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1 Summary

1.1 Seeking your views

We are seeking your views on changes to Transpower's Connections Management Framework (CMF) – Transpower's process for managing new grid connections for electricity generation, energy storage and embedded generation connections. In this document we discuss our observations after the first year of the CMF's operation, identify opportunities for improvements and set out what we think those improvements should look like. We welcome input from a wide range of stakeholders including central government, regulators, generation developers and distribution businesses.

We are providing six weeks for submissions, which are due by 5pm on 1 May 2024.

After considering all submissions received, we anticipate implementing any changes by 30 June 2024.

We are suspending acceptance of connection applications while we undertake this consultation and will begin accepting connection applications again when we have implemented any revisions. This pause will not affect connection applications already submitted, including Investigations being started or progressed.



2 Purpose of this consultation

Transpower is reviewing its CMF for generation and storage connections including embedded connections, to ensure it remains fit for purpose.

Our current CMF was initially consulted on in June 2022, refined during a second round of consultation and implemented in November 2022. As stated in our original decision paper ¹ the CMF has the following objectives:

- To ensure a transparent and efficient Investigation and delivery process for new connections, focusing resources to well-developed projects and promoting standardisation of end-to-end connection processes;
- To provide investors with increased certainty, supporting New Zealand's continued position as an attractive place to invest in new generation and energy storage; and
- To maximise our contribution in enabling the Government's targets for connecting new renewable generation.

2.1 Reviewing the original CMF

We committed to reviewing the CMF after its first 12 months of operation to ensure it is achieving its objectives. This consultation is the first step of that review. The changes proposed in this document focus on the application process for new onshore generation and energy storage projects, aiming to strengthen the demonstration of readiness requirements.

The additional objectives of this review are to ensure that:

- speculative projects do not delay the connection of other further developed projects;
- resources available to Transpower to facilitate grid connections are used most efficiently;
 and
- Transpower's ability to maintain a safe, secure and reliable electricity supply is maximised.

This paper sets out the changes we think would assist us to achieve these objectives. We are seeking feedback on these proposed changes and invite ideas as to other options not identified in this paper.

While we undertake this consultation, we are suspending the acceptance of any new connection applications to the CMF and will begin accepting connection applications again when we have implemented any revisions. This is to prevent a rush of applications. Transpower encourages all applicants, customers and stakeholders to engage with us on this consultation.

¹ <u>A new connections management framework, Decision paper</u>, 3 November 2022.



3 Introduction

Transpower holds a unique position in Aotearoa New Zealand's wider energy sector. Although we do not generate, own or sell electricity, our role is a central and enabling one. The energy sector is changing rapidly to meet decarbonisation goals and our economy is becoming increasingly reliant on electricity. Transpower's role is to enable this transition. We do so by continuing our essential work to ready the grid and power system for a highly electrified future, and by continuing to advocate for and promote engagement on a net zero carbon future.

There are two key parts to our business. We are the owner of New Zealand's national grid – the high voltage transmission network that carries electricity around our country. Our national grid is essential infrastructure that transports bulk electricity from where it is generated through to cities, towns and some major industrial users. The grid connects with smaller lines companies who deliver that power to New Zealand's homes and businesses. Our transmission network includes over 11,000 km of transmission lines, 25,000 transmission towers and 174 substations – assets that are worth more than \$5 billion and provide direct benefit to the whole country. Because there is only one national grid, our transmission network is a natural monopoly and is regulated by the Commerce Commission.

Transpower is also the system operator. We are responsible for managing the real-time power system and operating the wholesale electricity market. In this role we are regulated by the Electricity Authority in accordance with the rules and regulations that define New Zealand's power system and the market structure in New Zealand.

3.1 Background to the CMF

Since 2019, Transpower has seen a significant increase in connection enquiries, especially for new renewable generation and energy storage. In our role as owner of the National Grid, we have a responsibility and obligation to offer fair, reasonable and transparent grid connection terms. We also recognise the role Transpower plays in meeting decarbonisation targets and began preparing improvements to the customer connections process following the launch of our *Whakamana i Te Mauri Hiko*² work in 2018.

In June 2022 Transpower undertook a consultation,³ identifying that the previous pipeline model, under which a very small number of grid connection enquiries could be managed in a relatively informal fashion, was no longer fit for purpose. We consulted on the introduction of a framework to provide a transparent and efficient Investigation and delivery process for new connections.

We used feedback obtained as part of the consultation to refine the framework and consulted with stakeholders again in September 2022. The final feedback was used to implement the CMF in November 2022.



² Whakamana i Te Mauri Hiko, 2018.

³ New generator grid connections: proposed grid connection gueue management system, June 2022.

Since the CMF was implemented, we have continued to refine and improve our customer connections process. Wider changes include:

- introducing an increased fee for concept assessments to deter speculative enquiries;
- increasing the information and tools available to generation applicants on our website to allow for self-sourcing information and education;
- working with engineering consultancies to assist them in understanding our requirements in working with applicants;
- process improvements, in our system operator role, to the commissioning process;
- refining our parallel process for managing, in collaboration with electricity distribution businesses (EDBs), the impact on the grid of distributed generation connections which do not require new primary transmission assets; and
- recognising a subset of direct connection projects, which do not require new primary transmission assets, have significantly lower resourcing needs and can therefore follow a similar process to low impact distributed generation connections.



3.2 The CMF added an application stage in our connections process

The CMF introduced an application stage to the connection process for all developers of onshore generation and battery energy storage systems (BESS) up to 500MW and developers of projects above 500 MW which do not require significant interconnection grid upgrades.⁴

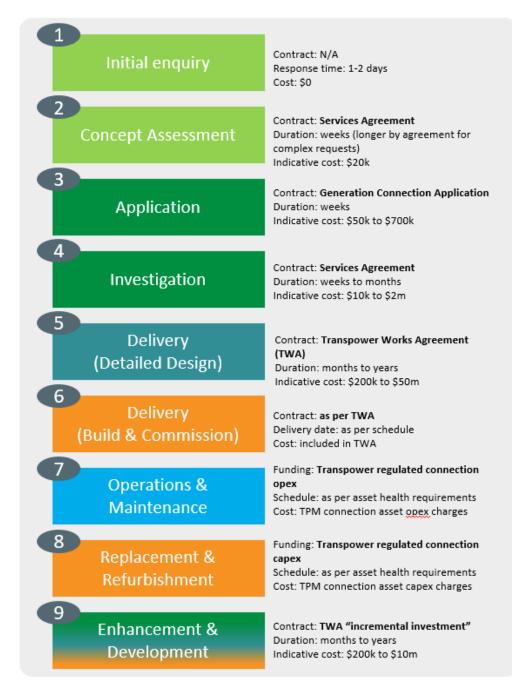


Figure 1: Customer connection process

⁴ Connections larger than 500 MW and offshore projects are considered on a case-by-case basis and may need to meet some or all the requirements of the CMF. This is consistent with our original CMF.

The system was designed to be neutral to generation type and size, applicant and location, and to also apply a first-ready, first-served basis to managing applications in a way that was both objective and administratively simple, while recognising the varying nature of generation connections.

Within the original CMF design, Transpower retained the right to accelerate projects that would help resolve short-term system needs as identified in our role as system operator.

Transpower also operates a parallel process to implement grid changes to enable distributed and direct generation connections which do not require new Transpower connection assets. These projects re-use existing Transpower connection assets with only minor Transpower configuration changes and a significantly lower Transpower resource requirement.

3.3 The CMF appears to be delivering

Since the implementation of the CMF, there have been 69 applications for new generation connections, of which 22 have proceeded to Investigation and 13 have been cancelled, merged or rejected.

As of 6 March 2024, there are:

- 33 confirmed applications pending allocation of resources to begin Investigation, for a total of 6,646 MW;
- 37 projects in Investigation, for a total of 5,932 MW; and
- 10 projects in delivery, for a total of 743 MW.

These include solar, wind, geothermal and hydroelectric generation and BESS.

Figure 2 illustrates the earliest years in which this generation may be commissioned. This assumes the projects reach financial close,⁵ which is outside of Transpower's control, and delivery of the project and the connection runs to the schedule indicated at time of application.

⁵ Customers reach financial close as the final step prior to proceeding with construction. For Transpower, this means executing a customer investment contract, usually a Transpower Works Agreement (TWA), at which point the project moves into delivery; a signed TWA is therefore taken to mean a project has reached financial close and is fully committed.



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Figure 2: Generation and energy storage connection projects with indicative MW by technology and commissioning year indicated at time of application (excluding BESS proposed as part of a solar connection).

Notwithstanding the inherent lag between an increase in applications and an increase in connected generation, forecast generation additions are well above the rate required to meet load growth in line with the accelerated electrification scenario outlined in *Whakamana i Te Mauri Hiko*.^{6,7}

The mix of connection types has evolved over time, with an increase of wind generation and a significant increase in BESS, with up to 2,680 MW of confirmed applications, 2,207 MW at Investigation and 430 MW in delivery; in total more than double the figure in November 2022.

The CMF seeks to ensure the throughput⁸ of Investigations is efficient as far as Transpower can manage alongside its other portfolios of work. The number of applications submitted are not within Transpower's control.

3.4 Feedback on the CMF has generally been positive

Feedback on the CMF to date has been generally positive. The transparency and simplicity of the CMF has provided applicants with more certainty. We have seen examples of applicants choosing either to not apply or to remove projects from the CMF, indicating success at disincentivising speculative projects or projects that need more preparation work. It has ensured a more orderly pipeline for Transpower to resource generation and storage projects more efficiently.

When the CMF was implemented in November 2022, we informed applicants we would review the process after 12 months. Over this time, we have acquired a better understanding of the information we need from applicants through their applications to provide more certainty a project is able to proceed.

⁶ See p 45, Whakamana i Te Mauri Hiko, 2018.

⁷ Assuming capacity factors: solar 18%, wind 40% and geothermal 90%.

⁸ By this we mean the number of projects progressing through the connections process once they enter the queue.

4 Observations after the first year of operation

After a year of operation, we have made the following observations:

- we have a better understanding of what information reflects a ready and realistic generation or storage project;
- some projects have dropped out when requested to pay the full application fee;
- applications have continued to be made for new generation connections in congested parts of the grid where full dispatch of generation is unlikely;
- there is currently limited flexibility to prioritise projects in situations where this may be beneficial to the CMF's objectives;
- we are aware any length of wait time is seen as a barrier by applicants;
- there is some frustration that more 'ready' projects (such as those already consented) or
 projects that may be considered more 'beneficial' (for example, types of generation that can
 support winter peaks) are not prioritised over other projects; and
- there is limited transparency around the pace of applicants' Investigations projects, including progress against milestones.
- Q1. Do you agree with the observations we have made after the first year of operation?
- Q2. Do you have other observations on the CMF following one year of operation?



5 Opportunities for improving the CMF

To achieve the objectives identified in section 2 we are proposing improvements that would see changes in the following categories:

- changes to the criteria Transpower reviews applications against;
- · changing the timing of the application fee; and
- improving other aspects of the process.

5.1 Changes to the criteria Transpower reviews applications against

Opportunities	Considerations	Proposed solutions
Application requires only a 'consenting plan'.	Consenting plans do not always enable Transpower to assess whether an applicant understands and has planned to comply with Transpower's consenting requirements.	Strengthen the consenting criteria. Applicants will be expected to deliver a more detailed consenting strategy reflecting updated guidance. A draft is included in Appendix
	We have concerns around some of the consenting information provided and that Transpower's reputation may in some cases be affected by the applicant's approach to consenting.	A.
Iwi and stakeholder engagement requirements are open to interpretation. Applicants provide general or generic answers.	Enduring connections and relationships with mana whenua are important to Transpower. If applicants are not engaging with our communities, we risk damaging our social licence and reputation by being associated with their projects. Community engagement needs to be aligned with consenting and recognise the development is part of a community for the life of the asset.	Strengthen the iwi and stakeholder engagement requirements and split these into two separate requirements. Applicants will be expected to deliver stakeholder and mana whenua engagement strategies reflecting the updated guidance. A draft is included in Appendix B.

- Q3. Do you agree with the comments about the assessment criteria and the proposed solutions?
- Q4. Do you have other suggestions that may assist with regard to the criteria?



5.2 Changing the timing of the application fee

Issue	Considerations	Proposed solutions
Requiring payment of the	If the application fee was	Restructure the application fee so
balance of the application	payable in full at the beginning	it is payable in full earlier in the
fee (i.e. the amount above	(e.g. to enter the queue), it	process.
the \$50,000 deposit)9 later	may result in fewer speculative	Applicants currently in an
in the process has seen	projects applying to enter the	Investigation will be moved to the
some projects drop out at	queue. This would encourage	back of the queue should agreed
this point, creating	applicants to apply when their	payments be late.
resource planning	projects are more 'ready' and	
challenges for Transpower.	able to be progressed,	
There have also been	meaning Transpower's	
occurrences of late	resources can be used more	
payments which cause	efficiently. Any late payments	
issues with resource	would be addressed well	
allocation.	before an Investigation is	
	resourced, reducing the risk of	
	resource churn.	

- Q5. Do you agree with the comments about the application fee and the proposed solutions?
- Q6. Do you have other suggestions related to the application fees?



⁹ For reference, the current fee is detailed in <u>A new connections management framework, Decision paper</u>, 3 November 2022.

5.3 Improving other aspects of the process

Opportunities	Considerations	Proposed solutions	
Transpower might be able to improve the throughput of connection projects by: working simultaneously on more than one connection at a single location; combining connection work with other work Transpower is doing in a particular location; and ensuring that resources (throughout the country) are efficiently deployed at all times.	Sometimes there are credible reasons for accelerating a project. Currently the CMF makes specific reference to system security reasons but does not identify other reasons for acceleration. Accelerating a project necessarily means applying resources to a project that may not be based on the order of its original place in the queue. However, acceleration of limited projects could lead to an overall improvement of the throughput of projects in the connection pipeline through resource efficiencies. In some cases, it might be necessary to obtain agreements to enable Transpower to connect two or more projects simultaneously at the same site.	Transpower to be able to prioritise projects for reasons including: system need; efficient use of our workforce and resources; combining projects where this would create efficiencies. To preserve the integrity of the CMF we would: ensure all acceleration decisions are approved by our internal governance group ¹⁰ and publicise the reason(s) for any acceleration.	
The CMF is currently silent on direct generation connections that do not require significant new Transpower capital assets. However, the CMF does have a separate parallel process for significant generation connections that are embedded within electricity distribution businesses (EBDs) which do not require new Transpower capital assets.	These projects require significantly fewer Transpower resources and may be progressed without impacting timeframes for other applications.	Allow the acceleration of generation connection projects that re-use existing connection assets if the connection does not have a significant impact on other generation projects within the CMF seeking to connect at the same location.	



¹⁰ Transpower's relevant governance group includes Transpower's CFO, Executive GM Operations, Executive GM Customer & External Affairs, Executive GM Grid Delivery, Executive GM Grid Development, Executive GM Strategy, Regulatory and Governance.

Issue	Considerations	Proposed solutions
There is limited	Slow projects clog up resources.	For each project in Investigation,
transparency	While there may be reasons for	publish a status update on a monthly
around the pace of	projects to be held up, we need a	basis.
progression of	level of disclosure that helps	
projects during the	customers manage their projects	
Investigation stage.	and deliver in accordance with	
	milestones.	
Applicants have	Transpower wants to demonstrate it	Transpower's proposed RCP4
limited visibility of	is setting and meeting expectations	Customer Service Metrics are
Transpower's	with regard to connections	described in our RCP proposal and in
capacity to deliver	milestones and has proposed	our 2023 Service Measures Report,
customer projects.	additional Customer Service Metrics	available on our website. 11 These are
	for RCP4 including the following sub-	intended to incentivise fair allocation
	categories: average time to deliver	of resource to customer projects and
	concept assessments; percentage of	to incentivise continual improvement
	Investigation projects delivered	of our connection process.
	within contracted time; median time	
	from TWA to commission; and	
	percentage of connection projects	
	delivered within contracted time.	
Projects are being	Transpower has an ambitious but	Transpower will produce a
submitted for	realistic programme to upgrade the	constraints map illustrating proposed
connections in areas		generation connection projects
of the grid that are	accommodate future need ¹² .	against transmission constraints (if all
congested,	However, some applications are for	projects in the queue are built) to
potentially leading	generation connection projects in	assist with applicants' investment
to generation not	areas which would have a regional	decisions. Transpower's role is not to
being fully	transmission constraint. An upgrade	consider the dispatchability of a
dispatched.	would be required to remove the	project or whether the project is
	constraint which would be assessed	financially viable. Transpower's
	via the Investment Test, or one or	transmission capacity information
	more connecting parties could fully	may assist applicants and finance
	pay for the upgrade.	companies in their decision making.

Q7. Do you agree with the comments about improving other aspects of the process?

Q8. Do you have other suggestions for improvements to the process?



¹¹Service Measures Report 2023, November 2023.

¹² https://www.transpower.co.nz/nzgp.

6 Transition arrangements

We are proposing to apply these changes to new generation and storage connection applications going forward. We also propose to publish a status update for all projects currently in the Investigation stage, for all existing applications.

- Q9. What is your view as to whether Transpower should apply the proposed solutions to projects already in the pipeline?
- Q10. Do you agree that we should publish status updates for each project?
- Q11. Is there anything else you would like us to know or consider?
- Q12. What could we do to incentivise projects (currently and in the future) which become unlikely to be pursued, to be removed from the queue?

7 Next steps and how we will use your feedback

The table below sets out our proposed timeframes for this consultation and review. We are providing six weeks for submissions, which are due by 5pm on 1 May 2024.

Consult with applicants, customers and stakeholders on draft changes	March-April 2024
Review feedback and discuss with regulators	May 2024
Publish decision on final changes	June 2024
Implement changes	July 2024

Please send written submissions to <u>Customer.Solutions@transpower.co.nz</u>. We will acknowledge receipt of all submissions.

We recognise maintaining confidentiality is essential for the integrity of this consultation process, however, please note all information provided to Transpower is subject to potential disclosure under the Official Information Act 1982.

If you'd like to discuss any aspects of this consultation or have any questions, please contact us at Customer.Solutions@transpower.co.nz.



8 Questions

- Q1. Do you agree with the observations we have made after the first year of operation?
- Q2. Do you have other observations on the CMF following one year of operation?
- Q3. Do you agree with the comments about the assessment criteria and the proposed solutions?
- Q4. Do you have other suggestions that may assist with regard to the criteria?
- Q5. Do you agree with the comments about the application fee and the proposed solutions?
- Q6. Do you have other suggestions related to the application fees?
- Q7. Do you agree with the comments about improving other aspects of the process?
- Q8. Do you have other suggestions for improvements to the process?
- Q9. What is your view as to whether Transpower should apply the proposed solutions to projects already in the pipeline?
- Q10. Do you agree that we should publish the status update for each project?
- Q11. Is there anything else you would like us to know or consider?
- Q12. What could we do to incentivise projects (currently and in the future) which become unlikely to be pursued, to be removed from the queue?





Appendix A: Draft changes to minimum requirements for consenting

We propose to add the red text to the application form:

Has the applicant submitted all of the following information on the project consenting strategy, including any consideration of alternatives of the effects of the development on the environment regarding the suitability of the land for the intended development, as a part of the application:			
Consenting strategy	Yes 🗌	No 🗌	
Consenting timeline	Yes	No 🗌	
Please detail what role the applicant would approvals for the Transpower assets require transmission network (Transpower led / app Please enter answer here Has the applicant submitted a project conset the minimum requirements outlined in section consenting strategy	ed for the connectolicant led / hybri	tion of the applicant's prid). a part of the application	oject to the

We propose to add the text in red as further guidance to the Guidance Notes:

2.7 Environmental approvals

This section will be reviewed by Transpower's Environment Team. Applications will need to have identified, though may not yet have secured, necessary environmental approvals for the generation development. The approvals for the associated connection should also be identified.

Information should include detail on what consents have been secured or may need to be secured. Please include timeframes for approvals for consents yet to be secured.

If relevant note any sensitive environments at the generation or connection site and the need for the line connection to pass through or avoid these. A full alternatives assessment would not be required at this stage.

Failure to demonstrate sound knowledge of the issues, and a strategy to address, may result in an application being rejected. Note, a project with complex issues and risks would not of itself be a reason for an application being rejected.

If known, please detail what role the applicant would like Transpower to take in obtaining any necessary approvals for the Transpower assets required for the connection of the applicant's



project to the transmission network (Transpower led / applicant led / hybrid). This information is not evaluated as a pass / fail item.

We would expect consenting strategy to address the following matters:

- The type of activities that will trigger consent, and the activity status of those activities within the relevant regional and district plans;
- The consents the applicant would like Transpower to apply for, and potentially the activity status;
- The likely effects of the project;
- The date for applying for and obtaining the consents;
- The consenting pathway the applicant intends to use to obtain the consents (e.g. standard council process, direct referral to the Environment Court, call-in, COVID-19 Recovery (Fast-Track Consenting) Act);
- The consultation and engagement planned (see also section 2.8 below).

Transpower has developed a preferred consenting approach for typical Customer projects [Transpower will be updating its website with new and improved information to assist customers with developing their consenting strategy].

Consenting strategy:

This section of the application will be reviewed by Transpower's Environment Team.

The applicant must submit a consenting strategy demonstrating the applicant has considered what necessary environmental approvals are required for the generation development and the associated connection, has a sound knowledge of any consenting issues and how they will be addressed.

As a minimum, the consenting strategy must include the following matters:

- The type of activities at the generation and connection site(s) (including Transpower works) that will trigger consent, and the likely activity status;
- Identifying any sensitive environments at the generation or connection site(s) and the need for the line connection to pass through or avoid these;
- The likely effects of the project;
- Consideration of the need for an alternative assessment;
- The consenting timeline;
- The intended consenting pathway (e.g. standard council process, direct referral to the Environment Court, Fast-track Consenting); and
- The planning consultant and environmental specialists engaged to assist with the project (or identify internal team if being conducted in-house).



Appendix B: Draft changes to stakeholder engagement criteria

We propose to split stakeholder engagement and mana whenua engagement into two separate criteria. This will involve formatting changes to the application form and more guidance provided in the **Guidance Notes** as set out below in red:

2.8 Stakeholder engagement

Applicants will need to provide a Communications and Engagement Plan with their applications which covers the following:

- Identification of project stakeholders;
- Identification of most impacted stakeholders;
- Stages of intended engagement, including timeframes;
- Strategy and approach to engagement;
- Channels to be used for engagement and communication; and
- Areas where it would be beneficial to engage collectively with Transpower e.g. mana whenua and council engagement (see discussion below).

This Plan needs to address the generation project and the associated connection, and should support the consenting strategy.

Failure to demonstrate sound knowledge of the issues and a strategy to address these may result in an application being rejected. A project with complex issues and risks would not of itself be a reason for an application being rejected.

Failure to provide information will result in an application being rejected.

If relevant, please detail what role the applicant would like Transpower to take (Transpower led / applicant led / hybrid) in terms of stakeholder engagement for the transmission network connection component of this project. This information is not evaluated as a pass / fail item.

Discussion on collective engagement

Applicants should note the importance of acting collectively with Transpower where there are benefits to do so. Communities impacted by both generation and transmission build may find a collective approach to engagement preferable to one which keeps the two elements separate. Additionally, where the applicant does not have an existing connection to the location, relationships with stakeholders in the area of their intended project, or is new to New Zealand's electricity industry and consenting regimes, expression of a joined-up approach for mana whenua and/ or council engagement is likely to be beneficial to all parties. Transpower represents over 100 years of operating transmission in New Zealand and needs to maintain an enduring connection with the places and the people where its network is located.

With respect to any collective engagement with mana whenua or other parties, Transpower will not lead the engagement, but we will represent our elements of the project as required and, for mana whenua, we will emphasise the permanence of our relationship to the area. This is because unlike a generation project which may ultimately be divested by the applicant, the transmission grid will continue to be owned by Transpower and its successors.



2.9 Mana whenua engagement

Applicants should have either a section in the Communications and Engagement Plan on mana whenua engagement or a stand-alone plan. The choice should depend on the cultural environment of the intended project, e.g. legacy issues through other projects, strength of cultural connection to the land and people, overlapping cultural interests.

The section or plan should clearly identify the impacted iwi and hapū, and reflect an understanding of the tikanga around engagement in terms of planned activity.

Mana (or authority) over the land in Te Ao Māori is generally held by hapū and hence planned interactions are expected to be at local hapū/marae level, and through progressive hui.

Again, there may be benefits in a collective engagement with Transpower for mana whenua (see discussion above) given our existing and likely more enduring connection to place.



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