BUSINESS SWEDEN
THE SWEDISH TRADE & INVEST COUNCIL

APPENDIX 3:

ATTRACTING INVESTMENTS INTO SWEDEN'S NUCLEAR VALUE CHAIN

This is an appendix to Business Sweden's main report delivered in June 2026

EXECUTIVE SUMMARY

Sweden is entering a window of opportunity to position itself as a relevant destination for investment in the European nuclear value chain. Domestic ambitions, combined with growing demand across the Nordic–Baltic region, point to a multi-decade market with sufficient scale to support industrial participation beyond a single project cycle.

At the same time, input from international companies across the value chain highlights a consistent set of conditions that determine whether investments in materialise. These include programme scale beyond the first unit, contractual commitment rather than policy signalling, long-term policy stability, regulatory predictability, and a clear licensing pathway. A coordinated national delivery model and a credible workforce pipeline are equally critical. Taken together, these factors define whether Sweden is not only attractive, but investable over the 20–30 year horizon that nuclear projects require.

Sweden already holds capabilities across several parts of the value chain, particularly in construction, balance of plant, and grid integration. However, key gaps remain, notably in the primary circuit, parts of the turbine island, and specialised engineering capabilities, resulting in continued dependence on international suppliers in critical areas.

The analysis identifies a concentrated set of high-priority sub-segments. Some, such as reactor pressure vessels and reactor coolant pumps, are likely to remain internationally sourced due to structural market and capability constraints. Others present more tangible opportunities for localisation and capability build-up.

In particular, steam turbines emerge as a promising sub-segment, combining high strategic relevance with constrained European supply and a feasible pathway for localisation. Workforce and regulatory capability are equally critical enablers, requiring coordinated national action rather than individual investments.

More broadly, the opportunity should not be seen as limited to a single segment. As programme visibility strengthens and enabling conditions are put in place, additional areas, particularly those linked to Sweden's existing industrial base, may become viable over time.

The strategic implication is clear: Sweden does not need to replicate the entire value chain, but can position itself selectively, focusing on areas where industrial strengths, market conditions, and timing align.

If the necessary programme-level conditions are established early enough, Sweden has a credible opportunity to attract investment, strengthen its industrial base, and play a meaningful role in the next phase of Europe's nuclear expansion.

1. FOUNDATIONS FOR INVESTMENTS IN SWEDEN'S NUCLEAR BUILD-OUT

1.1. Components and services with high domestic demand

Sweden's nuclear programme is entering an implementation phase, with multiple project tracks progressing in parallel and early commitments already in place. Combined with wider developments across the Nordic–Baltic region, this points to a sustained, multi-decade demand outlook rather than a one-off build cycle.

Adjacent Nordic–Baltic demand adds a further 7–10 GW. Finland is concluding vendor pre-selection, Estonia has selected the BWRX-300, and Norway's Nuclear Commission (April 2026) recommends deferring full-scale deployment while building capability for a future decision. At the same time, Norsk Kjernekraft is advancing plans for multiple SMR sites.

Against this demand backdrop, the value chain analysis maps Swedish capabilities against the cost structure of nuclear new build (Table 1). A significant share of the cost sits in segments where Sweden already has solid or moderate capabilities. Remaining gaps, particularly in the primary circuit, turbine island, and parts of design, reflect continued dependence on international suppliers.

Segment	Cost share	Swedish capabilities	Nordic capabilities	International dependency
Development & licensing	~10%	Moderate	Moderate	High (Reactor design)
Construction (EPCM, civils)	~40%	Moderate	Strong	Moderate (EPCM partner needed)
Primary circuit (NSSS)	~15%	Limited	Limited	Full dependency
Secondary circuit (turbine island)	~15%	Limited (auxiliaries only)	Moderate	High (full dependency for turbine)
Balance of Plant	~15%	Moderate	Strong	Moderate
Switchyard & grid integration	~5%	Strong	Very Strong	Low

Table 1, Capability assessment by value-chain segment.

To translate the segment-level view into priorities, a gap prioritisation framework has been developed (Table 2). It evaluates 30 value-chain sub-segments across four dimensions:

- Strategic weight to the Swedish programme (1–5)
- European scarcity (1–5)
- Domestic feasibility within 5–10 years (1–5)
- Time sensitivity (1–5)

The composite score is calculated as:
(Strategic Weight × 2) + European Scarcity + (6 − Domestic Feasibility) + Time Sensitivity, with a total range from 5 to 25.

Segment	Sub-segment	Strategic Weight	European Scarcity	Domestic Feasability	Time Sensitivity	Score (/25)
Development	**Reactor Design**	**5**	**5**	**1**	**4**	**24**
Development	Feasibility Study	2	1	5	2	8
Development	Project Design	3	3	3	3	15
Development	Licensing	4	2	4	5	17
Construction	Planning & Scheduling	3	2	3	4	15
Construction	Preparation & Excavation	2	1	4	3	10
Construction	General Construction	4	2	3	5	18
Construction	Installation	3	2	3	4	15
Construction	Building Materials	2	1	5	2	8
Primary	**Reactor Pressure Vessel**	**5**	**5**	**1**	**4**	**24**
Primary	**Reactor Internals (Core)**	**5**	**5**	**1**	**4**	**24**
Primary	Steam Generators	4	3	2	3	18
Primary	Pressurizer	2	4	1	2	15
Primary	**Reactor Coolant Pumps**	**4**	**4**	**1**	**3**	**20**
Primary	Containment Structure	3	2	3	4	15
Primary	Fuel Supply System	3	3	3	3	17
Secondary	**Steam Turbines**	**5**	**5**	**3**	**5**	**23**
Secondary	Condenser	2	2	4	2	10
Secondary	Moisture Sep. Reheaters	3	3	2	3	16
Secondary	Feedwater System	3	2	3	3	14
Secondary	I&C (Turbine Island)	3	2	5	4	13
Bal. of Plant	Condenser / HX	3	2	4	3	13
Bal. of Plant	Pumps & Circ. Water	3	2	3	3	14
Bal. of Plant	HVAC Systems	3	2	5	3	12
Bal. of Plant	I&C (BoP)	3	1	5	3	11
Switchyard	Transformers (GSU)	1	3	5	5	11
Switchyard	Switchgear (AIS/GIS)	2	3	5	4	12
Switchyard	Transmission / HV Cable	2	2	5	3	10
Cross-cutting	**EPCM Capability**	**5**	**3**	**2**	**5**	**22**
Cross-cutting	**Nuclear Workforce / Skills**	**5**	**3**	**2**	**5**	**23**

Table 2, Sweden Nuclear Gap Priority Matrix. Highlighted rows: score ≥ 20. Composite score = (Strategic Weight × 2) + European Scarcity + (6 − Domestic Feasibility) + Time Sensitivity.

Seven sub-segments score 20 or above. These form the working set carried through the rest of the analysis (Table 3).

Segment	Sub-segment	Score (/25)	Brief observation
Development	**Reactor Design**	**24**	Tier 0 OEM IP. Imported as part of reactor package.
Primary	**Reactor Pressure Vessel**	**24**	Heavy forgings, very high CAPEX, multi-year qualification. Likely import.
Primary	**Reactor Internals (Core)**	**24**	Tier 0 OEM IP. Imported as part of reactor package.
Primary	**Reactor Coolant Pumps**	**20**	Flowserve, Curtiss-Wright EMD, KSB/Sulzer, and Framatome. Framework contract is the realistic posture.
Secondary	**Steam Turbines**	**23**	Three global OEMs. Sub-300 MW SMR-class production is the practical FDI route. Single segment-level FDI target.
Cross-cutting	**EPCM Capability**	**22**	Tier 0 EPCM track record sits with a small incumbent set. Partial entry via embedded Swedish PMO inside Tier 0 framework partnerships.
Cross-cutting	**Nuclear Workforce / Skills**	**23**	Cross-cutting. Indigenous build-out via national skills programme.

Table 3, The seven sub-segments scoring ≥ 20 in the matrix. These seven form the working set carried through Chapters 1, 2, 3 and 4.

2. WHAT DRIVES INVESTMENT DECISIONS TO SWEDEN

Before individual investment decisions can materialise, a set of programme-level conditions must be in place.

This section is based on direct input from international companies, including OEMs, EPC contractors, system suppliers, and reactor developers, engaged during April–May 2026. The insights reflect how these actors assess Sweden as an investment destination in practice, including what enables, delays, or prevents investment decisions.

Across interviews, a consistent pattern emerges: investors are broadly aligned on the conditions that make a country investable, even if views differ on the attractiveness of individual projects. The following points summarise these conditions and translate them into implications for Sweden.

A programme, not a project

The most consistent message is that investment decisions are made at programme level, not project level. Suppliers point to a minimum viable orderbook of around 4–6 large-reactor equivalents within a Nordic catchment, with the upper end required for the most capital-intensive segments. A single project is not sufficient to justify localisation or manufacturing investment.

Qualification costs, workforce build-out, and capacity investments require visibility across multiple units. Without a credible follow-on pipeline, suppliers rely on existing European capacity and defer localisation decisions.

For Sweden, this means the value proposition must be framed as a fleet:

- 4–6 large-scale-equivalent units across the Nordic–Baltic region
- clear visibility on follow-on deployment
- a 20–30 year service horizon

Contractual commitment, not political signalling

Companies draw a clear distinction between political signalling and contractual commitment. Policy declarations and ministerial speeches are noted but do not unlock investment.

The forms of commitment that do unlock investment include:

- a financial framework codified in law and robust across election cycles
- signed offtake or service agreements with the operating utility
- an operating-permit horizon long enough for long-term service agreements to be priced (the Olkiluoto extension to 2050 is frequently referenced as a working precedent)
- state-loan and CfD instruments that are funded and operational, not announced
- confirmed vendor selections with defined sites, timelines, and reactor technologies

Clarity on technology is as important as volume and timing. While gigawatt capacity and timelines indicate market size, they do not determine whether a supplier can actually participate. Components are often highly technology-specific, and if the selected reactor design is incompatible, volume becomes irrelevant. Early visibility on technology choice is therefore critical for suppliers to assess technical fit, required certifications, and necessary investments in production and capacity. Without this clarity, building a credible business case becomes difficult, as the risk of investing in capabilities that do not align with the final design remains too high.

Companies also emphasise the importance of government support, not only in financial terms, but in creating a practical and enabling environment for project delivery. For EPC contractors and large industrial actors operating under significant time pressure during construction, flexibility in areas such as permitting processes, working hours, and local operating conditions is seen as an important factor in reducing execution risk and supporting efficient project completion.

Sweden has the legal framework for several of these elements in place. The next step is to convert these instruments into signed contracts and concrete selections that provide clarity, withstand election cycles, and enable investment decisions.

Programme stability across election cycles

A recurring concern raised across interviews is political-cycle risk in Sweden. Companies point to historical shifts in Sweden's nuclear policy as a key reason for requiring that current commitments are expressed in instruments that remain robust to changes in government.

The form of commitment companies are seeking is therefore a national nuclear programme, anchored across political parties to the extent practicable, with a multi-decade horizon and budgetary commitments that cannot be reversed by a single political decision.

This is the difference between a country being attractive at a given point in time and being investable over the 20–30 year service horizon that nuclear assets require.

The expectation is not political unanimity on nuclear. Rather, companies require a framework that can absorb a realistic level of political change while still delivering on the programme.

Regulatory predictability and harmonised code recognition

Regulatory clarity is a core input to investment decisions, on par with orderbook size. Suppliers highlight the multi-year cost of working through unfamiliar national regulatory processes, re-qualifying procedures, revalidating material specifications, and re-establishing third-party inspection chains, and factor this into location decisions.

While many suppliers are accustomed to operating across different regulatory frameworks, this is not typically the primary challenge, even if it is resource-intensive. The more fundamental issue is a lack of clarity. What is required is a clear and predictable understanding of applicable requirements, enabling suppliers to assess costs, timelines, and risks, and ultimately determine the viability of their business case.

The Finnish KELPO project on streamlining licensing and qualification practices is frequently referenced as a working model. It represents a structured approach to reducing regulatory complexity, clarifying which standards apply to different classes of equipment, and aligning national practices with internationally recognised codes (ASME Section III, RCC-M, KTA).

Sweden has SSM acceptance of these codes in principle. The operational requirement, however, is to formalise this recognition so that a supplier qualified to, for example, RCC-M for an EPR2 component can enter Sweden through a defined and predictable incremental qualification process, rather than facing a bespoke national re-qualification.

Nordic regulatory alignment, particularly between SSM and STUK on shared reactor technologies, would extend this logic across the Nordic catchment. This is consistently identified as a high-impact, low-cost measure that can be implemented in the near term.

A defined licensing pathway

Beyond code recognition itself, companies articulate a clear preference for what they describe as a “set path for engagement”, a published, sequential, and well-defined licensing route that can be planned against from day one.

The UK Generic Design Assessment is frequently referenced as the international benchmark. Compared to this, Swedish licensing is described as technically robust but less defined from a procedural perspective. The practical implication is that companies must invest significant upfront effort to understand and map the process before they can align their own programmes accordingly.

The requirement is therefore clear: a defined Swedish licensing roadmap, with timelines, gates, and deliverables set out in advance. This allows companies to build their internal business cases against a known and predictable process, rather than one that must be interpreted or developed in parallel.

A national programme office and a workforce strategy

Investors expect a capable counterparty on the government side. The model most frequently referenced is a national programme office (or equivalent function), with the authority to coordinate across ministries, the regulator, the operator, and the supplier base; the durability to outlast individual governments; and the technical depth to engage credibly with Tier 0 OEMs and primary-circuit specialists.

Workforce is the next critical layer. The OECD NEA identifies workforce as the binding constraint at the European level, and companies consistently echo this view. Without an indigenous pipeline of welders, NDT specialists, project-controls engineers, nuclear licensing professionals, and safety specialists, the supply chain cannot operate at fleet scale, regardless of capacity decisions.

A quantified Swedish workforce requirement, a multi-decade pipeline plan, and visible coordination between the Ministry of Education and Research and the operator and regulator are all highlighted as key inputs into companies’ investment decisions.

Nordic alignment and scale

Several international companies proactively highlight the Nordic dimension, noting that they view the region as one integrated market rather than Sweden as a standalone opportunity.

The underlying logic is that Sweden and Finland share a regulatory tradition, a quality culture, and a customer base. Aligning standards, regulatory frameworks, and qualification requirements between these markets, and extending this alignment to Norway and the broader Baltic region, effectively expands the addressable market without requiring additional capacity decisions.

From a supplier perspective, a 4–6 large-scale-equivalent Swedish catchment becomes a 7–10 unit Nordic–Baltic catchment under aligned conditions, reaching the threshold typically required to justify capital investment.

A consistent observation from engagements is that targeted regulatory alignment between Sweden and Finland on shared reactor technologies could deliver a meaningful share of this market expansion at relatively modest cost.

Companies also highlight several structural strengths that support Sweden's positioning. Sweden benefits from a strong international reputation as a reliable, high-quality industrial base, supported by globally recognised industrial capabilities and a broad ecosystem of advanced engineering and manufacturing firms. This credibility reduces perceived risk and strengthens confidence among international partners.

In addition, Sweden is seen as one of the few European markets offering a full nuclear lifecycle opportunity, spanning new build, life extension of existing reactors, and, over time, decommissioning. This creates a broader and more resilient demand base, allowing suppliers to engage across multiple segments rather than relying on a single project pipeline.

Sweden's existing nuclear ecosystem is also a key factor in reducing perceived risk. Compared to countries starting from scratch, the presence of an operational fleet, established institutions, and accumulated experience is, for some actors, particularly EPC contractors, more influential than project volume alone in supporting investment decisions.

These strengths are consistently recognised, but there is a clear need to communicate them in a more structured and visible way. Effectively showcasing Sweden's capabilities, industrial depth, and experience is important to ensure that these advantages are not only acknowledged but actively shape investment and location decisions.

Conclusion: Investment drivers

Across engagements, the investor message is consistent: investors will commit to a Nordic catchment of 4–6 LSR-equivalent reactors with a 20–30 year service horizon, contractually rather than communicatively underwritten, codified in a national programme robust to election cycles, with a published licensing roadmap including timelines, harmonised code recognition aligned with internationally recognised standards, a national programme office, a quantified workforce strategy, and active Nordic-level standardisation. None of these conditions is, in isolation, novel or unaffordable. The competitive question is whether Sweden assembles them quickly enough, inside the 2026–2028 decision window during which vendor selections, EU Industrial Alliance project formation, and major orderbook firmings happen, to be on the short list when investors decide where to put long-life nuclear-grade manufacturing assets. The criticality test that follows in Section 1.3 is the sub-segment-level lens; this section is the programme-level lens, and both have to be acted on in parallel.

3. GAPS THAT ARE MOST RELEVANT TO CONSIDER COVERING IN SWEDEN

Not all gaps identified in Tables 1 and 2 are candidates for domestic coverage. Some can reasonably be served by international suppliers, especially where multiple competing vendors exist, lead times are manageable, and import dependence does not threaten plant operability. Others are stronger candidates for at least partial Swedish coverage, on the basis that the alternative is permanent dependence on a small set of non-EU suppliers or the loss of long-term industrial anchor effects. This section uses the matrix scoring to organise the seven ≥ 20 sub-segments (Table 3) into three addressability bands.

3.1. The criticality test

The criticality test combines four parameters defined in the matrix. Strategic weight (1–5) is how programme-relevant the sub-segment is for Sweden. European scarcity (1–5) is whether broader European supply is available or constrained. Domestic feasibility (1–5) is whether Sweden could realistically close the gap within a 5–10 year horizon. Time sensitivity (1–5) is whether the decision can wait or has to be made now. The composite score (out of 25) provides a consistent ordering across very different sub-segments. Recognition of nuclear codes (ASME III, RCC-M, KTA) and the operational predictability of the national licensing process are separate qualitative inputs, addressed in Section 1.2.

Critical and addressable

Steam Turbines (score 23) emerge as a key investment opportunity. The market is concentrated among three global OEMs, and the analysis highlights this sub-segment as one of the few areas where localization in Sweden could be both strategically relevant and feasible. Without domestic capability in the turbine island, a significant share of project value remains structurally imported. The most realistic entry point is in sub-300 MW SMR-class production capacity, rather than the LSR turbine line. This creates a concrete opportunity to establish advanced manufacturing and strengthen associated parts of the supply chain in Sweden.

Nuclear Workforce & Regulatory Talent (score 23, cross-cutting). The OECD NEA 2024 supply-chain survey identifies workforce as the binding European constraint. France and the UK have both quantified workforce shortfalls running into the tens of thousands; published figures across industry studies vary by scope and timeframe. Sweden has not yet quantified its own requirement, and that quantification is itself a near-term action item. Without indigenous capacity here, the rest of the supply chain cannot operate. This is not solved by a single inbound investment; it is solved by national programme design (Section 1.2). It sits in the Critical & Addressable band because Sweden can genuinely act on it through national programme design.

3.2. Critical but to be imported, likely imports, with partial-entry routes available

Reactor pressure vessel and large pressure-boundary forgings (score 24).

The component is critical but localising RPV manufacture is extremely difficult: capital-intensity is very high, qualification is multi-year, the global supplier base is small, and capacity decisions today are competing with already-firm orderbooks elsewhere in Europe. The realistic Swedish posture is to plan for RPV imports. Should the broader Nordic–Baltic orderbook firm up significantly above current expectations, the picture could be revisited.

Reactor coolant pumps (score 20).

The market is served by a small number of qualified suppliers including Flowserve, Curtiss-Wright EMD, KSB/Sulzer, and Framatome. Critical to plant operability but very difficult to localise in Sweden. The pragmatic posture is a long-term framework contract with the incumbent suppliers, paired with qualification of Swedish and Nordic adjacent-industry partners, particularly SKF bearings and IKM NDT, into the Tier 2 / Tier 3 layer of those framework contracts.

EPCM capability (score 22, cross-cutting).

Tier 0 EPCM track record sits with a small set of established contractors (e.g. Bechtel, Bouygues, Hyundai E&C, KEPCO E&C, AtkinsRéalis) whose capability is the product of decades of consecutive nuclear builds. Sweden cannot manufacture that track record any more than it can manufacture reactor IP, and the matrix scores Domestic Feasibility 2/5 for this reason. The realistic Swedish posture is therefore to procure EPCM from one of those Tier 0 incumbents on a multi-project framework basis. The partial-entry route is through the Tier 0 OEM supply chain: Swedish project-controls professionals, engineering integrators, and supply-chain coordinators are embedded inside the Tier 0 PMO under a framework agreement, with workshare for Swedish civils contractors and a defined succession path over the fleet horizon. This is a meaningful programme lever, but it is not an inbound investment in the way Steam Turbines is.

3.3. Not addressable, accept and redirect

Reactor design (score 24) and Reactor internals (score 24)

Inseparable from Tier 0 OEM IP. Sweden does not have, and is not going to develop, indigenous large-reactor IP. They will be supplied as part of the Tier 0 reactor package. Swedish ambition for these sub-segments is redirected to auxiliary, instrumentation, and surrounding-systems scope where adjacent-industry capability can deliver.

Summary of gap classification at a glance

Table 4 summarises Section 1.3 in one view: three categories, with the seven matrix sub-segments that fall into each category and the pragmatic action Sweden should take.

Category	Sub-segments (matrix score)	Pragmatic action
Critical & addressable	**Steam turbines (23), segment-level invest target Nuclear Workforce & Regulatory Talent (23, cross-cutting), national programme**	Single segment-level FDI: Steam turbines (sub-300 MW class). Indigenous build for Workforce: national skills programme.
Critical but to be imported	**Reactor pressure vessel & heavy forgings (24) Reactor coolant pumps (20) EPCM capability (22, cross-cutting), partial-entry through embedded Swedish PMO**	No new Swedish inbound FDI. Working dialogue with Tier 0 forging suppliers; long-term framework contracts for pumps; Tier 0 EPCM framework with embedded Swedish workshare.
Not addressable (imported through OEM)	**Reactor design (24) Reactor internals (24)**	Accept as Tier 0 OEM scope. Redirect Swedish ambition to auxiliary, instrumentation, and surrounding-systems scope.

Table 4, Summary of Section 1.3, gap classification at a glance.

3.4. Demand thresholds for investment viability

Section 1.2 sets out the broader programme-level conditions identified by international companies. The specific orderbook threshold, repeated across engagements, is a Nordic catchment of around 4–6 large-scale-equivalent reactors (around 6 for the most capital-intensive primary-circuit components), a service horizon of 20–30 years, and visibility of a contractual rather than aspirational pipeline. The proximate implication is that Sweden's near-term FDI proposition is concentrated on extension and qualification investments at existing Swedish footprints rather than greenfield investments in primary-circuit forging or full turbine plants; those become viable only as the orderbook signal firms up beyond the first project.

4. BOTTLENECKS IN EUROPE AND OVERLAP WITH SWEDISH GAPS

The Strategic Weight × European Scarcity four-fielder

he matrix in Section 1.1 scores each sub-segment on four dimensions. Two of those dimensions, Strategic Weight to the Swedish programme (X-axis) and European Scarcity (Y-axis), are the dimensions that determine whether a Swedish investment would close a domestic gap AND serve a regional market. Figure 1 below plots each of the seven ≥ 20 sub-segments (Table 3) on those two dimensions. The colour coding follows Table 4 (Section 1.4): navy for Critical & Addressable, red for Critical but to be Imported, grey for Not Addressable. The shaded top-right region is the double-critical zone, sub-segments where Sweden has a strategic interest and Europe has limited spare supply.

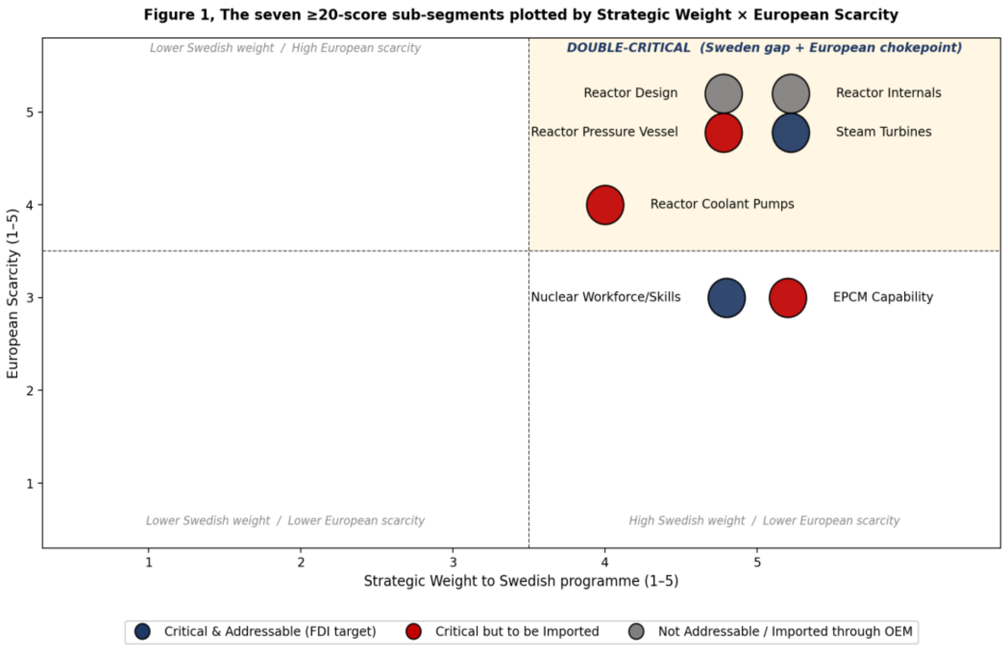

Figure 1, The seven ≥ 20-score sub-segments plotted by Strategic Weight × European Scarcity. The top-right shaded region is the double-critical zone (Sweden gap + European chokepoint). Colour coding follows Table 4: navy = Critical & Addressable; red = Critical but to be Imported; grey = Not Addressable. Several sub-segments share the same coordinates (Reactor Design, Reactor Internals, RPV, and Steam Turbines all sit at 5/5)

Two observations are immediate from Figure 1. First, the top-right corner is crowded: five sub-segments (Reactor Design, Reactor Internals, Reactor Pressure Vessel, Steam Turbines, Reactor Coolant Pumps) sit inside the double-critical zone. Of these five, only one, Steam Turbines (navy), is Critical & Addressable. The other four either belong to Tier 0 OEM IP (Design, Internals, grey) or are Critical but to be Imported (RPV, RCPs, red). This is the central conclusion of the entire diagnosis: the highest-value addressable segment-level FDI opportunity is concentrated in a single bubble.

Second, the two cross-cutting items (Nuclear Workforce / Skills, EPCM Capability) sit in the lower-right region at 5 / 3. They have the maximum Strategic Weight but a lower European Scarcity score, because workforce and EPCM are constrained everywhere, not only in Sweden.

European-level chokepoints in detail

The analysis made in the Global nuclear build-out report and the OECD NEA's 2024 supply-chain survey converge on the same short list of European-level chokepoints captured in Figure 1. These are components where demand is high across multiple national programmes, capacity is concentrated in two or three suppliers (often outside the EU), and qualification and lead times mean new capacity cannot come online quickly without coordinated investment.

Reactor pressure vessel & heavy forgings

Global RPV-set throughput is concentrated in a small set of forging facilities, with Japan Steel Works holding the dominant share. Europe has limited indigenous large-forge capacity; Sheffield Forgemasters' £1.3 bn expansion programme is not expected to be fully commissioned until late this decade. The EU Industrial Alliance on SMRs identifies forgings as a strategic gap.

Steam turbines

Only three to four OEMs build nuclear-grade steam turbines globally. the only European OEM with full nuclear-grade LSR turbine integration is Arabelle Solutions (France); secondary European capacity exists at Doosan Škoda Power (Czechia, Korean-owned) and Siemens Energy (Germany), but at different scale and product positioning. Existing European production capacity is constrained by the global SMR ramp. The sub-300 MW SMR class is a structurally separate production track from the LSR turbine line, and is the practical Swedish FDI route. Overlaps with the Swedish Critical & Addressable gap (Section 1.3 (i)).

Reactor coolant pumps

Specialised global supplier base (Flowserve, Curtiss-Wright EMD, KSB/Sulzer, and Framatome); long lead times and no European-scale alternative. Overlaps with the Swedish Critical but to be Imported gap.

Workforce and EPCM

Nuclear workforce and skills, and Tier 0 EPCM capability, are also European-level constraints (OECD NEA 2024). Workforce is addressable in Sweden through national programme design; EPCM is addressable only through partial-entry embedding inside a Tier 0 framework, not through inbound capacity investment.

Table 5 sets out the European demand pipeline behind Sweden's catchment. The Nordic–Baltic 7–10 GW sits behind a wider ~52 GW European pipeline. The European Commission's PINC assessment (June 2025) puts cumulative nuclear investment need at €241 billion to 2050.

Country	Planned / Proposed	Status	Vendor (status)
Sweden	5,000 MW	Financial framework 2025; build 2026–45	GEH BWRX-300 vs RR SMR (down-select 2026)
Finland	0–3,000 MW	Vendor pre-selection 2025–2026	EWAs with EDF, WH-Hyundai, GEH
Estonia	600 MW	Application 2025; COD ~2035	GEH BWRX-300 (selected)
Norway	0-1,500 MW	Feasibility / Commission Apr 2026	Multiple (Norsk Kjernekraft 5+ sites) Proposed by Norsk Kjernekraft / no government commitment
Poland	~7,750 MW	Construction from 2028	Westinghouse AP1000; KHNP APR1400
Czechia	~4,800 MW	EPC contract Jun 2025	KHNP APR1000
UK	~24,000 MW by 2050	Sizewell C FID	EDF EPR; Rolls-Royce SMR
France	EPR2 fleet (6+)	First concrete late 2020s	EDF / Framatome

Table 5, European nuclear pipeline.

Two cross-cutting risks complete the European context. Russia holds around 40% of global uranium-enrichment capacity; despite the EU's 20th sanctions package (February 2026), EU dependence on Russian enrichment fell only from 38% in 2023 to 23% in 2024. Of the 52 reactors that began construction globally since 2017, 48 are of Chinese or Russian design. Investing in Sweden contributes to European energy and technology sovereignty, with policy support aligned through the EU Industrial Alliance on SMRs, EIB lending, and EU State Aid TCTF.

Conclusions investment opportunities

The double-critical top-right of Figure 1 contains five sub-segments, and only one is Critical & Addressable: Steam Turbines. Reactor Pressure Vessel and Reactor Coolant Pumps also sit in the top-right but are Critical but to be Imported. Reactor Design and Reactor Internals also sit at 5 / 5 but belong to Tier 0 OEM IP. The analysis highlights steam turbines as a particularly promising sub-segment, offering a strong near-term opportunity for targeted investments.

The two cross-cutting items in the lower-right are differentiated. Nuclear Workforce is Critical & Addressable through national programme design (a Swedish-led indigenous build). EPCM is Critical but to be Imported through Tier 0 framework partnerships, with a partial-entry route for embedded Swedish project-controls and engineering capability inside that framework. Neither is a segment-level investment case; both are programme-level levers.

1	2	3
Critical & Addressable - FDI *Plays Sweden can win*	**Critical but to be Imported** *Procured, with partial entry for one*	**Not Addressable** *Imported through OEM*
Steam Turbines 23 *Segment-level FDI*	**Reactor Pressure Vessel** 24 *Tier 0 forging - likely import*	**Reactor Design** 24 *Tier 0 OEM IP*
Nuclear Workforce 23 *Indigenous build (cross-cutting)*	**Reactor Coolant Pumps** 20 *Framework contract*	**Reactor Internals** 24 *Tier 0 OEM IP*
	EPCM Capability 22 *Tier 0 framework, partial entry*	

THE TWO MAIN PLAYS DELIVERED BY THIS WORKSTREAM

1. **Steam Turbines** — single segment-level FDI target (Critical & Addressable)
2. **Nuclear Workforce** — indigenous national programme (Critical & Addressable, cross-cutting)

5. CONCLUSIONS

Sweden is entering a window of opportunity to position itself as a competitive destination for investments in the European nuclear value chain. This is driven by growing Nordic–Baltic demand, clear input from international companies on what conditions enable investment and identified gaps where targeted action can create industrial value.

International companies point to a set of core requirements to motivate investments:

- Programme scale beyond a single project
- Contractual commitment and long-term policy stability
- Predictable regulatory frameworks and licensing processes
- A coordinated national delivery model and workforce pipeline

The segment-level analysis highlights a differentiated opportunity:

- some critical sub-segments will remain internationally sourced
- others offer realistic potential for Swedish participation
- steam turbines emerge as a particularly promising near-term opportunity
- workforce and regulatory capability remain foundational enablers

At the same time, the opportunity is not limited to a single segment. As programme conditions strengthen, additional areas may become viable, particularly those linked to Sweden's existing industrial base. The strategic implication is selective positioning, focusing on areas where industrial strengths, market conditions, and timing align.

If the right conditions are put in place in time, Sweden has a credible opportunity to attract investment, strengthen its industrial base, and play a meaningful role in Europe's next phase of nuclear expansion.

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