



REPLANTING FRAMEWORK

FINAL DETERMINATION PAPER

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Background

- 1 EMA introduced the Centralised Process (“**CP**”) in July 2023 to coordinate the planting of new generation capacity in Singapore, to ensure there is sufficient generation capacity to serve electricity demand reliably.
- 2 As part of capacity planning, EMA identified that a significant number of combined cycle gas turbine (“**CCGT**”) generating units may be reaching end of life within the next five to ten years. By 2032, approximately 3.3GW of generation capacity will exceed 30 years of age, and Generation Companies (“**Gencos**”) may seek to retire these units. EMA will need to coordinate these retirements to ensure adequate generation capacity to meet system needs.
- 3 A maximum of two new generation plantings is allowed in a single year to manage the complexities of coordinating the commissioning and testing schedules for these new generation plantings. If multiple generating units are to retire in a particular year such that more than two new generation plantings are needed to meet the Required Reserve Margin (“**RRM**”) of 27%, we would face a situation of generation capacity shortfall.
- 4 To mitigate this potential shortfall, EMA proposed a Replanting Framework, which complements the CP to facilitate the orderly retirement of ageing assets and the associated timely entry of new generation capacity.
- 5 The framework entails EMA launching a Replanting Request for Proposal (“**RFP**”) when EMA foresees a need to manage a potential influx of retirement requests within a short timeframe to ensure supply adequacy. As part of the proposed Replanting RFP, Gencos could submit their proposal(s) indicating a proposed retirement year within the specified retirement time frame for one existing generating unit and a corresponding COD for one new generating unit in a one-to-one replacement.
- 6 As part of the Replanting RFP, EMA would review the submissions and would hold the right to adjust the retirement schedule and/or entry year for new generating units replacing those retired units (“**replanted generating unit**”), if necessary, as detailed below.

- a. **Phasing of retirements.** Existing generating units would be allowed to retire in the proposed retirement year or the earliest subsequent year when the system can meet RRM over the Base EDF, after consideration of updated generation resources and without any additional new units entering via CP.

- b. **Phasing of replanted generating units.** Replanted generating unit would be allowed in the proposed year of entry given that the projected Reserve Margin is below the RRM over the Upper-bound EDF and that there are not more than two new generating units in that year. If the replanted generating unit needs to be phased, the Genco would be given priority to Build, Own and Operate (“**BOO**”) the replanted generating unit in the next subsequent year where the projected reserve margin does not exceed the RRM over the Upper-bound EDF. EMA would issue the right to BOO the replanted generating unit under the replanting proposal five years before the entry year. If the Genco declines, the offer would be passed to the next Genco in the replanting schedule.

Feedback from the Industry Consultation for the Replanting Framework and RFP

- 7 EMA embarked on a closed consultation with Gencos on “Ensuring Adequacy and Reliability of Generation Capacity” from 28 November 2025 to 9 January 2026, which covered the proposed Replanting Framework.
- 8 A total of 6 Gencos responded to the consultation paper. Respondents provided feedback relating to:
 - a. Impact on competition,
 - i. With the bundling of retirement of an existing generating unit with the planting of a new generating unit, replanted generating units would be prioritised over new plantings by Gencos with no ageing generation capacity. This would reduce the likelihood of EMA calling a CP RFP for new generation capacity and limit new investments in generation planting only to Gencos with ageing generation capacity.
 - b. Supply planning horizon,
 - i. In lieu of introducing the Replanting Framework and introducing additional structural distortions to the market, EMA should enhance the existing CP by extending the current five-year forward planning horizon to six or seven years instead.
 - ii. There is high global demand for CCGTs and thus, the replanted generating units need to be committed beyond the five-year ahead planning horizon to enable Gencos to secure supply of CCGTs with the Original Equipment Manufacturer (“OEM”).
 - c. Exit and entry of retiring generating units and replanted generating units,
 - i. New generation plantings should only be allowed when projected Reserve Margin is below the RRM over the Base EDF.
 - ii. Deferral of retirements should only occur if the required generation capacity cannot be secured via CP RFPs.
 - d. Financial compensation for deferral of retirements
 - i. Gencos requested financial compensation if EMA requires deferral of the retirement of existing generating units.
- 9 EMA’s responses to the feedback received are set out in Appendix A.

EMA's Final Determination for the Replanting Framework and Enhancements to the Centralised Process

- 10 In view of the impact that the Replanting Framework may have on market competition, EMA will not be implementing the Replanting Framework. To mitigate the potential supply shortfall arising from multiple retirement requests within a short timeframe, EMA will make the following changes to the CP:
- a. Initiate the necessary changes to revise the supply planning horizon from five years to six years.
 - b. Allow new plantings to serve up to the Upper-bound EDF, if there is interest from the industry to do so.
 - c. Allow Gencos to offer EMA the flexibility to defer their requested retirements, if required to meet Base EDF and RRM. These Gencos will be scored favourably in the CP RFP for new generation capacity ("**Flexible Retirements**").

Change in Supply Planning Horizon

- 11 In consideration of the external factors beyond Gencos' control that affect the development timeline for awarded planting projects (e.g. tight global supply market for CCGTs, and time taken to obtain regulatory approvals), EMA intends to move towards a supply planning horizon of six years. This will apply to the CP, where generation plantings and retirements shall be committed at least six years ahead. In addition, EMA will embark on the process, as set out in Clause 1.6 of the Transmission Code, to modify the requirement for advanced retirement requests in the Transmission Code to align with the move to a six-year horizon.
- 12 EMA will propose to modify Clause 6.1.6 of the Transmission Code such that Generation Licensees that intend to retire any of its generating units shall submit a written request to EMA for approval no later than 31 March of the year that is six years prior to the year of intended retirement of the generating unit, unless otherwise specified by EMA.¹ On occasions of exceptional circumstances, EMA may require Generation Licensees to submit written request for retirement more than six years in advance to facilitate EMA's planning. EMA will be issuing a separate consultation paper on the proposed changes to the Transmission Code.

¹ Under Clause 6.1.6(a) of the current Transmission Code, any Generation Licensee that intends to retire any of its generating units, shall submit a written request to the Authority for approval not later than 31 March of the year that is five years prior to the year of the intended retirement of the generating unit.

- 13 Considering that approximately 3.3GW of generation capacity that will exceed 30 years of age by 2032, EMA will need clarity on the retirements beyond six years for the near term. Hence, specifically for this year, **EMA plans to require Gencos that intend to retire any generating units in 2032 and 2033 to submit a written request to EMA for approval no later than 31 July 2026.**
- 14 For each Flexible Retirement submitted for 2032 and 2033, Gencos will be scored favourably in the CP RFP 2026 for new generation capacity.
- 15 EMA will continue to review the relevance of the supply planning horizon and revise it if needed.

Management of Flexible Retirements and New Plantings up to Upper-bound EDF

- 16 Allowing new plantings up to Upper-bound EDF provides the option for Gencos to add generation capacity in the system which will help manage the impact of the capacity reduction from multiple retirements over a short duration. It also allows for adequate generation capacity to meet potential demand exceeding the Base EDF from emerging high-demand industrial and digital sectors. EMA will manage the entry of new plantings in the power system as follows:
 - a. **Undercapacity.** EMA will ensure there is sufficient generation capacity to meet the Base EDF and RRM. In the event where the projected Reserve Margin over the Base EDF falls below the RRM after considering the entry of two new generation units in the assessment year, EMA will defer Flexible Retirements to the earliest subsequent year where this condition is not breached.
 - b. **Overcapacity.** Overcapacity is defined as when the projected Reserve Margin exceeds the RRM over the Upper-bound EDF, prior to the addition of any new generating capacity in the assessment year. New generating unit(s) will be allowed entry so long as there is no Overcapacity.

Conclusion

- 17 EMA would like to thank Gencos for providing feedback on the Replanting Framework, which were considered in this final determination and the enhancements to the Centralised Process. EMA will continue to engage the Gencos in the coming Centralised Process RFP.

Appendix A – Feedback received from the Industry Consultation for the Replanting Framework

S/N	Relevant Section	Feedback	EMA's Response
1	Mechanisms of Replanting RFP	<p>a. To clarify whether new generation capacity secured via the Replanting Framework will be prioritised over new generation capacity via CP.</p> <p>b. If a Genco declines to BOO the replanted generating unit when required by EMA, Genco could rejoin the queue for future offer to replant until the Genco has replanted.</p> <p>c. To clarify on the frequency of Replanting RFPs, the triggers for launching them and if Gencos can write to EMA and trigger a Replanting RFP for years after 2033.</p> <p>d. To clarify the need for a Replanting Framework to facilitate the orderly retirement of generation assets given that under the current framework, any retirement of generating unit is already subject to EMA's approval.</p> <p>e. Gencos requested for further details on the Evaluation Criteria that would determine how EMA chooses the units to prioritise for replanting.</p>	EMA has considered the feedback from the industry and will be enhancing the CP instead of implementing the Replanting Framework.

		<p>f. EMA to assist on engagements with SLA to extend the land lease if the remaining land lease is shorter than the economic useful life of the replanted generating unit.</p> <p>g. On the basis that Gencos may have varying availability of land for replanted generating units, Gencos suggested EMA to allow flexibility in proposed COD years (e.g. COD of replanted generating unit could be before, on, or after retirement year).</p> <p>h. To clarify if the retirement still needs to occur by the proposed year if the Genco declines the offer to replant when called upon by EMA.</p> <p>i. The Replanting Framework would impact competitiveness of the market as replanted generating units would be prioritised over new generating units awarded via the CP RFP.</p>	
2	Supply Planning Horizon	<p>a. To clarify if Gencos would be allowed to submit retirement requests outside of the Replanting RFP, as per the Transmission Code requirement.</p>	<p>EMA has considered the feedback from the industry and will be enhancing the CP instead of implementing the Replanting Framework.</p> <p>As per the Transmission Code, retirements for 2031 should have been submitted to EMA for approval by 31 Mar 2026. Notwithstanding, EMA plans to modify the Transmission Code</p>

			such that Generation Licensees that intend to retire any of its generating units shall submit a written request to EMA for approval no later than 31 March of the year that is six years prior to the year of intended retirement of the generating unit, unless otherwise specified by EMA. Specifically for 2026, EMA plans to require Gencos that intend to retire any generating units in 2032 and 2033 to submit a written request to EMA for approval no later than 31 July 2026.
3	Supply Planning Horizon	<p>a. In lieu of introducing the Replanting Framework and introducing additional structural distortions to the market, EMA should enhance the existing CP by extending the current five-year forward planning horizon to six or seven years instead.</p> <p>b. Additionally, due to the high global demand for CCGTs, Gencos requested EMA for the replanted generating unit to be committed beyond the five-year ahead planning horizon to enable Gencos to secure supply of CCGTs with the OEM.</p>	<p>EMA has considered feedback on the five-year forward supply planning horizon and other external factors that affect the development timeline for awarded planting projects (e.g. tight supply market for gas turbines, regulatory approvals). EMA plans to adjust the five-year forward planning horizon towards a six-year forward planning horizon for future CP RFPs. The supply planning horizon will be monitored and revised if needed.</p> <p>EMA plans to modify the Transmission Code such that Generation Licensees that intend to retire any of its generating units shall submit a written request to EMA for approval no later than 31 March of the year that is six years prior to the year of intended retirement of the generating unit, unless otherwise specified by EMA.</p>

4	Exit and Entry of Retiring Generating Unit and Replanted Generating Unit	a. Replanted generating units should only be allowed in the proposed year of entry if the projected Reserve Margin is below the RRM over the Base EDF, rather than the Upper-bound EDF, to avoid overcapacity.	<p>EMA maintains its position to allow plantings to serve up to the Upper-bound EDF if there is interest from the industry. This approach will (i) minimise the impact of the loss of capacity from a potential influx of multiple retirement requests over a short duration; and (ii) allow for adequate generation capacity to meet potential demand exceeding the Base EDF from emerging high-demand industrial and digital sectors, as reflected in the Upper-bound EDF.</p> <p>Overcapacity is defined as when the projected Reserve Margin exceeds the RRM over the Upper-bound EDF, prior to the addition of any new generating capacity in the assessment year. New generating unit(s) will be allowed entry so long as there is no Overcapacity.</p>
5	Exit and Entry of Retiring Generating Unit and Replanted Generating Unit	a. A deferment of retirement should only occur if capacity cannot be secured via the CP.	EMA noted the additional costs that would be incurred by the Genco to extend the operational life of a retiring unit. Hence, retirements would only be deferred if there is a shortfall in generation capacity after consideration of new units secured via CP RFP to meet the RRM over the Base EDF.
6	Financial compensation for deferment of retirements	a. Gencos requested for financial compensation if EMA requires deferment of the retirement of existing generating units as the Genco would need to incur	A Genco that provides EMA with the flexibility to phase the retirement year of their generating unit (without request for revenue support or financial compensation from EMA)

		additional costs to extend the usability of the unit to ensure that it can be operated safely and reliability.	will be scored favourably in the CP RFP for new generation capacity (i.e. Flexible Retirement). All other retirement deferrals, if needed by EMA to meet the RRM and Base EDF, will be discussed on a case-by-case basis.
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