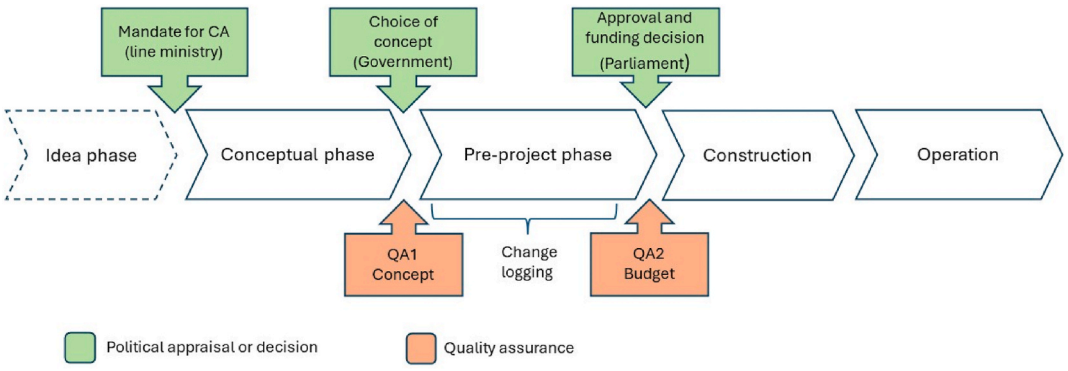


Fig. 1. The current Norwegian State Project Model.

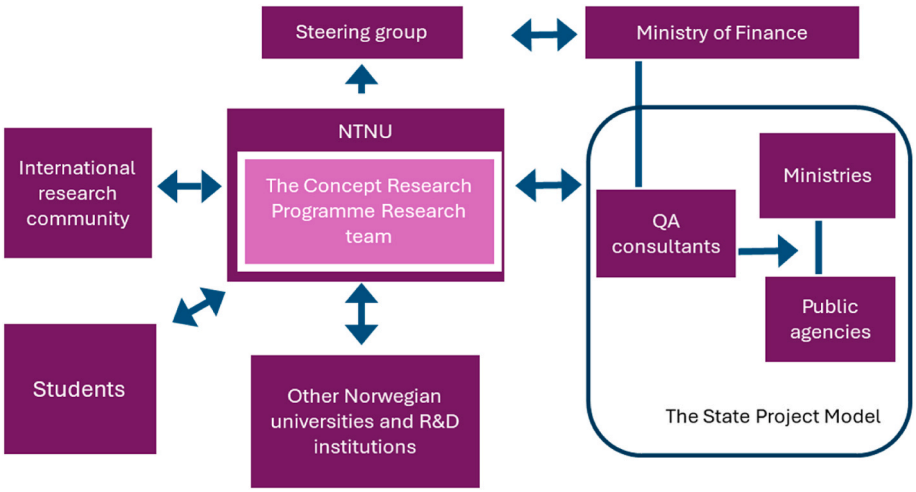


Fig. 2. The Concept Research Programme – its partners and stakeholders.

4.1. Better cost performance

The model's starting point was the need to reduce the extent of cost overruns. Several studies have since documented that most projects are completed within the budget allocated after the Parliament's formal funding decision. Welde and Klakegg (2024) demonstrated that, in a sample of 96 completed projects that had undergone QA2, the average cost underrun was 4%, and 73% of projects were finished within budget. The dual approach of probabilistic methods that account for uncertainty and external scrutiny helps mitigate optimism bias and reduces the likelihood of underestimation, which is often a root cause of cost overruns.

However, while the budget set after QA2 is largely adhered to, several early Concept studies have documented that costs increased by an average of 40% between QA1 and QA2. Conceptual appraisals are valuable for identifying the right projects, but traditionally, less emphasis was placed on producing accurate cost estimates at the QA1 stage. The prevailing view was that ranking projects by their social benefits was more important, and if all cost estimates were equally biased, the relative rankings would remain unaffected. However, this assumption overlooks the risks of systematic bias against the do-nothing alternative and the potential consequences for affordability and resource allocation (Welde and Odeck, 2017).

Data on cost development during the front-end phase is often uncertain and difficult to interpret. In many contexts, limited transparency and strategic behaviour among project promoters and agencies constrain access to consistent and reliable information. In the Norwegian case, however, the combination of the State Project Model's disclosure requirements and the trust-based collaboration between the Concept Programme, ministries, and agencies has created a rich and transparent empirical basis. This has not only enabled systematic research on early cost development but also provided insights that have subsequently informed policy adjustments.

In 2019, the MoF responded to the challenge of cost escalation in projects' front-end by instructing line ministries to set a target cost when projects entered the pre-project phase and to require agencies to maintain a log of cost and scope changes throughout subsequent planning. A first empirical study of the impact of this requirement documented that it had led to significantly improved cost control in the front-end phase, with an average cost change during the pre-project phase of close to 0%. At the same time, the logging requirement had increased transparency and discipline, making cost changes traceable and reinforcing owner control over scope and design development (Welde et al., 2025).

4.2. Better project selection

In the past, and still common practice in many sectors outside the SPM, project proponents often began with a preferred solution in mind, placing little emphasis on needs analysis or option appraisal. The introduction of mandatory conceptual appraisal (CA), followed by external quality assurance (QA1), has changed this dynamic by requiring ministries and agencies to consider multiple alternatives when addressing problems or opportunities. The MoF mandates that at least two conceptually distinct alternatives (not merely variations of the same project), along with a do-nothing option, be included in the appraisal. This analysis is intended to foster a more open and objective process, one that is not anchored to a predetermined solution.

Project appraisal has often been perceived as a "black box" by many stakeholders, offering limited insight into the parameters that guide the evaluation of alternatives and the estimation of costs – particularly for political decision-makers. Continuous improvements have been made to the CA methodology and guidelines, often following Concept studies on selected topics (problems analysis, option appraisal, quantification of benefits, how to handle non-monetised effects, etc.). The appraisal and quality assurance process is now standardised across sectors, ensuring greater consistency and comparability between projects. Because conceptual appraisals, QA reports, and ex-post evaluations by the Concept Programme are publicly available online, stakeholders – including the media – can access insights that would otherwise be difficult to obtain. This transparency contributes to greater accountability among civil servants, external reviewers, and decision-makers.

The SPM has also had a trickle-down effect, creating awareness of the importance of the front end for project success in both the public and private sectors. Over the past decade, several state-owned enterprises and large municipalities have adopted similar frameworks to strengthen their planning and decision-making practices. This reflects a growing recognition that front-end governance is key to avoiding costly mistakes and improving project outcomes.

4.3. Remaining challenges

While a governance model such as the SPM may promote good practice, good outcomes ultimately depend on decision-making. The model ensures that high-quality analyses are conducted before key decisions are made, but ultimately the choices rest with decision-makers.

The tension between politics and rational planning and decision-making is a perennial issue in most project governance models (Zerjav et al., 2026). This also holds for Norway. A Concept study showed that top politicians use conceptual appraisals and QA reports to varying

degrees, sometimes strategically (Ydersbond et al., 2023). Despite the SPM's intent to promote economic rationality, political considerations still outweigh technical assessments in some cases. This may also have had a downstream impact on the professional advice from agencies responsible for conducting conceptual appraisals. Volden et al. (2024) found that, across a sample of 112 conceptual appraisals, 110 recommended a major construction project, including cases in which the benefits and value were low or uncertain. The do-nothing alternative was generally included as a reference but not treated as a viable option. Furthermore, cheaper solutions or do-minimum alternatives rarely gain much traction. By contrast, the QA1 reports recommended the do-nothing or do-minimum alternative in 24% of cases, yet the Government often gave greater weight to its agencies' advice. This suggests that although the scheme (especially external QA) may be helpful in promoting cost-efficient and effective solutions, it does not guarantee that political decision-makers follow their advice.

Another, related challenge that we still see, is that the CA/QA1 process sometimes comes too late, after *de-facto* commitments have already been made. In such cases, due to lock-in mechanisms and escalation of commitment, decision-makers may find it hard to reject projects, even if their value for money turns out to be low or negative.

Nevertheless, there is little doubt that the mandatory SPM (leaving less opportunity to bypass the appraisal process or fast-track projects for approval) and increased knowledge of alternatives and consequences, have had a disciplining effect on politicians as well as public agencies, making it harder (though not impossible) to disregard rational-economic analyses.

Although the quality of project appraisal, planning, and quality assurance has continued to improve, some methodological challenges remain too. Recent and ongoing Concept studies address issues such as option appraisal and the need to identify do-minimum options, benefits management processes, the project owner (client) role in ministries, and portfolio management – areas where practice can be further improved.

5. How research has strengthened project governance in Norway

The SPM was initially met with considerable resistance. Over time, the attitudes changed, and the model is now widely accepted and offers reassurance to the ministries and agencies involved. A key explanation is that it has been supported by empirical data and knowledge of the scheme's effects. And – the MoF has reacted to this knowledge and made changes to the scheme when required.

5.1. From evidence to improvement

Brunet (2021) argued that the main roles of project governance frameworks are to enhance government legitimacy, accountability, and efficiency. We argue that, in the case of Norway, the scheme has contributed to all three. In turn, the Concept Programme has reinforced these effects by documenting and openly disseminating project performance, generating systematic learning across projects, and providing an empirical basis for continuous improvements. This accumulated knowledge is translated into recommendations for future projects and for further development of the scheme itself.

Table 1 below illustrates how Concept's recommendations have been reflected in subsequent developments of the scheme itself over time (see Appendix for more details on scheme content in different versions). There is not necessarily a one-to-one relationship, nor has it ever been the intention that researchers should design the scheme. However, the table suggests that key recommendations have often been followed.

Similar tables could have been created for changes in guidelines issued by the Ministry of Finance, the Agency for Financial Management and individual agencies on topics such as cost-benefit analysis, benefits management and project evaluation.

Concept reports and recommendations are frequently referred to by project stakeholders and the wider project community. As an example, a staff member at the Auditor General noted: *Whenever we initiate work on project-related issues, we always begin by reviewing what Concept has produced on the topic* (citation included in Concept Annual Report, 2021).

Table 1
Advice from Concept and scheme development.

Versions of the State Project Model	Key recommendations in Concept research reports	Key changes in the State Project Model
2000-2004	More attention needs to be paid to concept development (Concept reports no. 4-9, published 2002-2004)	From 2005: Quality Assurance of choice of concept (QA1)
2005-2010	Projects should be evaluated ex post (Concept report no. 19 (2007))	
2011-2015	Developing and testing evaluation models (Concept report no 30 (2013))	From 2012: Concept is given a mandate to conduct ex-post evaluation of completed projects
2015-2019	Documenting challenges related to cost and scope creep between QA1 and QA2 (working papers 2014, 2016) Documenting weaknesses in CA mandates (Concept report no. 58, 2019)	From 2019: Mandatory change logging between QA1 and QA2. From 2019: A mandate must be issued by the line ministry before the conceptual phase can start
2019-2023	Documenting weaknesses in benefits management processes (Concept report no. 64 (2021) and working paper, 2019)	From 2023: stronger focus on benefits management at the QA2 stage.
2023-2027		

This close link between research and policy was also illustrated by a recent written response to Parliament by the Minister of Finance, Jens Stoltenberg, who explicitly highlighted the value of the State Project Model and its requirements for external quality assurance. In doing so, he drew on findings from several Concept studies, demonstrating how empirical research is used directly to inform and legitimise policy (Stortinget, 2026). This shows that research not only observes practice but actively shapes governance arrangements and provides a knowledge base for policy development.

5.2. Research in close collaboration with the actors – the project ecology

Concept researchers work closely with the target group (ministries, agencies and external reviewers) to maintain a clear overview of topics that remain challenging and where further knowledge is needed. The Concept Programme adopts an open approach to idea generation, inviting and receiving ideas for new research studies from all its stakeholders. The MoF's participation in the steering group has also been crucial in ensuring that the research topics are relevant to practitioners rather than merely theoretically interesting. Dissemination of knowledge and results is crucial for continuous improvement. The programme emphasises dissemination activities, such as always writing reports in Norwegian, having good summaries, offering recommendations in the form of themed booklets and meta-evaluations, giving lectures at various network meetings, webinars, maintaining a website in Norwegian and English, publishing regular newsletters, articles and media contributions and maintaining a LinkedIn account, and more generally through the ongoing contact with stakeholders in different contexts. Concept publications have, over time, become a recognised source of knowledge on project governance and management among civil servants in Norway.

In line with Norway's egalitarian values, civil servants generally prefer autonomy in how they plan and implement projects. The MoF likely made a wise choice by initially introducing only the QA elements of the SPM, without imposing detailed rules, templates, or role descriptions. The SPM is an overarching framework. It sets requirements

for documentation and for quality-assuring plans but leaves considerable flexibility for ministries and agencies to select methods, tools, and approaches for implementation and follow-up. This flexibility has created space for experimentation with different approaches and methodologies, with researchers systematically following these trials and documenting their effects. Over time, a convergence toward common best practices has emerged across several areas, including conceptual appraisal, cost-benefit analysis, cost estimation and risk analysis, contract strategy, and ex-post evaluation.

Volden and Klakegg (2024) argued that the entire system of government investment projects across ministries and sectors in Norway could be described as a "public project ecology," where experience is shared as project owners, managers, QA consultants, and academics participate in various project settings, collaborations, and training programmes, and where they change jobs. The Concept Programme plays a key role in this ecology by developing and disseminating knowledge throughout the whole system. The authors claimed that significant learning has taken place within the ecology at the individual, organisational, and system levels.

5.3. Finding the balance between academic and practitioner-oriented research

The importance of cultivating strong, trust-based relationships with the target group cannot be overstated. What the researchers receive in return is deep engagement and actors who share their data openly and willingly.

At the same time, researchers cannot focus solely on practitioners' problems; they should also contribute to academic literature and knowledge development. This requires engaging with theory, contributing to conceptual development, and producing insights that are generalisable beyond the specific case. Concept researchers pursue this through international publications, conference participation, collaboration with global partners, and integration of research findings into university teaching. The programme has contributed to a stronger focus on the front end of projects in the academic field, as noted by Söderlund and Locatelli (2026). The programme also hosts its own international conference, the *Concept International Symposium on Project Governance*, which is organised every two years in collaboration with the MoF. Researchers affiliated with the programme maintain a broad international network and engage in various forms of collaboration with academics and government agencies abroad.

In turn, academic involvement also benefits practitioners by ensuring that i) the research meets international academic standards, ii) Norwegian researchers stay up-to-date with experiences from other countries, which can be shared with the Norwegian target group, and iii) the Concept Programme remains an appealing employer and partner for esteemed scholars. The strong international reputation, in turn, enhances the programme's standing within the Norwegian project landscape.

Research does not always provide clear-cut or precise answers. In particular, there are challenges in measuring impact. Much of the programme's value lies in improved decision quality at early stages, such as better concept selection or more realistic cost estimates, which are difficult to observe and quantify ex post. Counterfactuals are rarely available, making it challenging to demonstrate what would have happened in the absence of the programme. Still, the Concept Programme's success cannot be understood solely in terms of direct, measurable outcomes. Rather, its value lies in its role as a boundary organisation, bridging research and policy, and enabling more informed decision-making under uncertainty.

6. How can other countries learn from Norway?

A few years ago, the Association for Project Management evaluated 67 project research centres worldwide. The Concept Programme was recognised as one of four centres of particular importance to the field and to society, and was described as encapsulating "the 'triple helix' of research, education, and engagement priorities" (Young et al., 2020, p.9). The report identified the following success factors: long-term funding, a good balance between direct benefit to users and academic research, a strong focus on dissemination, and proximity to practice.

After more than 20 years of stable funding, significant scientific output, and considerable impact on project practice, there are likely lessons for other countries.

6.1. Lessons for managers of project models

For countries seeking to improve governance of major public investments, the Norwegian experience offers some valuable lessons.

- **Long-term engagement with research**: One of the key takeaways is the value of long-term, stable funding for research and the MoF's engagement to ensure that the research is closely tied to real-world practice. When researchers work side by side with ministries and agencies, it facilitates access to data, builds trust, and ensures that the studies address the challenges people face. It also helps when research findings are communicated in accessible ways through summaries, presentations, and direct dialogue – not just academic papers.
- **Flexibility and scope for testing and experimenting**: Flexibility is another important factor: allowing agencies and individual projects to adapt the framework to their contexts while sticking to core principles, may foster innovation and learning. Having researchers test and compare different approaches further supports evidence-based improvements and helps identify what works in practice.
- **Systematic ex-post evaluation**: Make sure completed projects are systematically evaluated, to capture lessons learned, enable meta-analyses, and generate insights beyond unique projects.

6.2. Lessons for research communities

For other research programmes, we want to highlight the following:

- **Research topics and results must be relevant to the target group**: Researchers should initiate and design research studies in collaboration with ministries, agencies and other client organisations, while also ensuring relevance to theory.
- **Good relationships with people in the target group**: Maintain personal relationships through network activities and involvement in studies.
- **Research by researchers, not students**: In line with the tendency that project research has become more theory-oriented than practitioner-oriented in recent years, there is also a tendency to have PhD students carry out a large proportion of the research. However, while it can be beneficial for students to be affiliated with a research programme, it is crucial that experienced researchers with extensive networks and a deep understanding of practical applications are heavily involved.
- **Dissemination through various channels**: Practitioners do not typically read academic journals. Distribute research findings through multiple channels to make the information more accessible to policymakers, practitioners, and the public.

The significance of these findings beyond the Norwegian context should not be assumed without careful consideration of specific local factors. For example, Norway's level of trust in institutions and other people is among the highest worldwide. A related trait is a greater focus on collective responsibility – Norwegians tend to blame the system rather than the individual when issues arise. The low risk of personal repercussions further promotes trust and transparency among individuals. This culture of openness has benefitted Norwegian

researchers. It is further supported by the Freedom of Information Act, which states that all case documents of public authorities are publicly accessible unless explicitly exempted. All of this has given Norwegian researchers excellent conditions for collecting high-quality data. In countries with less trust in institutions and stronger emphasis on individual responsibility, researchers may face more challenging conditions for data collection and open sharing of information. Nevertheless, we argue that integrating research and governance in a continuous, practice-oriented manner is broadly transferable and can yield substantial benefits.

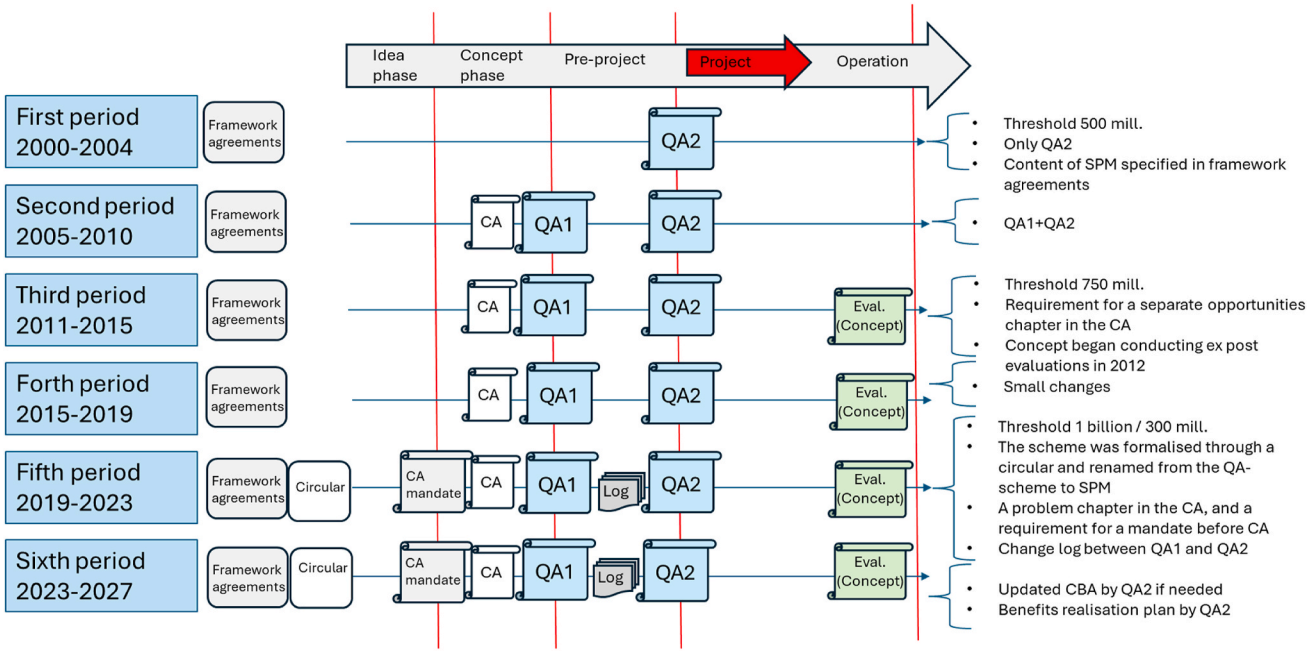
CRediT authorship contribution statement

Gro Holst Volden: Conceptualization, Data curation, Formal analysis, Writing – original draft, Writing – review & editing. **Morten Welde:** Conceptualization, Data curation, Formal analysis, Writing – original draft, Writing – review & editing.

Declaration of competing interests

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: The research presented in this essay is funded by the Norwegian Ministry of Finance.One of the authors is a Guest Editor for this Special Issue, but she has not handled the review of the essay.

Appendix:. Development of the State Project Model



Data availability

Data will be made available on request.

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