ENG – Energy

Energy is critical to the functioning of the Wairarapa. Increasing demand for energy at a local level has an impact on the limited resources available to provide energy – while non-renewable resources such as gas and coal will eventually be depleted, renewable resources including hydro, solar, wind power, and biomass sources may also bring about adverse effects on the environment, such as visual impacts and the impact of new dams on river systems. Tangata whenua understands the potential of renewable energy and its value in Wairarapa not just to whanau and hapu but for commercial reasons too.

The RMA defines renewable energy as energy produced from solar, wind, hydro, geothermal, biomass, tidal, wave, and ocean current sources. The use and development of renewable energy can be in a number of different forms. At the domestic scale, there are various ways to use natural sources of heat, including the orientation of buildings towards the sun to assist passive heating, cooling, and natural lighting. Significant gains can also be made through solar water heating or solar panels in dwellings.

The provisions in this chapter have been developed to give effect to the National Policy Statement for Renewable Electricity Generation 2011 (NPS-REG) and the Climate Strategy 2024. The NPS-REG seeks to recognise the national significance of renewable electricity generation activities by providing for the development, operation, maintenance and upgrading of new and existing renewable electricity generation activities, such that the proportion of New Zealand's electricity generated from renewable energy sources increases to a level that meets or exceeds the New Zealand Government's national target for renewable electricity generation. The Climate Strategy seeks to double renewable energy generation by 2050. The provisions in this chapter enable the sustainable development, operation, maintenance and upgrading of renewable electricity generation in appropriate locations.

Domestic small-scale wind turbines and solar panels may become more common, particularly for properties located at distance from energy sources. The scale of such facilities are unlikely to create significant environmental effects, particularly in rural areas where distances from neighbouring properties and screening vegetation, such as shelter belts, can avoid or mitigate any visual and noise effects.

While domestic-scale energy efficiency and alternative energy sources will contribute to the reduction of energy consumption, they will be insufficient to meet the anticipated nationwide growth in demand for energy to supply growth in the economy. A substantial proportion of future energy supply will therefore need to be generated from new renewable sources.

There are many different forms of economically viable renewable energy options currently being developed in New Zealand and overseas. Currently, the key potential source of renewable energy development in the Wairarapa is solar and wind, although options such as biomass or wave energy may become more technically and economically viable in the future.

Across New Zealand – including in the Wairarapa – electricity generated by solar panels and wind turbines is therefore likely to form an important component of renewable energy development in the foreseeable future. Providing for renewable energy plays critical role in reducing reliance on non-renewable energy and will assist in decarbonisation. Parts of the Wairarapa contain an excellent potential for wind generated energy. Usually, wind energy facilities are provided at a large scale, and can therefore potentially have environmental effects, particularly landscape and amenity effects, as wind energy facilities, by necessity, are in open usually prominent locations where the wind resource occurs. Similarly, the Wairarapa has relatively high sunshine hours and areas potentially suitable for solar farms at various scales.

Facilities for the storage and transmission of generated electricity to the National Grid may also be necessary, with potential for environmental effects. Due to the location of the wind resource in the districts, wind energy facilities are likely to be sited in elevated locations in coastal and rural areas. The characteristics that lend themselves to wind energy generation often also provide an important landscape backdrop for urban and rural areas. There are potential tensions between the existing values of these areas and their potential for wind energy generation. Solar energy generation poses similar tensions.

By their nature, there is tensions between other competing land uses, in particular primary production, including on Highly Productive Land and the Martinborough Soils Overlay.

Increased demand also increases the need for more battery energy storage and electricity transmission and distribution systems, which may bring about adverse effects on the environment. The effects from energy generation, storage, transmission and distribution facilities can generally be effectively addressed through a variety of methods. However, some level of adverse effects may need to be accepted in accordance with the necessity for energy, and as New Zealand moves towards a more sustainable energy future.

The provisions within this chapter apply on a district-wide basis. As such, the rules in the zone and district wide chapters do not apply to renewable electricity generation unless specifically stated within a rule or standard in this chapter. The objectives and policies in district-wide overlay chapters are relevant when considering applications under the rules of this ENG-Energy Chapter. Also, the objectives, policies and rules of the subdivision chapter apply to renewable electricity generation where applicable. The rules in the Network Utilities chapter apply to electricity transmission and electricity distribution.

Objectives

ENG-O1	Benefits of renewable electricity generation activities
The local, regional, and national benefits of *renewable electricity generation activities* are recognised and provided for, including by protecting *renewable electricity generation activities* from reverse sensitivity effects.	
ENG-O2	**Adverse effects of renewable electricity generation activities**
Renewable electricity generation activities are designed and located to avoid, remedy or mitigate adverse effects on communities and the environment while recognising their *operational or functional needs*.	
ENG-O3	**Energy generation and efficiency**
To move the Wairarapa towards a low emission economy through the efficient use of energy and increase the generation of electricity from renewable sources in the Wairarapa.	

Policies

ENG-P1	Enable site investigations for renewable electricity generation
Enable activities associated with investigating site suitability for *renewable electricity generation*.	
ENG-P2	**Enable small-scale renewable electricity generation activities**
Enable *small-scale renewable electricity generation activities* where they are in a location and of a form and scale that avoids, remedies, or mitigates adverse effects.	
ENG-P3	**Provide for community-scale renewable electricity generation activities**
Encourage *community-scale renewable electricity generation activities* in the General Rural Zone and Māori Purpose Zone where adverse effects are avoided, remedied or mitigated, by having regard to: a. benefits of community scale renewable electricity generation, including resilience benefits; b. transport and *infrastructure* capacity to accommodate the activity; c. effects on the *productive capacity* of the land, including protecting the *productive capacity* of *highly productive land* and Martinborough Soils Overlay;	

d. potential adverse effects from the activity, including traffic generation, visual, light, safety, and noise; e. cumulative effects with other renewable electricity generation developments; f. risk from natural hazards, where relevant; g. the scale of the activity and potential effects on the surrounding area; h. potential for adverse effects on natural features and landscapes, waterbodies, indigenous biodiversity, historic heritage, and sites of significance to Māori; i. the design and site layout of the activity and its ability to internalise effects; j. consideration of long-term management and responsibilities for the development; and k. whether there is adequate separation from sensitive activities to ensure adverse effects, including potential adverse reverse sensitivity effects, are minimised.	
ENG-P4	**Large-scale renewable electricity generation activities**
Provide for *large-scale renewable electricity generation activities,* having regard to: a. the benefits of additional renewable electricity generation; b. any functional or operational need including the need to locate the activity where the renewable energy resource is available; c. transport and *infrastructure* capacity to accommodate the activity; d. avoiding, remedying or mitigating actual and potential adverse effects from the activity, including: i. traffic generation, visual, light, safety, and noise; ii. earthworks and construction effects; iii. effects on *sensitive activities* and the need for separation distances to minimise reverse sensitivity effects; iv. cumulative effects from multiple renewable electricity generation activities; v. adverse effects on natural features and landscapes, waterbodies, indigenous biodiversity, historic heritage, and sites of significance to Māori; vi. adverse effects on the *productive capacity* of *highly productive land* and land in the Martinborough Soils Overlay; and vii. any mitigation, offsetting, compensation or adaptive management measures proposed.	
ENG-P5	**Reverse sensitivity**
Manage subdivision and land use activities to avoid adverse effects on the efficient operation of established *renewable electricity generation activities*.	
ENG-P6	**Operation, *maintenance*, *repair*, removal and *upgrade* of *renewable electricity generation activities***

Enable the operation, maintenance, repair and removal of existing renewable electricity generation activities and provide for the upgrade of renewable electricity generation activities where the effects are appropriately managed.

Rules

ENG-R1		**Installation, *maintenance*, *repair*, *upgrade,* and removal of new utility equipment for investigating a site for suitability for a *renewable electricity generation activity*.**
	All zones	1. Activity status: **Permitted** Where: a. The activity is not located within: i. Areas of Outstanding Natural Character; ii. Outstanding Natural Features and Landscapes; iii. Sites and areas of significance to Māori, or iv. Significant Natural Areas. b. Compliance is achieved with: i. ENG-S1.
	All zones	2. Activity status: **Restricted discretionary** Where: a. Compliance is not achieved with ENG-R1(1). Matters of discretion: 1. Local, regional, and national benefits. 2. The functional need or operational need of, the investigation equipment. 3. Effects on the safe, effective, and efficient functioning of the transport network during construction. 4. Noise, amenity, landscape and visual effects. 5. The type, scale, form, and location of any structure. 6. Effects on areas of *outstanding natural features and landscapes, outstanding natural character, significant natural areas*, and sites and areas of significance to Māori.

ENG-R2		**Operation, *maintenance*, *repair*, and removal of existing *renewable electricity generation activities***
	All zones	1. Activity status: **Permitted**

		Where: a. The operation, maintenance and repair are not otherwise provided for by ENG-R3 or ENG-R4; and b. All aboveground structures that are no longer required for *renewable electricity generation* purposes are removed within two years of being replaced or becoming redundant.
	All zones	2. Activity status: **Restricted discretionary** Where: a. Compliance is not achieved with ENG-R2(1). Matters of discretion: 1. The *functional need* or *operational need* for structures to remain. 2. Actual and potential loss of *highly productive land*.

ENG-R3		***Small-scale renewable electricity generation activities*, including operation, *maintenance*, *repair*, and *upgrade***
	All zones	1. Activity status: **Permitted** Where: a. Electricity generation is from solar panels only; and b. Compliance is achieved with: i. ENG-S4; ii. ENG-S5; and iii. ENG-S6
	General Rural Zone **Māori Purpose Zone**	2. Activity status: **Controlled** Where: a. Electricity generation is from a maximum of one wind turbine only; and b. Compliance is achieved with: i. ENG-S2; ii. ENG-S4; iii. ENG-S5; and iv. ENG-S6. Matters of control: 1. Benefits of small-scale electricity generation, including resilience benefits. 2. Noise, amenity, landscape and visual effects.

		3. The type, scale, form, and location of structures. 4. Measures to avoid and minimise any potential loss of highly productive land.
	All zones	3. Activity status: **Restricted discretionary** Where: a. Compliance is not achieved with ENG-R3(1) or ENG-R3(2). Matters of discretion: 1. Benefits of small-scale electricity generation, including resilience benefits. 2. Noise, amenity, landscape and visual effects. 3. The type, scale, form, and location of any structure. 4. Actual and potential loss of highly productive land.

ENG-R4		***Community-scale renewable electricity generation* (solar), including operation, *maintenance*, *repair*, and *upgrade***
	General Rural Zone **Māori Purpose Zone**	1. Activity status: **Controlled** Where: a. The activity is not located within: i. moderate hazard areas; ii. high hazard areas; iii. areas of Outstanding Natural Character; iv. areas of High and Very High Natural Character, v. Outstanding Natural Features and Landscapes; vi. Coastal Environment; vii. sites and areas of significance to Māori; viii. *Significant Natural Areas*; or ix. *Highly productive land*~~.~~; x. Martinborough Soils Overlay*;* xi. A site *containing a* heritage building or item listed in SCHED1 Heritage Buildings and Items; or xii. A heritage precinct listed in SCHED2 Heritage Precincts. b. Compliance is achieved with: i. ENG-S2; ii. ENG-S4; iii. ENG-S5; and iv. ENG-S6. Matters of control: 1. Benefits of community-scale electricity generation, including resilience benefits.

		2. Cumulative effects with other renewable electricity generation developments. 3. Noise, amenity, landscape and visual effects. 4. The type, scale, form, and location of structures. 5. Whether the works may result in public health and/or safety risks. 6. Consideration of long-term management and responsibilities for the development. 7. Effects on the road network. 8. Measures to manage effects on adjacent areas of *outstanding natural features and landscapes, surface waterbodies, indigenous vegetation*, historic heritage, and sites and areas of significance to Māori.
	General Rural Zone **Māori Purpose Zone**	2. Activity status: **Restricted discretionary** Where: a. The activity is located in a moderate *hazard area*; or b. Compliance is not achieved with ENG-R4(1)(b). Matters of discretion: 1. Benefits of community-scale renewable electricity generation, including resilience benefits. 2. Effects on the road network. 3. Noise, amenity, landscape and visual effects. 4. Cumulative effects with other renewable electricity generation developments. 5. Risk from natural hazards, where relevant. 6. Whether the works may result in public health and/or safety risks. 7. The type, scale, form, and location of any structure. 8. Effects on adjacent areas of *outstanding natural features and landscapes, waterbodies, indigenous vegetation*, historic heritage, and sites and areas of significance to Māori.
	All other zones	3. Activity status: **Restricted discretionary** Where: a. The activity is not located within: i. high hazard areas; ii. areas of Outstanding Natural Character; iii. areas of High and Very High Natural Character, iv. Outstanding Natural Features and Landscapes; v. Coastal Environment area;

		vi. sites and areas of significance to Māori; vii. Significant Natural Areas; viii. *Highly productive land*; ix. Martinborough Soils Overlay*;* x. A site containing a heritage building or item listed in SCHED1 Heritage Buildings and Items; or xi. A heritage precinct listed in SCHED2 Heritage Precincts. Matters of discretion: 1. Benefits of community-scale renewable electricity generation, including resilience benefits. 2. Effects on the road network. 3. Noise, amenity, landscape and visual effects. 4. Cumulative effects with other renewable electricity generation developments. 5. Risk from natural hazards, where relevant. 6. Whether the works may result in public health and/or safety risks. 7. Consideration of long-term management and responsibilities for the development. 8. The type, scale, form, and location of any structure. 9. Effects on adjacent areas of *outstanding natural features and landscapes, surface waterbodies, indigenous vegetation*, historic heritage, and sites and areas of significance to Māori.
	All zones	4. Activity status: **Discretionary** Where: a. The activity is located within: i. high hazard areas; ii. areas of Outstanding, Very High, or High Natural Character; iii. Outstanding Natural Features and Landscapes; iv. Coastal Environment; v. sites and areas of significance to Māori; vi. Significant Natural Areas; vii. *Highly productive land*; viii. Martinborough Soils Overlay*;* ix. A site containing a heritage building or item listed in SCHED1 Heritage Buildings and Items; or x. A heritage precinct listed in SCHED2 Heritage Precincts.

ENG-R5	***Community-scale renewable electricity generation*** **(wind), including operation, *maintenance*, *repair*, and *upgrade***

	General Rural Zone **Māori Purpose Zone**	1. Activity status: **Controlled** Where: a. The activity is not located within: i. moderate hazard areas; ii. high hazard areas; iii. areas of Outstanding Natural Character; iv. areas of High and Very High Natural Character, v. Outstanding Natural Features and Landscapes, vi. Coastal Environment; vii. sites and areas of significance to Māori, viii. Significant Natural Areas; ix. *Highly productive land*; x. Martinborough Soils Overlay*;* xi. A site containing a heritage building or item listed in SCHED1 Heritage Buildings and Items; or xii. A heritage precinct listed in SCHED2 Heritage Precincts. b. Compliance is achieved with: i. ENG-S3; ii. ENG-S4; iii. ENG-S5; and iv. ENG-S6 Matters of control: 1. Benefits of community-scale renewable electricity generation, including resilience benefits. 2. Noise effects. 3. Landscape, visual, and amenity effects, including shadow flicker for wind turbines and glare for solar farms. 4. The type, scale, form, and location of structures. 5. Effects on the safe, effective, and efficient functioning of the transport network during construction. 6. Whether the works may result in public health and/or safety risks. 7. Consideration of long-term management and responsibilities for the development. 8. Cumulative effects with other renewable electricity generation developments. 9. Measures to manage effects on adjacent areas of *outstanding natural features and landscapes, waterbodies, indigenous vegetation*, historic heritage, and *sites* and areas of significance to Māori.
	General Rural Zone	2. Activity status: **Restricted discretionary** Where:

	Māori Purpose Zone	a. Compliance is not achieved with ENG-R5(1)(b). Matters of discretion: 1. Benefits of community-scale renewable electricity generation, including resilience benefits. 2. Effects on the safe, effective, and efficient functioning of the transport network during construction. 3. Noise, amenity, and visual effects, including shadow flicker for wind turbines and glare for solar farms. 4. Cumulative effects with other renewable electricity generation developments. 5. Risk from natural hazards, where relevant. 6. Whether the works may result in public health and/or safety risks. 7. The type, scale, form, and location of any structure. 8. Effects on adjacent areas of *outstanding natural features and landscapes, waterbodies, indigenous vegetation*, historic heritage, and sites and areas of significance to Māori.
	General Rural Zone **Māori Purpose Zone**	3. Activity status: **Discretionary** Where: a. Compliance is not achieved with ENG-R5(1)(a).
	All other zones	4. Activity status: **Discretionary**.

ENG-R6	***Large-scale renewable electricity generation activities***
General Rural Zone **Māori Purpose Zone**	1. Activity status: **Discretionary**.
All other zones	2. Activity status: **Non-complying**.

ENG-R7	***Upgrade* of existing *large-scale renewable electricity generation activities***

General Rural Zone **Māori Purpose Zone**	1. Activity status: **Restricted Discretionary**. Where: a. The activity is an existing built wind farm and the *upgrade*: i. does not include any additional wind turbines; and ii. wind turbine operation complies with NZS6808:2010. Matters of discretion: 1. the benefits of additional renewable electricity generation; 2. any functional need or operational need including the need to locate the activity where the renewable energy resource is available; 3. transport and infrastructure capacity to accommodate the activity; 4. any new or additional actual and potential adverse effects on the environment associated with the upgrading work, including: i. traffic generation, visual, light, and safety; ii. earthworks and construction effects (including construction noise); iii. effects on *sensitive activities* and the need for separation distances to minimise *reverse sensitivity* effects; iv. adverse effects on natural features and landscapes, waterbodies, indigenous biodiversity, historic heritage, and sites and areas of significance to Māori; v. adverse effects on the productive capacity of *highly productive land* and land in the Martinborough Soils Overlay; and vi. any mitigation, offsetting, compensation or adaptive management measures proposed.
General Rural Zone **Māori Purpose Zone**	2. Activity status: **Discretionary**. Where: a. The activity does not comply with Rule ENG-R7(1).

ENG-R8	***Renewable electricity generation activities* not otherwise provided for**
All zones	1. Activity status: **Discretionary**.

ENG-R9	**Non-renewable electricity generation activities**

	All zones	1. Activity status: **Non-complying**.

ENG-R10	**Battery energy storage systems**
All zones	1. Activity status: **Permitted** Where: a. The activity is not located within: vii. Areas of Outstanding Natural Character; viii. Outstanding Natural Features and Landscapes; ix. Sites and areas of significance to Māori, or x. Significant Natural Areas. b. The maximum building and structure height is: i. 2.5m; or ii. complies with NU-S2. c. The maximum area of the battery energy storage system is: i. 20m² in Residential Zones; or ii. 30m² in all other Zones. d. When located within or on a site adjacent to the General Residential Zone, the battery energy storage system is set back from site boundaries to comply with the *height in relation to boundary* standard for the General Residential Zone; and e. Compliance is achieved with: i. ENG-S5; ii. ENG-S6; iii. NU-S4; and iv. NU-S5.

	All zones	2. Activity status: **Restricted discretionary** Where: a. Compliance is not achieved with ENG-R10(1). Matters of discretion: 1. The *functional need* or *operational need of*, and benefits from, the battery energy storage system, including the potential impact on the supply and security of renewable electricity. 2. The bulk, *height*, location, and design of the battery energy storage system, including any associated *buildings or structures*. 3. The amenity values of the respective zone and the extent to which any adverse visual amenity effects can be avoided, remedied, or mitigated, including: i. any innovative design that integrates the battery energy storage system within the site, existing built form and/or landscape in a way that assists to maintain the character and amenity of the surrounding area; and ii. whether the use of landscaping and/or recessive colours and finishes can assist to mitigate any adverse effects. 4. Whether the works may result in public health and/or safety risks. 5. The effects of non-compliance with any relevant rule or standard. 6. The location of the battery energy storage system, including the need for connections to existing networks and services. 7. Effects on areas of *outstanding natural features and landscapes, waterbodies, significant natural areas*, historic heritage, and sites and areas of significance to Māori. 8. The local, regional and national benefits of energy storage systems as part of the electricity supply network.

Standards

ENG-S1	Investigations
All Zones	1. Wind monitoring masts do not exceed 90 m in *height* in the General Rural Zone, and 20 m in *height* in all other zones. 2. Other than for anemometers, any other utility equipment does not exceed the permitted *height in relation to boundary* and setback standards for the underlying zone.

	3. All masts are removed at the end of the investigation period. 4. The site is restored to its pre-works condition after completion of all investigation activities, and the removal of all investigation equipment. 5. The investigation equipment is not on-*site* for more than a total period of five years.
ENG-S2	**Community-scale solar electricity generation**
All Zones	1. The area occupied by solar panels covers a maximum area of 1 ha. 2. Any freestanding solar panel *structure* must not exceed: a. the permitted *height in relation to boundary* for the underlying zone; b. the permitted setback standards for the underlying zone; or c. a maximum *height* of 6 m above ground level.
ENG-S3	**Community-scale wind turbine requirements**
All Zones	1. Maximum *height* above natural *ground level* to the tip of the blade: 65m. 2. Maximum number of turbines per site: three turbines. 3. All turbines must be set back a distance of not less than three times the height of the turbine, from the boundary of any other site in different ownership, any road and any above ground communication or electrical transmission lines.
ENG-S4	**Maximum height and setbacks**
All Zones	Except as required by standards ENG-S2 and ENG-S3, *buildings* and *structures* comply with the *building height*, setback, and *height in relation to boundary* standards for the underlying zone.
ENG-S5	**Light**
All Zones	Activities must meet the light standards in LIGHT.
ENG-S6	**Noise**
All Zones	Activities must meet the noise standards in NOISE.