INDEPENDENT RESEARCH MONOGRAPH

The Economics of Living Destinations

Fiscal Carrying Capacity, Tourism and the Cost of Sustainable Island Life

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Naousa harbour · Photograph: Bill Marangozis

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This methodological monograph presents a documented Paros case and a conditional water demonstration. Its empirical evidence cutoff is 16 October 2026. Later source inspection does not extend that boundary. Separately dated supplements are outside the baseline.

Abstract

What happens when a destination adds one more accommodation bed? Fiscal Carrying Capacity (FCC) is the ability of a destination's public finances to fund the services, infrastructure and institutional functions required by residents and tourism without depending on continual volume growth or degrading environmental and social capital. This study uses FCC to examine whether existing services can be sustained and how tourism expansion changes the obligations and resources of the institutions providing them.

Carrying-capacity approaches examine the conditions and limits within which tourism can be accommodated, including physical, environmental, social and management dimensions. FCC complements those approaches by making the fiscal relationships explicit: what additional services are required, what they cost over time, which public bodies bear those costs, and which revenues are available to them. It distinguishes tourism spending from resources available for public services and includes operation, maintenance and asset renewal alongside initial investment. With adequate evidence, this provides a more precise basis for assessing whether additional activity can be served while maintaining resident services. Financial affordability alone does not establish environmental or social acceptability, and neither expansion nor restriction is presumed preferable.

The contribution combines an operational synthesis, a bounded documentary case of Paros and a conditional water demonstration. Accommodation, aviation and business records describe distinct aspects of activity; financial and procurement records identify institutional and accounting boundaries. Under stated assumptions, the water examples show how delivered demand translates into gross production, how source limits change variable expenditure, and why the cost of supplying part of a requirement cannot be treated as the cost of meeting it in full. These are reproducible conditional results, not validated predictions of Paros operations. The edition establishes no measured cost per additional bed, net tourism fiscal balance or visitor ceiling.

Compatible person-night, public-network water, operating-cost and revenue observations could support stronger empirical assessment, subject to tests of coverage and marginal response. The study invites accommodation businesses, utilities and public authorities to contribute through appropriate, agreed data-governance arrangements. Its immediate purpose is to make the fiscal conditions for sustaining public services explicit and testable.

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Methods and transparency

The study was conducted by the author as sole researcher, without funding or institutional support. The author declares no relevant financial or non-financial interests. No external expert review or independent engineering certification is claimed. AI tools assisted with drafting, editorial revision, literature discovery, citation organisation, calculation checks and production of the manuscript. Such assistance does not confer source verification or publication approval. The author retains responsibility for the final text.

The case draws on selected official statistics, administrative responses, procurement documents and controlled analytical records. Selection follows relevance to the activity-service-institution relationship and explicit geographic, temporal and measurement boundaries; it is not a comprehensive census of every destination obligation. The focused literature review is purposive, not systematic. It uses pre-cutoff publications inspected during revision and states where only an abstract or selected sections were available.

Observed administrative quantities, unresolved interpretations and assumed scenarios are kept distinct. No new empirical seasonal analysis, service-cost estimate or lifecycle valuation is introduced; the numerical demonstrations use explicitly stated assumptions. The restricted Ministry of Tourism accommodation register is excluded from this edition, and no figures derived from it are used in the manuscript. Restricted Ministry records and encrypted containers were not accessed during this revision. This statement concerns the manuscript workflow and is not a claim about every historical project interaction. Appendix A explains source access; Appendix B supplies the conditional calculations; Appendix C identifies the evidence required for stronger results.

Citations to Marangozis (2026a-f) identify the author's unpublished working records, not independent published studies. The reference entries give their titles and roles; these records are not included in the public-release package and no public download is implied. They document methods and checks rather than independently validate the case. The conditional calculations are reproduced in Chapter 5 and Appendix B. Appendix A distinguishes these records from official sources and explains access limitations.

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Chapter 1. Living destinations and the FCC question

1.1 The destination as a place that must keep working

A destination is also a place where people live throughout the year. Water must reach homes and businesses, waste must be managed, and public institutions must maintain the assets through which those services are supplied. Visitor activity belongs within this continuing life of the place. Its economic contribution and its service requirements need to be examined together, with attention to the institutions responsible for each obligation.

Fiscal Carrying Capacity is the ability of a destination's public finances to fund the services, infrastructure and institutional functions required by residents and tourism without depending on continual volume growth or degrading environmental and social capital. This is a condition to investigate, not a finding already established for Paros. One operational part of the inquiry asks how a specified change in activity affects those obligations. The question is more precise than whether tourism is beneficial or burdensome in general. Which service changes? At what time? Who pays for the change, and which additional receipts reach that institution? Does the existing system accommodate the increment, or does the increment encounter a constraint that calls for another source, an operational adjustment or investment? These are the questions developed in the research framework (Marangozis, 2026e).

The distinction between economic activity and institutional resources is central. A payment made by a visitor is not automatically a receipt available to the local body providing water or another service. Equally, the provision of a grant does not establish whether the recipient can finance an asset's continuing operation. FCC follows these links rather than assuming that a destination-wide economic indicator supplies the answer. The study does not presume a mismatch in Paros; it identifies the evidence needed to establish one (Marangozis, 2026e; Marangozis, 2026b).

This approach leaves room for both benefits and obligations. Additional revenue can contribute to service provision. Existing assets can sometimes accommodate additional demand at a relatively small incremental cost. In other circumstances, a small increment can coincide with a source transition or a capacity constraint. Which description applies is a matter for evidence about the relevant service and operating situation. A general judgement about growth cannot substitute for that investigation.

1.2 What this edition contributes

This edition combines a methodological framework with a bounded Paros case. The local evidence includes accommodation activity, airport traffic, business-register counts with documented corrections, administrative financial records and water procurement documents. These sources answer different questions. Their value lies partly in the relationships that can be established and partly in revealing where a proposed relationship remains unsupported. Chapters 3 and 4 explain these distinctions before the water calculation is introduced (ELSTAT, n.d.a; ELSTAT, n.d.b; Cyclades Chamber, n.d.; Civil Aviation Authority, n.d.; Marangozis, 2026d; Marangozis, 2026a; General Secretariat of Aegean and Island Policy, 2026).

Water is the principal demonstrator because its service chain can be stated explicitly: an increment in delivered demand creates a gross-production requirement under a specified relationship; that requirement must be supplied by an available source; supplying it creates costs and may affect institutional revenue. The numerical illustration is conditional. The numerical examples demonstrate the consequences of declared assumptions, not measured additional demand or costs in Paros (Marangozis, 2026f; Marangozis, 2026b).

There are two distinct questions in the research programme. The original accommodation question concerns one additional bed within an existing establishment. It requires evidence connecting bed use to person-nights, public-network water, account conditions and the supply response. The present water-service illustration starts with an explicit increment in delivered water. It can therefore demonstrate part of the chain before the

accommodation coefficient has been measured. Preserving that distinction permits useful work now without redefining an incomplete empirical result as complete (Marangozis, 2026e).

The contribution is an operational synthesis connecting institutions, quantities and decisions. It does not claim unique theoretical priority. Chapter 2 positions that synthesis within carrying-capacity, public-finance, infrastructure and island-tourism research. The resulting framework can be assessed separately from the empirical completeness of the first case.

1.3 Evidence, time and the meaning of an incomplete record

The working evidence cutoff for this edition is 16 October 2026. Preparation and checking continued after that date. A later inspection can clarify an older source without turning a post-cutoff event into evidence within the edition. Later news, correspondence and leads belong in a separate dated register unless a transparent revision is authorized. Inspection histories and unresolved source qualifications remain in the supporting source register.

An incomplete record has several possible meanings. A requested field may not be held in the form sought. A source may cover the wrong geography or period. A document may establish a procurement stage but not its execution. A reply may supply useful data while leaving another part of the request unanswered. Absence in the inspected record is therefore not proof of absence in the service system. The manuscript uses qualified statements about what is established rather than treating every gap as institutional failure (Marangozis, 2026a; FoDSA South Aegean, 2026; South Aegean Fire Service, 2026).

The same care applies to numbers. A faithfully copied administrative amount can remain unsuitable for an annual trend if its reporting period is uncertain. An observed consumption ratio can remain unsuitable for marginal demand if it combines fixed and variable uses. A tender specification can remain unsuitable for an operating balance until availability is known. These are substantive limits on inference, not merely technical qualifications to append after the conclusion (Marangozis, 2026f; Marangozis, 2026e).

The remaining chapters follow this sequence. Chapter 2 states the framework. Chapter 3 establishes the boundaries of the Paros context. Chapter 4 follows fiscal responsibility and reporting. Chapter 5 develops the conditional water demonstration. Chapter 6 considers investment and continuing obligations. Chapter 7 explains what the other services add and why they cannot yet be aggregated. Chapter 8 sets out the findings and a route for subsequent calibration. The objective is a complete, inspectable argument whose empirical reach can expand as compatible evidence becomes available.

Chapter 2. An operational FCC framework

Foundations and the two fiscal questions

Tourism sustainability research already recognises several kinds of limits. Saarinen (2006, abstract) distinguishes resource-, activity- and community-based traditions. UNEP and UNWTO (2005, pp. 75-76) explicitly include infrastructure and management capacity, including economic and administrative problems, and discuss the limitations of a single numerical ceiling. FCC therefore does not proceed from a claim that earlier work ignored finance. It develops a particular operational connection between service increments, responsible institutions and continuing obligations.

Public-finance research provides another foundation. OECD (2021, ch. 2) distinguishes revenue capacity from expenditure needs in equalisation design. Transfers can help address differences between jurisdictions. FCC uses an institution-specific service scenario rather than treating fiscal carrying capacity as a synonym for the tax-base measures used in equalisation. It asks how an obligation and its funding change together within a stated boundary; it does not infer that every difference between locally generated revenue and local expenditure is a policy failure.

Lifecycle analysis supplies the need for comparable alternatives, time horizons and consistent treatment of future costs. Kneifel and Webb (2025, sections 2.4 and 3) explain these choices for US federal facilities. The methodological lessons inform Chapter 6; US regulatory periods and rates are not adopted for Paros. Island-tourism research also distinguishes economic output from locally retained income. Pratt (2015, abstract) examines seven small island developing states and reports different output and income effects. Those findings are contextual: neither their coefficients nor their institutional settings are transferred to a Greek municipality.

Two fiscal questions follow. The existing-position assessment asks whether recurring resources support current service standards, maintenance and renewal. The incremental assessment asks how a specified change alters revenue, costs and constraints. A favourable increment can coexist with an unresolved baseline shortfall; a large existing budget does not establish capacity to accommodate the next demand increment. Neither position is comprehensively measured here for Paros.

Framework overview

Step	Question to answer
Existing service position	What service standards, current demand, recurring resources, maintenance and renewal obligations define the baseline?
Defined change in activity	Compared with which baseline, location and period?
Additional service requirement	What quantity, timing and standard of service changes?
Supply or operational response	Which feasible source, capacity or staffing response follows?
Institutional revenue and expenditure	Who receives the increment and who bears the obligation?
Continuing obligations	How are maintenance, renewal and service continuity sustained?

Physical, environmental and social conditions apply throughout this sequence. For each scenario, the analyst should identify the relevant condition, its evidence basis and whether it has been assessed. Financial affordability cannot establish environmental acceptability or adequate resident services. No thresholds are invented where observations or agreed standards are missing.

The framework also admits counterarguments to a presumed growth burden: spare capacity may absorb an increment, receipts may cover additional expenditure, and transfers may finance shared responsibilities. Conversely, a source transition or renewal obligation may change the result. These are alternatives to test, not established descriptions of Paros.

2.1 The question behind the framework

A living destination must support the people who reside in it, work in it and visit it. Tourism can generate demand, income and public revenue, while also changing the quantity, timing and location of services that public institutions must provide. Fiscal Carrying Capacity, or FCC, offers a way to examine those relationships together. Its central questions are practical: who bears the additional service cost, which additional revenues reach that institution, when does demand encounter a physical constraint, and what obligations follow from the response? The framework is useful because these questions need not have the same answer for every institution or every part of the year (Marangozis, 2026e).

A destination can record more economic activity without the institution responsible for a particular service receiving a matching increment in revenue. Conversely, an institution can receive investment funding while still needing a reliable means of paying the resulting operating and renewal costs. These are possibilities to investigate, not conclusions to assume about Paros. FCC makes them explicit in the design of the inquiry. It connects the service consequence of an increment in activity with the account, asset and decision through which that consequence is managed (Marangozis, 2026e).

The approach therefore begins with a defined change rather than a presumption that there is one discoverable number of tourists a place can accommodate. The change might be one additional occupied bed, an increase in delivered water demand, or a different seasonal pattern of use. Each generates a different question. The purpose is to identify the consequences that the evidence can support and to show how they change when a relevant assumption changes.

This first edition develops that approach through water. Water permits a clear connection between service demand, production, source costs and physical constraints. It also exposes the importance of institutional and measurement boundaries. The demonstration can establish how a calculation works and what evidence would calibrate it without claiming that every operational input is already known. Its contribution is a disciplined account of the relationships between activity, service provision and public obligation (Marangozis, 2026e; Marangozis, 2026f).

2.2 Start with a counterfactual

An incremental cost requires a comparison. The controlled research model defines its common accommodation scenario as one additional bed within an existing lawful establishment. Its counterfactual is the same establishment without that bed, with other conditions held constant except where the increment activates a documented change. Appendix B retains the exact identifier for this additional-bed scenario. This specification makes the unit of inquiry precise; it does not describe an observed participating hotel (Marangozis, 2026e).

The difference matters. Adding a bed within an existing establishment does not automatically create a new water connection, a new building or a new fixed establishment charge. Nor does one bed imply a full year of occupancy. The service increment depends on its use, the establishment's operating period, the services connected to it and the way those services respond. A new establishment or an extensive construction project needs a separate scenario because it can change fixed infrastructure and land-use obligations as well as variable demand (Marangozis, 2026e).

Suppose a scenario specifies an additional available bed for a stated number of operating days. Translating that capacity into person-nights requires a compatible occupancy assumption or observation. Translating person-nights into public-network water then requires an appropriate water coefficient. The steps cannot be

compressed into an unqualified “cost per bed”: different occupancy, water sources and meter boundaries can produce different public burdens for the same nominal bed capacity. The model's chain of reasoning is therefore activity first, service demand second, institutional revenue and cost third, and capacity consequences alongside them (Marangozis, 2026e).

The water demonstration in Chapter 5 starts further along that chain. Its separate delivered-demand scenario asks what follows from a stated increment in delivered water demand. It does not require an invented hotel coefficient to begin. The resulting calculation answers a conditional service question. Converting its answer into a number of beds would require the earlier activity and water-intensity links to be established separately. Keeping the two scenarios distinct lets the analysis advance while preserving the original empirical question (Marangozis, 2026f).

2.3 Give every quantity a boundary

Before combining two quantities, the analysis must establish that they describe compatible things. At minimum, a service observation needs a geographic boundary, a responsible institution, a period and a unit. For water it also needs a measurement point. Gross production, water entering a network, water delivered through a customer meter and water billed are related quantities, but they need not coincide. A difference between them cannot be labelled physical leakage without establishing what each measure includes (Marangozis, 2026f).

A hotel meter illustrates the problem. Its reading may cover guest rooms, a pool, gardens, laundry or other uses within the metered property. If a well also supplies the property, the utility meter measures only the public-network component. The useful coefficient for the utility question is public-network volume divided by aligned person-nights, with the meter's coverage stated. It is not automatically total water consumption per guest. A person-night is one person staying one night; room-nights must not replace it without a justified conversion (Marangozis, 2026f).

Even a correctly aligned ratio is initially an observed average. Some water uses vary with guests, while others can persist when occupancy changes. Applying the ratio to an additional guest-night is a further modelling step, requiring an explicit proportionality assumption or evidence about the marginal response. The distinction does not make the average useless. It tells the reader which question the measurement answers and which additional assumption is needed for the next question (Marangozis, 2026f).

The same discipline applies to time. An annual water balance describes an annual relationship. It does not by itself reveal the conditions on the peak day, the source used at the margin or the availability of a particular plant during an outage. A billed consumption period also need not match the bill's issue date. Aligning the dates of meter readings and activity avoids introducing an apparent water coefficient that is actually an artefact of mismatched periods (Marangozis, 2026f).

2.4 Follow the institution that provides the service

The public sector is not a single account. A utility, a municipality and a central funding body can occupy different positions in the same service system. FCC follows the institution that bears a cost and asks which revenues are available to it. A revenue generated in the destination is not necessarily retained by the institution that supplies the additional service. The relevant link must be documented rather than inferred from aggregate tourism spending (Marangozis, 2026e).

For a defined institution and period, an incremental operating margin can be written as additional attributable operating revenue less additional operating expenditure. This is a limited accounting comparison. It says nothing by itself about the adequacy of assets, the timing of investment payments or wider social benefits. A broader assessment adds those matters explicitly instead of hiding them inside an unexplained net figure. Capital cash requirements should therefore be shown separately from the operating comparison and connected through a stated time horizon (Marangozis, 2026b).

Three perspectives help keep the accounts clear. The service provider's cash perspective asks when money must be paid and when funding actually arrives. The consolidated public fiscal perspective follows expenditure and receipts across the relevant public bodies, eliminating transfers within the chosen boundary. The economic resource perspective considers the assets, operation and maintenance used to provide the service. A grant can reduce the recipient's financing burden while remaining a transfer inside a wider public boundary. Loan principal must not be added to the purchase of the same asset as though it represented a second use of that asset's resources (Marangozis, 2026b).

Chapter 6 develops the investment consequences of these distinctions. Here their purpose is methodological: the reader should be able to identify whose balance is being discussed and which costs it contains. A positive local cash effect is not, without further analysis, a positive resource effect. Equally, a publicly funded investment is not free to the wider public system merely because the operating institution does not finance its entire initial cost.

2.5 Administrative stages describe different events

An announced project, an approved budget, a tender estimate, an award, a signed contract, a certified amount, a payment and an audited expenditure record answer different questions. FCC preserves those distinctions because the consequences being studied occur at different stages. A tender can establish what an authority intends to procure. It cannot demonstrate that the equipment is operating. A payment can establish a cash event, but it is not by itself a measurement of service availability or performance (Marangozis, 2026e).

This is particularly important when discussing capacity. Design capacity belongs to a specification. Deployable capacity belongs to a defined operating situation. Moving from one to the other requires evidence about installation, acceptance, availability and relevant constraints. A procurement amount similarly belongs to a fiscal stage and scope. Dividing it by nominal capacity does not produce an observed marginal operating cost (Marangozis, 2026e; Marangozis, 2026f).

These distinctions improve the substantive argument. They show where a public commitment has advanced and where the continuing obligation remains uncertain. They also allow new evidence to update a particular stage without rewriting the entire history of the project. The water chapter uses this approach to place the two replacement units and the Parasporos expansion in their documented stages.

2.6 Physical constraints and incremental cost

For an aligned water boundary, let D denote delivered demand and G the corresponding gross requirement. The existing water convention defines u as delivered volume divided by gross production or input. Under an explicitly proportional relationship, $G = D/u$. An incremental delivered requirement ΔD then implies $\Delta G = \Delta D/u$. The division matters: when u is below one, more than one unit of gross water is required for one unit delivered (Marangozis, 2026f).

This relationship is a model assumption when applied at the margin. An annual observed ratio can include billing differences and non-physical losses; even a well-defined average physical relationship need not describe how the next unit behaves. With fixed leakage L, the alternative $G = D + L$ gives $\Delta G = \Delta D$ if L remains unchanged. The two formulations represent different operating responses. Choosing between them for an actual network is an empirical and technical question. Showing them separately is already useful because it makes the consequence of that choice visible (Marangozis, 2026f).

The relevant production cost depends on the source that supplies the increment. If a source has compatible marginal cost c per gross cubic metre and enough available headroom, the additional variable cost is $\Delta G \times c$. When its headroom is exhausted, a further unit may require a different source or remain unserved under the stated conditions. A system average cost cannot identify this sequence on its own. Chapter 5 illustrates a source transition with two explicitly hypothetical sources (Marangozis, 2026f).

Headroom must also be defined. For a common zone and interval, a simplified comparison is deployable gross capacity minus baseline gross demand minus required reserve. The increment reduces that remaining margin. A negative result means that the stated combination of demand, capacity and reserve cannot be met within the model. It does not establish which investment an authority should choose, whether a restriction is legally or operationally appropriate, or whether an alternative intervention is feasible. Those require a further decision analysis (Marangozis, 2026f).

Storage operates on another dimension. It is measured in cubic metres, while production and demand rates are measured in cubic metres per day or hour. Usable storage can bridge a deficit for a limited interval, subject to accessibility, minimum levels and replenishment. Adding reservoir volume directly to a daily production rate would obscure rather than solve the capacity question (Marangozis, 2026f).

2.7 Build an evidence ladder, not a false total

The supporting research record distinguishes source type, fiscal stage, inspection status and the controlled treatment of individual observations. A faithfully copied value can still have uncertain measurement or accounting meaning. A range between conflicting records is not a statistical confidence interval; an assumed sensitivity case does not supply a missing Paros coefficient. Appendix B explains the relevant uses of the unchanged research codes (Marangozis, 2026e).

These distinctions make the route from assertion to evidence inspectable. The source register records whether a claim depends on a primary document, an administrative response or an analytical compilation. Inspection of a compilation does not establish independent verification of every underlying observation.

An unresolved input should remain visible in the result it affects. If source cost is missing but the delivered-demand assumption is specified, a conditional volume calculation may still be possible. If available headroom is insufficient, the cost of the portion supplied can be calculated without pretending to know the cost of serving the remainder. This is more informative than either filling a gap with zero or withholding every result until all questions are answered (Marangozis, 2026f; Marangozis, 2026b).

The same logic governs aggregation across services. Water, wastewater, waste, mobility and public safety can share causes or accounts without representing the same cost. The controlled model assigns sewer revenue separately from the water-only margin, and separates fiscal service costs from wider welfare effects. A common activity scenario is necessary, but it does not by itself make every module's figures additive. Their boundaries, periods, revenue treatment and unresolved inputs must also agree (Marangozis, 2026e).

2.8 What the framework enables

FCC provides a structured explanation of how an increment in activity reaches institutions through service demand, revenue, cost and capacity. It can reveal a mismatch between the body receiving revenue and the body bearing an obligation. It can identify the assumptions under which spare capacity absorbs demand, and the circumstances under which the analysis must consider another source or an investment response. It can also show why a capital contribution does not settle the continuing operating and renewal question. These are analytical uses of the framework; their empirical magnitude depends on the case evidence (Marangozis, 2026e; Marangozis, 2026b).

The first-edition water demonstration uses those capabilities at a conditional level. It neither certifies actual engineering adequacy nor recommends an operational reserve or safety standard. Specialist review is necessary before drawing such conclusions. Where that review or the required evidence is unavailable, the study restricts the conclusion rather than presenting an assumption as an operating fact. This keeps the fiscal and methodological contribution available for scrutiny while identifying precisely what further evidence would extend it.

Chapter 3. Paros as a living destination

3.1 Resident services and different views of activity

The Paros case begins with the continuing life of a municipality: people need dependable services whether visitor demand is high or low. Tourism observations are relevant because they can help define additional activity, but they do not replace evidence about residents, workers or the services used throughout the year. This chapter provides selected historical context rather than a complete demographic or service inventory. No new population estimate is introduced.

Evidence family	Analytical question
Accommodation nights	How much overnight activity is recorded within the covered categories?
Airport passenger movements	What passenger traffic passes through this gateway?
Business registrations	How has the registered business population changed?
Employment records	Which employment patterns could be examined within the supplied coverage?

The case evidence describes Paros through several administrative and statistical populations. Accommodation statistics count arrivals and nights within their covered establishment types. The airport figures used here count passenger movements through the airport. Chamber records count businesses within a registration perimeter. Employment records describe insured employment using their own location and classification rules. These populations overlap, but they cannot be substituted for one another (ELSTAT, n.d.a; ELSTAT, n.d.b; Cyclades Chamber, n.d.; Civil Aviation Authority, n.d.; e-EFKA, 2026).

For this study, the Municipality of Paros is kept distinct from the Regional Unit of Paros and from Antiparos. This matters even when adjacent rows or familiar names make a combined figure seem convenient. The accommodation tables provide separate municipality rows. The Chamber active-stock series used here is the corrected Paros selection, excluding the Antiparos records included in an earlier extraction (ELSTAT, n.d.a; ELSTAT, n.d.b; Cyclades Chamber, n.d.).

The chapter uses a small set of observations to establish context. It does not construct a single index of destination pressure. Such an index would require a defensible account of the relationship between its components, their denominators and the service outcome of interest. Here, the observations remain separate and are used to explain what further linking evidence would be needed.

3.2 Hotel activity and the limits of an annual denominator

ELSTAT Table 15 reports arrivals, nights spent and bed-place occupancy for hotels and similar establishments, excluding tourist campsites and short-stay accommodation establishments. The inspected files contain separate rows for the Municipality of Paros in 2023 and 2024. Exhibit 3.1 reproduces selected values from those rows. The stated coverage percentage refers to the available bed places in the table's population; it does not extend the table to accommodation categories explicitly excluded by its title (ELSTAT, n.d.a; ELSTAT, n.d.b).

Exhibit 3.1. Selected historical observations, grouped by source and period

Measure	Period	Recorded value	Population and permitted reading
Accommodation: 2023-2024			ELSTAT Table 15 population
Hotel and similar-establishment arrivals	2023	176,584	Municipality of Paros; arrival records within Table 15 coverage
Nights spent in the same accommodation population	2023	670,939	Person-nights; not island-wide visitor nights
Bed-place occupancy	2023	51.8%	Published occupancy measure; not a participating property's occupancy
Hotel and similar-establishment arrivals	2024	171,131	Same published municipality and accommodation category
Nights spent in the same accommodation population	2024	641,501	Same published category; no water-volume linkage established
Bed-place occupancy	2024	44.3%	Published occupancy measure; no inference about physical beds from this alone
Business stock: 2018 and 2025			Corrected Chamber register
Corrected Chamber active-business stock	End-2018	2,334	Corrected Paros registry population, all four reported sectors
Corrected Chamber active-business stock	End-2025	3,711	Same corrected series; not a count of tourism businesses alone
Airport traffic: 2025			Recorded passenger movements
Airport commercial passenger movements	2025	373,839	Paros airport arrivals, departures and transit within commercial categories
Airport non-commercial passenger movements	2025	168	Separate category; not added unique visitors

Sources: ELSTAT Table 15, municipality row 305 in each annual file; corrected Chamber active-stock file, annual total column; CAA 2025 cumulative sheet, Paros row 38. These are transcribed administrative/statistical values. The blocks do not describe a common-year snapshot. No cross-source sum is meaningful; two accommodation years do not establish a sustained tourism trend. The companion exhibit file retains the source, locator, unit and population for each row (ELSTAT, n.d.a; ELSTAT, n.d.b; Cyclades Chamber, n.d.; Civil Aviation Authority, n.d.).

Reader access: ELSTAT publicly lists the corresponding Table 15 under its 2023 publication and 2024 publication. The figures above were checked against the retained official files; these links identify the public table series, not a completed comparison with newly downloaded versions. The corrected Chamber historical series is an administrative extract supplied to the study; an equivalent public historical download has not been located. A current business directory is not a substitute for those dated counts. Public reporting of a figure from the same originating source does not constitute an independent measurement.

The accommodation figures provide a historical activity denominator within their own scope. They do not identify the public-network water used by those same establishments. Dividing an unrelated island water total by these nights would combine different populations, possibly different periods, and domestic and other non-hotel consumption. The resulting quotient would not estimate hotel water intensity (Marangozis, 2026f; ELSTAT, n.d.a; ELSTAT, n.d.b).

Nor does annual occupancy supply the operating pattern of an additional bed at a particular property. Establishments can differ in opening periods, occupancy, amenities and supply arrangements. The annual municipality figure can be retained as historical context or an explicitly labelled reference case. It cannot be promoted to an observed input for an unmeasured participant. The first water demonstration therefore begins with delivered demand rather than making that conversion (Marangozis, 2026e; Marangozis, 2026f).

3.3 Airport traffic and business activity

The CAA workbook separates commercial and non-commercial aircraft and passenger categories and contains monthly sheets as well as cumulative annual figures. A passenger movement is an event in the transport record. Arrivals and departures can involve the same person, while residents and other travellers can use the airport alongside tourists. The annual total is consequently a transport measure, not a count of unique visitors. It also excludes travel through other modes (Civil Aviation Authority, n.d.).

These distinctions leave the airport series useful. It can describe recorded traffic and its timing within its own definitions. It can inform a question about seasonal transport workload. It cannot alone quantify the number of people staying on the island, their nights, their water use or the costs attributable to them. A seasonal concentration in one series would be a reason to examine compatible service observations, not permission to assign causation.

Business demography provides a different view. The corrected Chamber stock is larger at end-2025 than at end-2018. That observation concerns registered businesses across the four reported sectors. It is not a measure of their turnover, employment, physical floor area or demand for water. The accompanying registrations and deletions series helps examine changes in that registry, but its categories must not be treated as interchangeable with a future ELSTAT business-statistics population (Cyclades Chamber, n.d.; Marangozis, 2026e).

Annual totals also leave the timing of service requirements unresolved. Even where monthly airport or employment records exist, their availability does not mean a seasonal pattern has been analysed and matched to service observations. Peak requirements and the resources needed to sustain services through the rest of the year need compatible evidence. This edition undertakes no new seasonal analysis.

3.4 Employment evidence and the scale of the case

The e-EFKA response dated 15 October supplies monthly employment aggregates for 2021–2025 and an accompanying activity-code dictionary. Its workbook states that insured people are unique within the reported monthly treatment, that multiple employment is allocated to the first activity code encountered, and that geographic classification follows the establishment branch. Those qualifications shape any sectoral or geographic interpretation (e-EFKA, 2026).

The employment data are available, but this edition produces no numerical employment finding or estimate of tourism's fiscal contribution from them. Monthly counts cannot simply be added into annual unique people. The supplied insurance classification should be interpreted through its own dictionary rather than assumed to match another statistical classification. Contributions or municipal receipts must not be inferred from earnings or insured-day totals without compatible evidence (e-EFKA, 2026).

Together, these sources establish a case with several useful observations and several missing links. There is no need to discard the observations because a complete model is unavailable. There is equally no reason to conceal the missing links behind a broad destination total. The following chapter applies the same discipline to the money received and spent by the institutions serving the place.

Chapter 4. Who receives revenue and bears costs

4.1 The fiscal question begins with an institution

The relevant fiscal boundary depends on the question. A water-service calculation follows the utility's applicable receipts and costs. A municipal calculation follows the municipality's own accounts and responsibilities. A wider public assessment can include central or regional funding, but must then identify transfers inside that wider boundary. These perspectives answer different questions and should be presented alongside one another rather than collapsed into an unexplained balance (Marangozis, 2026e; Marangozis, 2026b).

The distinction is especially important when an activity generates several kinds of receipts. A visitor's spending, a business's revenue, a tax assessment, a municipal collection and a utility bill are not successive labels for the same amount. Moving from one to another requires a documented base, rule, recipient and period. This edition therefore makes no inference from accommodation nights or airport movements to local fiscal receipts.

Local income and value retained are also distinct from business turnover. Purchases from outside the destination, payments to non-resident owners and the geographic distribution of wages affect retention, but none is estimated here. A retained income benefit does not automatically become municipal revenue. Conversely, a public transfer may support services without appearing as tourism business income. These distinctions are consistent with the different economic effects examined in island-tourism research (Pratt, 2015, abstract); its estimates are not Paros parameters.

The point of the accounting framework is to locate responsibility. If an institution must fund operation while another finances initial construction, the analysis should show both positions. Whether this arrangement is adequate cannot be decided from the existence of the grant alone. It requires the timing and amount of actual receipts and expenditure, alongside the service requirement (Marangozis, 2026b).

Institutional map for the examined records

Body or boundary	Role in this case	What the records do not establish
Municipality of Paros	Municipal receipts, payments and responsibilities represented in the fiscal archive	A tourism-attributable annual balance
DEYAP	Water and sewerage provider; utility accounts and water procurement	A marginal source cost from combined accounts
Maritime Ministry / General Secretariat of Aegean and Island Policy	Funding and disbursement records for identified projects and programme aggregates	Contractor payment or actual service output from a funding entry alone
Wider public boundary chosen by the analyst	Consolidation of included bodies and identification of internal transfers	A complete public-sector balance unless all components are reconciled

The first three rows describe the institutional setting of the inspected records; the last is an analytical boundary. This is not a complete inventory of fiscal powers or public obligations (Marangozis, 2026d; Marangozis, 2026a; General Secretariat of Aegean and Island Policy, 2026).

4.2 What the fiscal evidence establishes

The received Ministry of Interior archive contains municipal revenue, expenditure and balance-sheet material for 2018-2025, alongside DEYA Paros revenue and expenditure records. It supplies a basis for investigating institutional finances, subject to the interpretation limits below. The supporting register retains delivery and extraction histories (Marangozis, 2026d; Marangozis, 2026a).

The source files preserve separate fiscal fields. Municipal revenue distinguishes the amended budget, assessed amounts and collections; expenditure distinguishes the amended budget, warranted amounts and payments. Year-to-year comparability must follow the actual field definitions rather than an assumed common layout (Marangozis, 2026d).

Some questions remain unresolved. The files identify December or month 12, but that label alone has not been reconciled to a confirmed annual cumulative reporting basis. Currency, finality and revisions also require explicit treatment. The DEYA file contains zero warranted amounts beside nonzero paid amounts in numerous rows, and negative financing entries that cannot safely be interpreted as routine flows without clarification. An absent category remains missing; it is not converted into zero (Marangozis, 2026d; Marangozis, 2026a).

Interpretation unresolved	Conclusion currently prevented
Reporting period, units and revisions	Validated annual balances and comparisons
Combined water and sewerage accounts	Attribution of expenditure to water alone
Missing service classification in the extract	A defensible waste-service expenditure total
Funding disbursement versus contractor payment	Treating financing progression as executed project expenditure

These are limits of the inspected records and extraction, not findings that the institutions lack usable accounts or that their services are financially unsustainable.

These limitations prevent an apparently straightforward annual surplus or growth calculation from becoming a validated fiscal conclusion. They do not erase the records. The appropriate first-edition use is to describe the available administrative evidence, show its structure and identify the interpretation needed before releasing annual comparisons. A financial exhibit should not acquire certainty merely because the spreadsheet permits subtraction.

Exhibit 4.1. Fiscal records and the questions they can answer

Record	Evidence available	Defensible use in this edition	Additional interpretation needed
Municipal revenue and expenditure	Separate budget, assessment/warrant and collection/payment fields	Describe institutional reporting and trace selected source records	Reporting period, units, revisions and code comparability before annual balances
Municipal balance-sheet data	Cash, financial assets and liability categories	Identify distinct stocks requiring their own dates and definitions	Avoid treating stocks as annual revenue or expenditure
DEYA revenue and expenditure	Combined utility administrative fields	Document the provider's financial record and unresolved classifications	Water/sewerage separation and source/output alignment before marginal water cost
Maritime water-project chart	Project/subproject funding and disbursement fields	Trace the funding body's recorded stages	Contractor certification/payment and operating output remain separate
Transport-equivalent aggregates	Passenger and enterprise programme tables	Describe the programme's reported beneficiaries and payment-related measures	Preserve payment-order versus paid wording and coverage before comparisons

Source basis: inspected Interior workbooks and September validation reports; Maritime October 2 response and attachments. This is a source-comparability table, not an estimate of fiscal capacity (Marangozis, 2026d; Marangozis, 2026a; General Secretariat of Aegean and Island Policy, 2026).

4.3 A received funding record is not an operating-cost estimate

The Maritime Ministry's 2 October package supplies transport-equivalent aggregates and a funding/disbursement chart covering identified water-related projects. The chart separates project funding, subproject funding and disbursements to date. Its rows include a parent drilling project and subprojects. Counting the parent amount together with its components would risk double counting before their relationship had been reconciled (General Secretariat of Aegean and Island Policy, 2026).

A disbursement in the funding body's record is relevant evidence of financing progression. It is not, by itself, proof that a contractor has been paid, that a plant has produced water, or that the disbursement equals the cost of that production. Those propositions need records from the corresponding contractual and operational stages. The chart therefore strengthens the documented case while leaving the marginal-cost gate open (General Secretariat of Aegean and Island Policy, 2026).

The transport-equivalent material requires a related distinction. The passenger spreadsheet labels its monetary column as amounts in payment orders, while the covering letter describes payments. The first edition does not silently choose one wording to create a cash-execution series. Enterprise tables also distinguish annual and phase views; their counts should not be added across phases as though they identified distinct businesses. These distinctions remain explicit reconciliation requirements (General Secretariat of Aegean and Island Policy, 2026).

The programme's institutional purpose and recipient population also differ from a municipal tourism-revenue account. Support associated with residents or enterprises cannot be treated as an incremental receipt caused by an additional visitor. Its inclusion here illustrates the need to distinguish beneficiary, payer, service and fiscal stage before making any broader balance.

4.4 From financial context to an incremental service account

The next analytical step is smaller than a destination-wide fiscal balance. For a specified service increment, identify the recipient of the additional applicable revenue and the institution paying the additional cost. Then establish compatible timing and scope. An existing utility account may move through a tariff block as consumption rises. The revenue increment is the difference between the bill under the two cases, with unchanged fixed charges and separately assigned services treated consistently (Marangozis, 2026f).

On the cost side, combined utility payments are not an estimate of the source that serves the next cubic metre. They include activities and obligations that may not change with the increment, and may span water and sewerage. A source-level cost requires aligned production and relevant inputs, together with evidence or an explicit assumption about the operating response. Chapter 5 demonstrates the calculation only after those relationships have been stated (Marangozis, 2026a).

Municipal service accounting presents a comparable boundary problem. The available expenditure extract does not retain the service prefix needed to isolate cleaning/lighting and later waste responsibilities cleanly. The absence of that separation prevents a convenient sum from becoming a waste-service cost. Where the required classification cannot be established, the service-specific result remains unresolved while the institutional discussion proceeds (Marangozis, 2026d).

The assessment sequence begins with recurring resources and existing service, maintenance and renewal obligations. It then follows a specified activity change through the responsible institution's additional receipts and expenditure. Transfers and financing requirements must be identified before considering a wider public balance; a transfer can fund a local obligation while remaining an expenditure elsewhere within that boundary. Provider cash, consolidated public finance and economic resources remain distinct perspectives.

The defensible outcome of this chapter is therefore a map of usable fiscal evidence and its interpretation limits. It establishes where the records are, which stages they describe, and what further alignment would permit a narrower empirical result. It does not establish that tourism pays for itself, fails to pay for itself, or leaves a quantified fiscal gap in Paros. Those are possible future questions, not conclusions supplied by the existing tables.

Chapter 5. Water as a conditional demonstrator

5.1 From a service requirement to a fiscal question

The water demonstration asks a concrete question: what additional gross production and variable expenditure would be required to deliver a stated increment of water under specified conditions? Answering it connects a service requirement to a production boundary, a source and a responsible institution. It also reveals when the stated supply arrangement no longer serves the whole increment. The value of the demonstration lies in making those connections explicit and testable.

The starting point is delivered demand, not a number of tourists. Translating tourist activity into demand requires aligned observations of person-nights and public-network consumption. Those observations have not been established in the recovered record for the current hotel pilot. A conditional delivered-demand scenario allows the calculation to proceed without inventing that link. It remains distinct from the research programme's one-added-bed scenario (Marangozis, 2026f).

The chapter distinguishes documentary context from conditional calculation. Inspected procurement documents establish specified requirements and administrative stages for particular assets. The calculations show what follows from separately declared assumptions; they do not infer operating inputs from those documents. Keeping these categories visible allows the analysis to say something positive about the service-cost relationship without overstating what is known about current Paros operations.

5.2 Historical records and current operating questions

The controlled compilation preserves historical production and consumption records that still require source and definition reconciliation. Their precise values are not reproduced in this edition and do not populate the conditional calculations. A quotient of annual consumption and production would not, by itself, establish a current delivered fraction: meter boundaries, billing periods and authorised unbilled use must first be aligned.

Annual quantities also cannot establish the source needed during a peak interval. Timing, zones and availability determine the relevant operating situation. The examples below therefore state their own assumptions rather than treating an unreconciled annual record as a current production margin.

5.3 What the procurement documents establish

The local replacement tender describes two desalination units, each specified to produce 600 m³ of drinking water per day. Its scope places one at Kaminaki and one at Parasporos, at locations with corresponding rented units. It gives an estimated value of €340,000 excluding VAT. The daily capacity is a tender specification and the amount a tender estimate. Neither establishes operating output or money paid (DEYAP, 2026a).

The renewed Parasporos procedure is documented more directly in the locally retained June tender and Board Decision 55/2026. The tender carries identifier 26PROC019133215 and ESIDIS 472258, with an estimated value of €2.9 million excluding VAT and a 2,500 m³/day design requirement. The board decision concerns approval of the procurement documents and the relevant credit. These are records of a procurement and its specified purpose. Later execution stages remain unverified in the inspected material; that is not evidence that they did not occur (DEYAP, 2026b).

Exhibit 5.1. Documented water evidence and its permitted use

Evidence item	Recorded quantity or identifier	Evidence inspected for this draft	What the entry supports
Two replacement units	2 × 600 m³/day; €340,000 excluding VAT	Replacement tender, PDF pp.1 and 5	Design requirement, replacement context and tender estimate (DEYAP, 2026a)
Renewed Parasporos tender	26PROC019133215; 2,500 m³/day; €2.9m excluding VAT	June tender, PDF pp.1 and 6; board decision, pp.2–4	Procurement identity, design requirement and estimate; no deployable increment inferred (DEYAP, 2026b)

Units and scope: annual volumes, daily design capacities and net procurement amounts are different measures and are not summed. The exhibit uses no assumed operational capacity. Primary tenders are used only for what they specify. It is a dated evidence table, not a current engineering inventory. The supporting source register retains exact locators and inspection limits.

This evidence establishes an investment context for the water demonstration without populating its missing operating inputs. It also identifies the next relevant records: dated acceptance and commissioning, withdrawal of rented units, source availability, aligned demand and the operating criterion for reserve. Chapter 6 develops the broader distinction between replacement and expansion and the obligations that follow from ownership. Here the narrower point is that a procurement quantity does not automatically become spare capacity in a calculation.

5.4 Specify delivered demand before calculating gross production

Example A: delivered-to-gross conversion. This example varies an assumed delivered fraction; it is independent of the source-allocation and energy examples below. Consider an additional delivered requirement of 1,000 m³/day. This is a scenario assumption, not an observed increment in Paros demand. Let u be the fraction of compatible gross production delivered across the specified boundary. Under the proportional relationship introduced in Chapter 2:

$\Delta G = \Delta D / u$.

For the exhibit, ΔD is held fixed and u is varied across 0.65, 0.72 and 0.80. These values are the companion assessment's REF sensitivity assumptions. They do not constitute a probability distribution, a confidence interval or an adopted operating estimate. In particular, using 0.72 in a calculation does not convert a historical reference into a current measured efficiency (Marangozis, 2026b).

Exhibit 5.2. Gross requirement for an assumed additional 1,000 m³/day delivered

Assumed u, delivered/gross	Additional gross requirement, m³/day	Gross requirement above the delivered increment, m³/day
0.65	1,538.5	538.5
0.72	1,388.9	388.9
0.80	1,250.0	250.0

Assumptions: proportional delivered/gross relationship; the same measurement boundary and day; no change of u caused by the increment. All numerical cases are REF. The final column is the arithmetic gross-minus-delivered difference under these assumptions, not measured physical leakage. Values are rounded to one decimal only for display. Source: Marangozis (2026b, p. 4); arithmetic reproduced in Appendix B (Marangozis, 2026b).

The table makes the consequence of the assumption tangible. Supplying the same delivered increment requires more gross production when the assumed delivered fraction is lower. At u = 0.72, the conditional requirement is approximately 1,388.9 m³/day. That is a statement about the selected relationship. It does not say whether such output is available, which source would supply it or what measures could feasibly improve u.

There is also a different possible marginal relationship. If gross production is delivered demand plus a fixed leakage volume, and that leakage remains unchanged over the comparison, the additional gross requirement equals the additional delivered requirement. The contrast with Exhibit 5.2 shows why the annual average ratio is not enough to identify a marginal response. Both are transparent mathematical cases; neither has been selected here as the empirically correct description of the network (Marangozis, 2026f).

An efficiency intervention raises a further question. For a fixed delivered requirement, an assumed increase in u reduces required gross production under the proportional model. That can be expressed as avoided gross production without assuming that the intervention is costless or technically available. Its investment cost, persistence, maintenance and effect on operating conditions belong in a separate assessment. The calculation gives the service consequence of the assumption; it does not choose the intervention.

5.5 Identify the source that would supply the increment

Once the additional gross requirement is specified, the cost question concerns its source. A source-specific variable cost expressed per gross cubic metre can be multiplied by compatible additional production. A utility-wide annual payment total cannot perform that role unless its components, period and output boundary establish the relevant incremental relationship. The financial validation notes explicitly retain the combined water/sewerage boundary and unresolved reporting semantics; they do not supply a calibrated marginal water cost (Marangozis, 2026a).

Example B: allocation between two hypothetical sources. This is a separate scale and scenario from Example A. The distinction becomes especially visible when demand crosses a source's available headroom. The next exhibit uses two synthetic sources, A and B. Each has 100 m³/day of additional gross headroom after reserve. Their assumed variable costs are €1 and €2 per gross m³ respectively. The delivered fraction is 0.80. The scenario assumes that A can serve first and B can follow, with no network, ramping or minimum-run constraint preventing that order. None of these values identifies a Paros source or its observed cost (Marangozis, 2026b).

The ordering is feasible only by assumption. Actual operations can involve network, minimum-run or other constraints not represented here. The purpose is to show the consequence of exhausting a lower-cost source and to keep any unserved requirement visible.

Exhibit 5.3. Conditional allocation across two hypothetical sources

Additional delivered demand, m³/day	Gross requirement, m³/day	A supplies, gross m³/day	B supplies, gross m³/day	Unserved gross requirement, m³/day	Variable cost of portion served, €/day	Variable production cost for full increment under stated assumptions, €/day
64	80	80	0	0	80	80
120	150	100	50	0	200	200
200	250	100	100	50	300	Not established

Assumptions: u = 0.80; A and B each have 100 gross m³/day of additional headroom after reserve; A costs €1/gross m³ and B €2/gross m³; the stated order is feasible. Costs exclude tariff revenue, capital and other amounts not included in the assumed variable rates. All cases are REF. The stated synthetic assumptions and the arithmetic in Appendix B reproduce every row. No row is a Paros forecast (Marangozis, 2026b).

At the middle demand level, A supplies its full stated headroom and B supplies the remaining 50 gross m³/day. The cost is €100 plus €100, or €200/day. Applying A's €1 rate to the entire 150 m³/day would understate the scenario cost because it would ignore A's limit. The calculation follows the additional production through the source transition instead.

At the highest demand level, the two stated sources together supply only 200 of the required 250 gross m³/day. The €300/day result is the variable cost of that served portion. It is not the cost of fulfilling the whole request. The remaining 50 gross m³/day corresponds to 40 delivered m³/day under the assumed u, but the source, price or other response for that remainder is unspecified. Reporting a complete cost would require inventing a response outside the scenario (Marangozis, 2026b).

This distinction is fiscally important. A model can correctly calculate expenditure on available supply while still failing to meet the service requirement. A budget comparison that presents the served cost as a full-service solution would hide the missing service. FCC keeps both the cost and the residual requirement visible so that the next decision can be examined on its own terms.

5.6 Keep energy scope separate from total operating cost

The renewed Parasporos tender specifies an energy requirement of no more than 3.3 kWh per cubic metre produced for defined equipment. Its scope includes high-pressure and specified low-pressure feed pumps, booster and dosing pumps. It is a technical procurement requirement, not an observation of the plant's actual energy use or of the energy used by the entire water system (DEYAP, 2026b).

Example C: energy component. This independent calculation uses the tender requirement as a conditional benchmark, not as the cost of either synthetic source in Example B. Multiplying 3.3 kWh/gross m³ by an assumed electricity price of €0.25/kWh gives €0.825/gross m³. Dividing by an assumed u of 0.72 gives approximately €1.15 per delivered m³ (unrounded calculation: €1.145833…). These are energy-only scenario calculations. They neither establish actual electricity prices nor include every pumping stage, chemicals, membranes, staff, maintenance, fixed charges or capital costs (Marangozis, 2026b).

The example shows why denominator and scope must travel with a cost number. A price per delivered cubic metre looks directly relevant to the user-facing service, but it incorporates an assumed delivered fraction and only the specified cost component. It would be misleading to label the result simply “the cost of water”. The useful conclusion is narrower: under the stated energy benchmark, electricity price and conversion assumption, this is the implied energy component.

Source-specific operating evidence would improve the calculation by identifying the actual production interval, energy consumed, tariffs paid and other incremental inputs for the source serving the increment. It would also show whether a rental service fee includes or excludes energy and consumables. Until that alignment is available, separate partial cost screens are more informative than a synthetic all-in number (Marangozis, 2026a; Marangozis, 2026b).

5.7 Capacity, reserve and temporary storage

The dispatch example assumes source headroom after reserve. It does not derive that headroom from installed capacities. For actual application, the baseline requirement, available production and reserve must refer to the same time and hydraulic boundary. A nominal capacity can be unavailable during maintenance or constrained by another part of the service chain. The research model therefore treats zone and operating-state alignment as part of the definition of the problem (Marangozis, 2026f).

Reserve is not interchangeable with any unused nominal capacity. It is a requirement or operating criterion to be established for the relevant situation. The scenario must state whether a listed margin is before or after it. Otherwise the same reserve can be subtracted twice, or omitted while a remaining margin is described as

spare. The conditional source-allocation example uses headroom after reserve; it does not recommend the reserve that an actual operator should maintain (Marangozis, 2026f; Marangozis, 2026b).

Storage can help sustain service through a temporary deficit, but it cannot be counted as recurring production. If a deficit rate is Q and accessible usable volume is V, V/Q expresses a conditional duration when both use a compatible boundary and time unit. Actual use would depend on minimum levels, zone connections, pumping and refill. Without those inputs, nominal reservoir volume does not determine how long a service deficit could be met. No storage-duration estimate for Paros is made here (Marangozis, 2026f).

Replacement capacity needs a similarly explicit comparison. If new units replace rented units with the same available output, their nominal capacity is not an additional quantity relative to continued operation of the rentals. Any operational gain depends on the changed availability or on a different counterfactual, such as withdrawal of the rentals. The replacement tender establishes the context for this question; it does not answer it. The broader financing and lifecycle consequences are reserved for Chapter 6 (DEYAP, 2026a).

5.8 Connect the calculation to revenue without inventing a balance

Variable production expenditure is only one side of the institutional question. Additional billed use may also change revenue, depending on the account, tariff block and applicable charges. For an existing meter, the relevant calculation is the difference between the applicable bill with and without the increment, not an assumed midpoint tariff. A fixed charge that does not change with the increment should not automatically be treated as additional revenue (Marangozis, 2026f).

Where water and sewer amounts appear on the same bill, their accounting treatment must agree with the service modules. The controlled aggregation rules retain sewer revenue in the wastewater module rather than counting it both there and in the water-only margin. An apparently complete utility balance can therefore be unsuitable for a narrower water calculation even when every number on the bill is correctly transcribed (Marangozis, 2026e).

The present demand scenarios do not identify a customer account or a tariff state. They consequently produce no net fiscal balance. What they establish is the conditional gross burden and, where source assumptions permit, a conditional variable expenditure. An account-aligned revenue calculation can be added when the requisite evidence is present without changing the meaning of those earlier results (Marangozis, 2026f).

5.9 What this demonstration establishes

The examples establish three conditional relationships: the delivered fraction changes gross requirements under the proportional model; source limits change variable expenditure; and expenditure on the supplied portion leaves the cost of an unmet requirement unresolved. None is an observed Paros operating result (Marangozis, 2026b).

The tender evidence provides an investment context, not measurements of current available supply. Empirical application needs aligned activity and public-network volumes, a justified marginal response, source costs and applicable revenue rules. Peak questions additionally require zone, interval, reserve and availability evidence, including commissioning and rental withdrawal where relevant. Appendix C separates these requirements.

The chapter makes no judgement about actual engineering adequacy, deployable reserve or operational safety. Such conclusions require compatible evidence and appropriate specialist review. The present contribution is the transparent connection between a service requirement, a feasible assumed supply response and the expenditure that response entails.

Chapter 6. Investment, replacement and lifecycle obligations

6.1 A project changes more than the initial payment

Investment connects a present decision with future service obligations. Acquiring an asset may change production capability, energy use, maintenance tasks, staffing needs or exposure to interruptions. It can also change who bears those obligations. The fiscal question is consequently broader than identifying the capital funding source. It concerns the service the asset is intended to sustain and the resources required to sustain it over time (Marangozis, 2026b; Marangozis, 2026e).

This chapter develops that argument without assigning unmeasured effects to the Paros projects. The procurement evidence in Chapter 5 establishes design requirements and tender estimates. It does not establish actual operating performance. A lifecycle comparison can be specified from that position, but its empirical result must await compatible costs, output and execution evidence (DEYAP, 2026a; DEYAP, 2026b).

The focus here is the service sustained, the obligations that change and the resources needed over time. The distinction matters for the interpretation of apparent progress. Approval can authorize a commitment. A contract can allocate duties. Payment can discharge a financial obligation. Acceptance and operation concern the delivery of the asset and service. A project can advance on one dimension without closing every other one. A useful fiscal account records that progression rather than assigning the final outcome at the first documented stage (Marangozis, 2026e).

6.2 Replacement needs an explicit counterfactual

The two specified 600 m³/day units are associated with sites containing rented units. This is a replacement context. A comparison with continuing rental asks whether permanent ownership changes cost, availability and obligations relative to that alternative. A comparison with rental withdrawal asks a different question: how much service would otherwise cease to be available? Both comparisons may be relevant, but their capacity increments cannot be interchanged (DEYAP, 2026a).

Suppose replacement and rented units have the same available output in the chosen interval. Under that stated case, substituting one for the other does not add that output to the previous supply. If availability differs, the service difference is the difference in available output, not the new unit's nameplate quantity alone. These are conditional comparisons, not estimates of Paros performance. They require commissioning and withdrawal dates before they can become an actual operating account (DEYAP, 2026a).

Equivalent nominal output is not sufficient for a fair comparison. Availability, service quality, contract coverage and the comparison period also need compatible assumptions. Neither continued rental nor withdrawal is treated as inevitable. A permanent asset may transfer duties from a rental supplier to the owner, depending on the contract. A rental price may include some services and exclude electricity or consumables. An ownership comparison must therefore align what each alternative provides. Treating a rental fee as a complete cost on one side while including maintenance and energy on the other would compare different service packages. The specification of the comparison is as important as the price placed in it (Marangozis, 2026e).

6.3 Three perspectives on the same investment

For the provider, the cash question concerns payments, funding receipts and their timing. A grant can reduce the amount that the provider must finance from its own receipts. Debt can alter the timing of the provider's cash obligations. Neither mechanism, on its own, tells us the amount of physical resources used to supply the service (Marangozis, 2026b).

For a wider public fiscal account, the boundary determines which transfers cancel internally. A transfer from one included public body to another is not a new net resource for the consolidated group. Transfers from outside the selected boundary must be identified as such. It is therefore essential to name the boundary before describing a project as locally funded, publicly funded or financed from outside (Marangozis, 2026b).

For an economic resource account, the relevant comparison follows the assets and other resources used under each alternative. Counting both an asset's purchase and repayment of the principal that financed that purchase as separate resource costs would count the same financing relationship twice. A resource comparison also cannot be read as the provider's annual cash budget. The three accounts can be reconciled, but they should first be constructed for their respective questions (Marangozis, 2026b).

Exhibit 6.1. Three perspectives on a lifecycle comparison

Component	Provider cash	Consolidated public finance	Economic resources and service
Acquisition	Payments and their timing	Expenditure within the selected public boundary	Assets and installation required for the service
Grant or transfer	Funding received by the provider	Internal transfers cancel; outside funding identified	Funding does not itself measure resources consumed
Operation	Recurring bills borne by provider	Included public receipts and expenditure	Inputs required for the specified output
Maintenance and renewal	Repairs and replacements to finance	Obligations across included bodies	Work needed to sustain service over the horizon
End of comparison	Remaining cash obligations	Remaining public liabilities and assets	Residual service potential and disposal obligations

Each row requires a consistent service specification and period, documented responsibilities and actual evidence or labelled assumptions. This qualitative comparison does not value or rank the Paros alternatives (Marangozis, 2026b; Marangozis, 2026e).

6.4 Keeping partial screens useful

A capital-only comparison can be useful if it is called capital-only. An energy component can be useful if the equipment scope, electricity-price assumption and output denominator remain visible. Neither becomes a complete lifecycle cost merely by being expressed per cubic metre. The missing components must remain identified alongside the number (DEYAP, 2026b; Marangozis, 2026b; Marangozis, 2026e).

A full comparison also needs a time horizon and an agreed service requirement. Lifecycle guidance similarly treats the common study period, replacement and residual value explicitly (Kneifel and Webb, 2025, sections 2.4 and 3). Its US federal rules and rates are not adopted here. Alternatives with different useful lives require explicit treatment of replacement and residual service potential. Discounting, if used, requires a stated rate and consistent treatment of prices and time. The existing research record provides a structure for these choices, but this edition does not select unverified local lifetimes, renewal schedules or a preferred investment on that basis (Marangozis, 2026e).

The same discipline applies to energy-saving interventions. A technical forecast or procurement requirement is not a measurement of realized saving. Attribution requires compatible output and energy records, the affected loads and the period of comparison. Even a measured reduction in expenditure needs interpretation if tariffs, output or allocation changed. A prospective benefit can be explored as REF; it cannot be reported as an achieved fiscal saving without the necessary observations (Marangozis, 2026e).

6.5 Capacity responses and continuing decisions

Recurring affordability should be examined under stated demand and revenue conditions, including a case without continual volume growth. The question is whether operation, maintenance and renewal remain supportable, not whether every investment creates an undesirable burden. Replacement can improve reliability, reduce obligations or sustain existing standards. None of these effects is quantified for Paros here.

An investment response can change the conditions under which later demand is accommodated. The possibility of induced demand belongs in the evaluation as an explicit causal question. It is not established by the announcement of new capacity, nor should it be assumed away when comparing long-term service obligations. The appropriate response is to specify alternative demand paths and identify which links are assumed, observed or unresolved. This edition estimates none of those effects for Paros.

For decision purposes, the immediate result is a set of distinct comparisons: replacement against continued rental or withdrawal; expansion against a specified baseline; and efficiency measures against a compatible service requirement. Maintenance and demand-management measures may also be alternatives or complements, where feasible. Each needs its own operating and financing account and assessment of environmental and social conditions. A lower financial cost alone does not establish acceptability. A decision therefore needs a defined baseline, equivalent service requirements, assigned responsibilities, lifecycle obligations, funding assumptions and unresolved risks. The documented projects provide concrete cases around which those comparisons can be organized. They do not yet authorize a ranking of alternatives, a claim of spare capacity or a conclusion that future operating obligations are funded.

Chapter 7. Other services and the limits of aggregation

7.1 Breadth without unsupported totals

The services selected here are illustrative, not a complete inventory of island obligations; limited treatment of health, housing or other resident needs does not establish their lesser importance. A living destination depends on more than water. Wastewater, solid waste, mobility, public safety and social or environmental conditions all matter to the larger inquiry. Giving them a place in the framework does not require pretending that they have reached the same empirical stage. The first edition treats water as the principal conditional demonstration and uses the other services to explain the requirements for a broader result (Marangozis, 2026e).

An addition to visitor activity could affect several services at once. That common cause does not make the observed costs additive. Some records may cover the same institution or payment; others may cover different islands or periods. Some outcomes are fiscal, while others concern welfare or physical conditions that have not been monetized. The first task is to identify those boundaries and retain the unresolved parts.

7.2 Wastewater and solid waste

Water and wastewater can share an institution and appear on the same customer bill. They remain distinct service questions. The water-only revenue calculation must not absorb sewer revenue that is also counted in a wastewater account. Equally, water delivered to a property cannot automatically be treated as measured wastewater entering a treatment facility. Source, use, connection and measurement boundaries must be established for the particular question (Marangozis, 2026e).

Solid waste presents a different institutional chain. Collection, transport, treatment and disposal may involve different bodies and contracts. A procurement record can identify a specified service and financial stage; it does not independently supply actual tonnes, service quality or downstream operating costs. The municipal accounting extract's missing service-prefix separation further limits an attempt to isolate the relevant cost from the available totals (Marangozis, 2026d; Marangozis, 2026e).

FoDSA's response identifies public-source and custody routes but supplies no new Paros tonnage or unit-cost series. Consequently, the evidence supports an account of institutional responsibilities and missing links, rather than a numerical waste-service result (FoDSA South Aegean, 2026).

7.3 Public safety, emergency services and mobility

The available Fire Service material covers incidents, outdoor fires and burned area, staffing and vehicles. The analytical validation notes (Marangozis, 2026c) identify mixed Paros/Antiparos coverage, a possible duplicate and missing area values. These qualifications prevent treating each row as a clean municipal observation or each blank as zero (South Aegean Fire Service, 2026).

Service readiness creates an additional attribution problem. Some resources sustain standing availability or shared capacity; others vary with workload or change at a threshold. Dividing total expenditure by visitor numbers, or allocating a visitor share of every cost, requires a justified assumption about that response. It is not supplied by an activity count alone.

Even a clean incident count would not by itself identify marginal fiscal cost or tourism causation. Recorded workload reflects the phenomena recorded and the service's reporting and operating arrangements. A defensible extension would connect a precisely defined workload to compatible resource use and a stated counterfactual. The current edition uses the response to document evidence availability and its limits, not to assign a cost to another guest-night (South Aegean Fire Service, 2026; Marangozis, 2026e).

The supplied police companion contains offence, road-safety and enforcement material, but its recorded public-redistribution status remains unresolved. No supplied police numerical table is reproduced in this edition. Recorded offences and enforcement outputs would also need their own interpretation before being used to infer prevalence or causal effects. Receipt is not sufficient to clear either the distribution or inference question.

Mobility has comparable denominator problems. Airport passenger movements, road demand, parking use and ferry passengers describe different parts of travel. The airport series in Chapter 3 supplies one observed component. It cannot establish total island arrivals, person-days present or the incremental demand for local roads. A broader mobility account would need compatible coverage across modes and the particular service being costed (Civil Aviation Authority, n.d.; Marangozis, 2026e).

Exhibit 7.1. What a broader FCC account still needs

Service or outcome	Requirement, institution and usable evidence	Missing link for a stronger result
Water	Conditional delivered-demand and source-cost demonstration	Current aligned operations, costs, activity link and account state
Wastewater	Treatment service; utility boundary kept separate from water	Compatible flows, connection coverage, treatment response and incremental cost
Solid waste	Collection and downstream treatment; municipality and relevant service bodies distinguished	Compatible actual tonnage, service scope, downstream charges and execution
Mobility	Airport observations within their definitions	Mode coverage and a link to the particular local service increment
Fire and emergency services	Readiness and response; Fire Service workload records with geographic caveats	Geographic reconciliation and attributable resource response
Police	No restricted supplied numeric exhibits	Distribution clearance or appropriate public source, plus inferential controls
Social/environmental outcomes	Explicit separate constraints and research questions	Outcome-specific observations and justified valuation if monetization is proposed

This matrix records analytical dependencies, not scores of institutional performance. No unresolved row is assigned a zero cost (Marangozis, 2026e; Marangozis, 2026d; FoDSA South Aegean, 2026; South Aegean Fire Service, 2026).

7.4 Why the partial results should remain partial

Aggregation requires compatible counterfactuals, prices, periods and institutional boundaries. Transfers and shared costs must be counted once. Unserved demand remains visible alongside expenditure on the portion served; a missing component does not acquire a zero value (Marangozis, 2026e; Marangozis, 2026b).

The broader account should present financial effects, service conditions and environmental or social outcomes separately. A positive operating margin does not establish that every other condition is acceptable; an unresolved environmental outcome is not automatically a quantified fiscal liability. These findings can inform a common decision without being forced into one monetary total or composite score. Extension should proceed service by service as the relevant links become supportable.

Chapter 8. What the first edition establishes

8.1 Contributions and results

The framework asks whether existing resident and tourism obligations can be sustained and how a specified change affects that position. Its broader concern is public financing that does not depend on continual volume growth or degradation of environmental and social capital. This edition does not establish that Paros satisfies or fails that condition.

Three contributions should be distinguished. First, the analytical framework connects activity, service requirements, institutional receipts and costs, and continuing obligations. It is an operational synthesis, not a claim to unique theoretical priority. Existing capacity, additional receipts and transfers can support an increment; constraints and renewal obligations can alter the result. The evidence must distinguish these possibilities.

Second, the Paros case documents selected accommodation, airport and business observations alongside fiscal and procurement records. Those populations and stages differ. The records support a bounded case, but do not together establish a measured additional-bed cost or tourism fiscal balance (ELSTAT, n.d.a; ELSTAT, n.d.b; Cyclades Chamber, n.d.; Civil Aviation Authority, n.d.; Marangozis, 2026d; Marangozis, 2026a; General Secretariat of Aegean and Island Policy, 2026).

Third, the water examples establish reproducible consequences of stated assumptions. A delivered fraction affects gross requirements under the proportional model; feasible source limits alter variable expenditure; expenditure on a served portion leaves the cost of an unmet requirement unresolved. These are conditional results, not newly measured effects in Paros (Marangozis, 2026b).

The investment discussion extends the institutional inquiry through time. Tender specifications do not establish operational availability, and replacement requires a stated alternative. Capital funding does not settle continuing affordability. Authorities, businesses and residents can use these distinctions to examine a proposal, request compatible evidence and compare service assumptions. They do not prescribe a tourism volume, tax arrangement or preferred investment (Marangozis, 2026b; DEYAP, 2026a; DEYAP, 2026b; Marangozis, 2026e).

8.2 What the study does not conclude

The edition does not estimate the maximum number of tourists or beds Paros can accommodate. It does not certify current water adequacy, deployable reserve, operational safety, or the availability of planned additions. It does not estimate a destination-wide fiscal surplus or deficit attributable to tourism. It does not rank infrastructure investments by a complete local lifecycle valuation. The inputs needed for those results have not been established (Marangozis, 2026b; Marangozis, 2026e).

These boundaries preserve the value of the results that are available. A conditional service calculation can clarify a decision without claiming to have measured every input. A documented procurement history can identify a continuing obligation without claiming that it has already been realized. An observed historical series can inform the case without becoming a current marginal coefficient. The contribution is strongest when each result is stated at that level.

8.3 A staged route to stronger evidence

An aligned property-period observation can establish public-network volume per person-night for that property and interval. It does not identify total property water if other sources are unmeasured, represent all accommodation, or establish a marginal effect. A compatible aggregate requires its own coverage and denominator checks (Marangozis, 2026f).

Stronger service results then require a justified marginal water relationship, source costs, feasible operating response and applicable receipts. Peak adequacy additionally requires aligned zones, intervals, availability, reserve and asset execution evidence, with appropriate specialist review. Appendix C sets out these separate gates. Missing inputs remain visible; assumed scenario endpoints do not become empirical bounds (Marangozis, 2026b; Marangozis, 2026f).

8.4 Living destinations and enduring obligations

Decisions about tourism and infrastructure should make visible who receives benefits, who finances services, which obligations persist and which environmental or social conditions remain unresolved. Both development proposals and restrictions can be examined on that basis. The relevant outcome is dependable resident life and sustainable service provision, rather than an assumed preference for more or less activity.

The Paros case offers an initial setting and the water examples demonstrate part of the reasoning. Dated supplements can strengthen specific findings as compatible evidence becomes available; material errors require transparent correction. The first edition retains its 16 October 2026 empirical boundary. Its contribution is to make fiscal and service consequences inspectable, while leaving choices that require stronger evidence or public judgement open.

Appendix A. Sources and access

The references distinguish official documents and statistics, administrative responses, analytical research records and external scholarship. A citation to an internal compilation identifies that compilation, not independent verification of every source behind it. Public procurement identifiers and table locators help readers identify exact records; no local storage path is required to interpret the argument.

Source family	Coverage used	Access and interpretation
ELSTAT accommodation tables	Municipality of Paros, 2023 and 2024, Table 15 row 305	Official statistical files; public Table 15 listings linked in Chapter 3; fresh public-download equality not established; issue dates and category limits remain qualified
Civil Aviation Authority	2025 airport passenger categories, Paros row 38	Official workbook; movements are not unique tourists
Cyclades Chamber	Corrected Paros active-business stock, 2018-2025	Administrative file; public repository not established; correction retained in the source register
Interior fiscal material	Municipal and combined DEYA reporting fields, 2018-2025	Administrative delivery; interpretation partly through documented extraction reviews; no annual balance inferred
DEYAP tenders	Replacement units and renewed Parasporos procedure	Official documents identified by date and procurement number; specifications, not execution evidence
Maritime, e-EFKA, FoDSA and Fire Service responses	Funding stages, available employment material, custody and workload limits	Administrative responses; citation does not authorize redistribution of attachments
Controlled analytical records	Framework, scenario assumptions and validation notes	Internal research apparatus; unavailable publicly unless separately prepared and cleared
External literature	Focused conceptual and methodological positioning	Selected sections or abstracts inspected as identified below; no transferred Paros coefficients

The controlled source register links each retained claim to its exact file, locator, recorded inspection scope and remaining limitation. Historical records are preserved. Unreconciled historical water quantities and the unverified precise replacement-award amount are excluded from publication copy; their omission does not resolve or disprove the underlying records. Supplied police numerical exhibits remain excluded because redistribution is unresolved. Restricted Ministry accommodation records are not a source for this manuscript.

The focused literature review covers carrying capacity, intergovernmental finance, lifecycle appraisal and island economic retention. It is selective rather than exhaustive. The Saarinen and Pratt citations are limited to statements supported by their institutional-repository abstracts; no full-paper appraisal is claimed. UNEP/UNWTO, OECD and NIST passages were inspected in their official full documents or chapter text. The 2025 NIST edition supersedes the archived 2022 versions. No US federal rule or island-economy coefficient is adopted for Paros.

Dates labelled “n.d.” denote publication dates not established from the inspected file, not the absence of a known observation year. The reference title and locator specify that year. Descriptive titles in square brackets identify records whose formal publication title is not established. Online literature access dates are 3 November 2026; all cited publications precede the empirical cutoff.

Appendix B. Variables and reproducible examples

Term	Meaning	Boundary
Person-night	One person staying one night	Not a room-night, arrival or available bed-day
ΔD	Additional delivered demand	Rate in m³/day in the examples
u	Delivered volume / compatible gross production	A fraction; G = D/u under the proportional case
ΔG	Additional gross requirement	ΔD/u only under the stated marginal assumption
c	Source-specific variable cost per gross m³	Scope must match the production boundary
Headroom	Available production after baseline and reserve	Common zone, interval and operating state
q_DEYA	Public-network volume / aligned person-nights	Observed average initially; not total property water or a marginal effect

The additional-bed scenario retains identifier CM00-BASE-1BED-INTENSIVE. The delivered-demand scenario retains WATER-SYSTEM-SENS-01. The examples are separate illustrations and must not be assembled into a calibrated Paros operating model.

Example A. Set ΔD = 1,000 m³/day. For each assumed u in {0.65, 0.72, 0.80}, compute ΔG = 1,000/u and the gross-minus-delivered difference ΔG - 1,000. Round only the displayed values to one decimal. Under the alternative fixed-loss relationship G = D + L, unchanged L implies ΔG = ΔD. Neither relationship is selected as the observed Paros marginal response.

Example B. Set u = 0.80 and source headrooms A = B = 100 gross m³/day after reserve. Costs are €1 and €2 per gross m³. For each demand d in {64, 120, 200}, compute g = d/0.80, a = min(g,100), b = min(max(g-a,0),100), and unmet = max(g-a-b,0). Variable expenditure is a + 2b euros/day. Report that amount as the full-increment variable production cost only if unmet = 0. Otherwise the cost of fulfilling the full increment is not established. The last row leaves 50 gross, or 40 delivered, m³/day unserved. Feasible A-then-B ordering is assumed; revenue, capital and costs outside the assumed rates are excluded.

Example C. Multiply the specified equipment-energy benchmark 3.3 kWh/gross m³ by the assumed electricity price €0.25/kWh: €0.825/gross m³. Divide by assumed u = 0.72: €1.145833…/delivered m³, approximately €1.15. This is an energy component under stated assumptions, not a tariff or observed total water cost. It excludes other equipment scope, chemicals, membranes, staffing, maintenance and capital.

The research labels EXACT, ESTIMATED, BAND, DK and REF remain unchanged in the controlled records. Relevant distinctions are that exact transcription does not certify measurement, a documentary range does not imply a confidence interval, and the REF examples above are assumptions rather than empirical bounds. This is an explanation of their use here, not a replacement glossary.

The revised-proof check independently recalculates the displayed examples, verifies that unmet demand leaves full-increment cost unestablished, and checks the source and period labels in the context exhibit. The supporting verification report records its scope. Earlier audit reports concern earlier versions. Arithmetic reproducibility does not establish empirical calibration, engineering adequacy or completeness of a fiscal account.

Appendix C. Evidence requirements and subsequent editions

Stronger result sought	Evidence required	Permitted result before that evidence is established
Property-period public-water intensity	Aligned meter volume and person-nights, source and meter coverage	Explicit scenarios and intake method
Representative accommodation intensity	Compatible sampling, coverage and heterogeneity assessment	Property-specific or defined aggregate observations
Marginal delivered/gross response	Compatible current balance and justified marginal relationship	Separate alternative assumptions
Source-specific marginal cost	Aligned output, input scope and feasible supply response	Component calculations or conditional source cases
Engineering adequacy or reserve	Peak/zone alignment, deployable supply, baseline, reserve, execution evidence and specialist review	No actual adequacy, safety or reserve conclusion
Net institutional or wider fiscal balance	Compatible revenue, expenditure, period and boundary; transfers and shared costs reconciled	Separated records and unresolved links
Wider environmental/social assessment	Outcome-specific evidence and explicit acceptable conditions	Separate unresolved conditions, without invented monetary values

New evidence should identify the claim it changes and enter a dated supplement unless it corrects a material error requiring transparent correction. The first edition retains its 16 October 2026 empirical cutoff. The separately dated Mykonos comparator addendum of 29 October is a subsequent monitoring document, not part of the baseline. The INSETE assessment remains a separate 26 October note; its existence does not imply adoption of its estimates here.

The reader should distinguish methodological completeness from calibration. Compatible observations can strengthen a specified result; they do not automatically validate every other part of the framework.

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