

Powerline Friendly Trees



SA
Power
Networks

Reference Guide for Cities and Towns
in Non-Bushfire Risk Areas

11 September 2018

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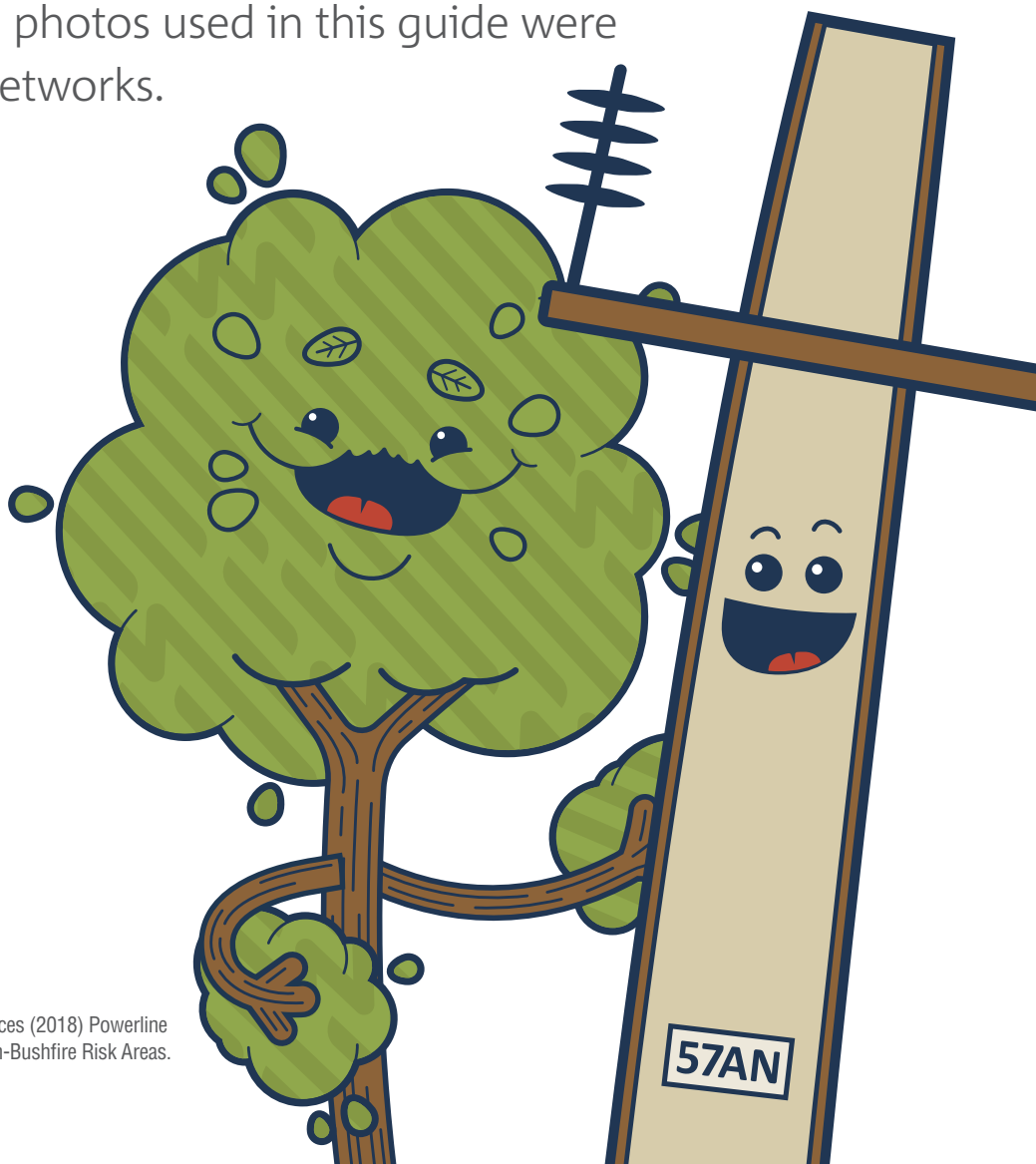


**Think before
you plant**

Acknowledgements

Constructive input was provided during the development of this Guide by members and representatives of: Office of the Technical Regulator, SA Power Networks, SA Power Network's Arborist Reference Group, the LGA Working Group, nursery industry, and local Councils.

Unless otherwise noted, photos used in this guide were provided by SA Power Networks.





Purpose of this Guide

Trees planted beneath powerlines can create unnecessary, ongoing maintenance work. SA Power Networks is seeking to find a way of balancing their compliance with legislated tree clearances and community expectations regarding aesthetic and environmental considerations.

**RIGHT TREE, RIGHT PLACE!
CREATE A BENEFICIAL
LEGACY, NOT AN
ONEROUS ONE**

One option for reducing or avoiding the impacts of tree trimming is to ensure tree species planted under powerlines are appropriate for the location. The current “appropriate” species lists (List 1 and List 2) approved by the Office of the Technical Regulator are large and inflexible, limiting the addition or removal of species as relevant (e.g. new cultivars developed, new weedy classifications). The existing Lists also do not consider species suitable for growing in the different climate zones within the State.

This Guide has been developed to help streamline the selection of tree species suitable for planting under powerlines in the non-bushfire risk cities and towns within the State’s different climate zones. Other plant forms (e.g. shrubs, grasses and ground covers) are not considered in this Guide but are included in the existing List 1 and List 2. At the discretion of Council and private land managers are considerations of other constraints that may impact species selections, such as underground utilities, infrastructure, and climate change.

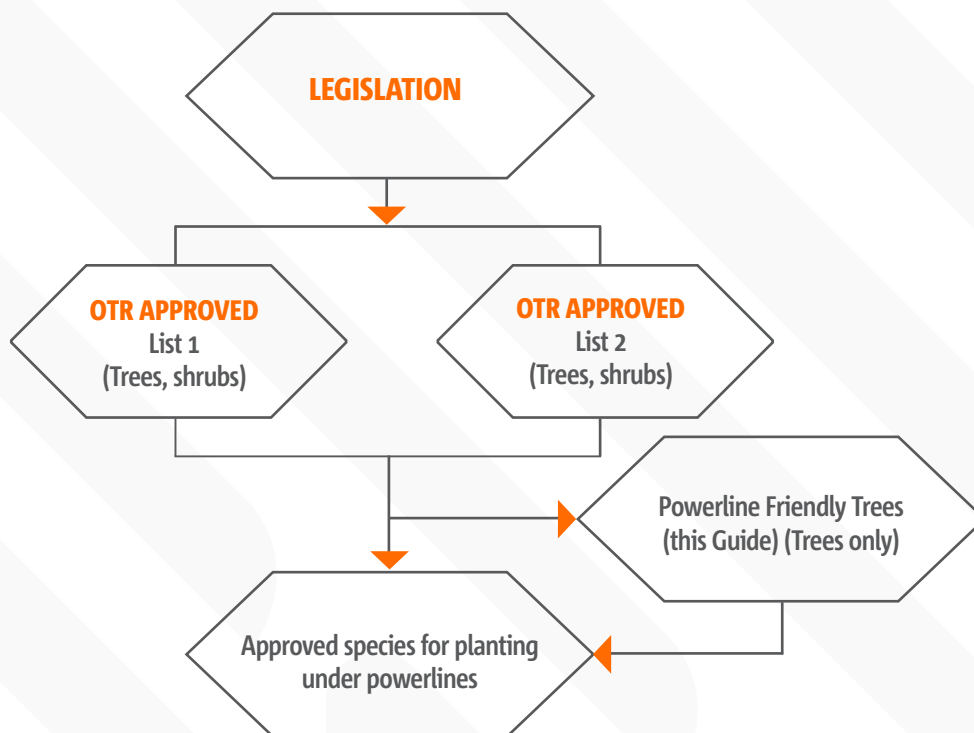
The My-Zone Tree Species list in this Guide is not intended to replace the existing List 1 and List 2, but rather to be used as a “rapid reference” for local Councils and private land managers of trees that will help minimise maintenance costs (through reduced trimming needs), improve visual amenity and benefits provided, and grow well in specific climate zones. Other trees and plants on List 1 and List 2 may still be selected if desired, and additional species not on any of the lists may be submitted to SA Power Networks and considered for approval if they meet species requirements.

Further, the tree species list in this Guide is not intended to be static, rather to be flexible and evolving. Proposed legislative changes include the removal of List 1 and List 2 from the legislation to enable the list to be more dynamic as new knowledge is acquired (Figure 1)

(a) Current Situation:

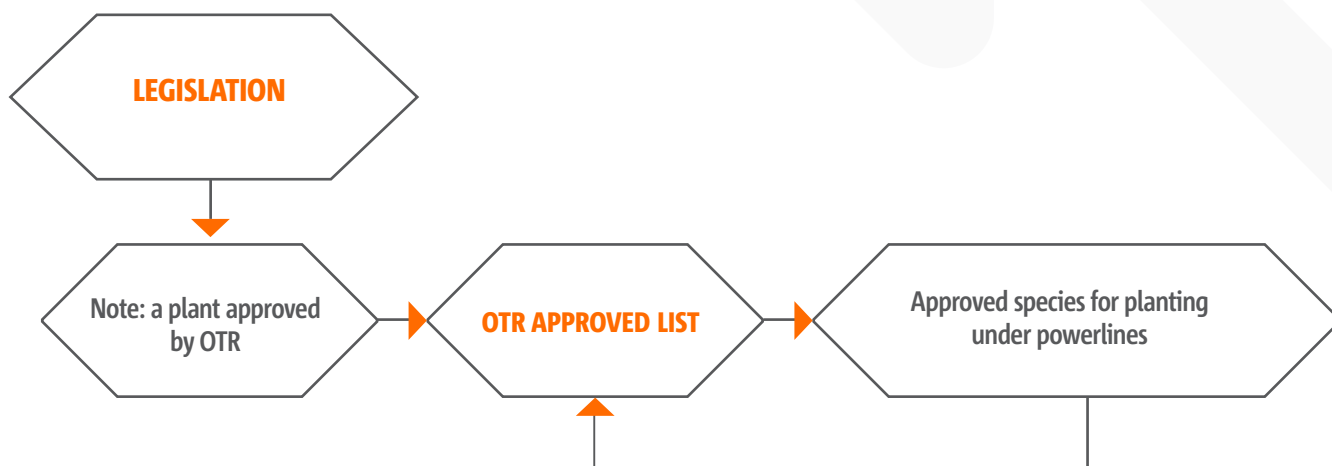
Lists 1 and 2 sit within legislation. Characteristics of the Lists 1 and 2 are: inflexible (more difficult to add/remove species); includes trees and shrubs; very large lists; climate zones not considered; maintenance not considered; for bushfire and non-bushfire risk areas.

The Powerline-friendly trees list in this Guide is intended to operate in parallel to Lists 1 and 2, acting as a rapid-reference guide to preferred trees for planting under powerlines in non-bushfire risk areas. It does not replace List 1 or List 2. Characteristics of Powerline-friendly trees list are: flexible (more readily able to add/remove species); trees only included; shorter list; climate zone considered; focus on species with low/no pruning needs; non-bushfire risk areas only.



(b) Desired outcome from 2021 legislative review:

Powerline-friendly species lists that sit outside of the legislation and provides greater flexibility and specifically consider climate zones and maintenance requirements.





Managing Trees Under Powerlines

One of the major challenges of growing trees in the urban landscape is the competition for space with infrastructure such as service utilities, including overhead powerlines.



There is a legislative requirement for SA Power Networks to inspect and manage trees under powerlines to minimise risk to life and property and maintain safe power supply. Appropriate management of trees involves ensuring specific clearance zones between the tree crown and the lines. Greater clearances are required in bushfire risk areas and under high voltage lines.

SA Power Networks manage more than 71,000km of overhead powerlines servicing approximately 840,000 residential and business customers across South Australia. Each year, SA Power Networks spend considerable resources inspecting and trimming vegetation under powerlines to meet safety and legislative requirements.

The current clearance requirements, however do not account for visual amenity or tree balance and long-term health, resulting in many trees in urban areas being trimmed in a manner that creates unsightly canopies which may decline in health, and subsequently limit benefits able to be provided by trees (e.g. shading and cooling, biodiversity, air pollution filtering).

Management of vegetation clearance under powerlines is imposed under the Electricity Act 1996 and the Electricity (Principles of Vegetation Clearance) Regulations 2010. Clearance zones consider movement of the trees and the growth and regrowth rates of the trees during the cyclic cutting interval, which is a risk-based approach (1-3 year cycle) in bushfire risk areas, and once every 3 years in non-bushfire risk areas.

Much of this trimming works is required due to a legacy of planting species under powerlines that grow to an inappropriate height at maturity, resulting in conflicts with powerlines. For further information on the vegetation clearance requirements, refer to SA Power Network's Protocol for Vegetation Management Near Powerlines 2016-2018.

SA Power Networks have a commitment to improving vegetation management and working more collaboratively with local Councils as well as building awareness and positive relationships with community members. For example, as part of their commitment, SA Power Networks have been running growth regulator trials to investigate approaches for reducing crown-powerline conflicts without the need for unsightly and potentially damaging trimming. Revisions to the current legislation and guidance for selecting the right tree species for planting under powerlines is also part of the commitment to better vegetation management.

In addition, SA Power Networks have created Trev the Tree and Stan the Stobie – animated characters who represent trees and powerlines and are used to engage and educate the community about the importance of bushfire safety, vegetation management and appropriate species selection under powerlines. For example, an animated short film stars Trev, who co-exists in harmony with his friend Stan, and tells the story about caring for Trev and his mates under powerlines.

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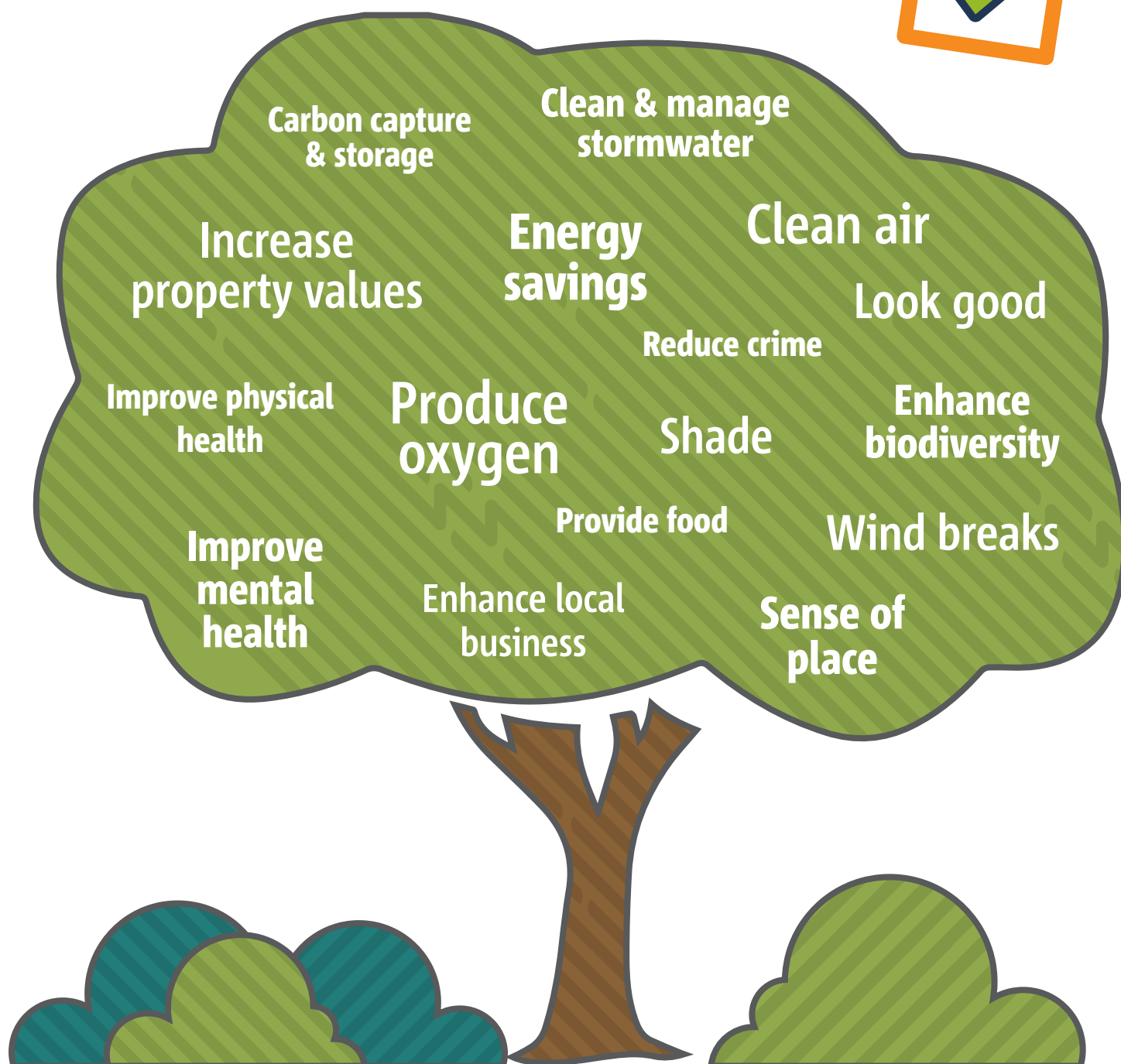
The Importance of Trees

Trees are an integral part of our cities and towns. They provide an immense range of environmental, social, and economic benefits and can create a sense of place - a link to our present, past and future. Many of the benefits provided by trees increase as they mature, and are reliant on a healthy, full crown.

However, in urban environments, there is often competition for space between trees and built infrastructure and facilities, often creating challenges which need to be resolved to ensure

human safety and uninterrupted utility services. The resolution can often be pruning (at times unsightly) or complete tree removal and can result in a negative perception and fear about trees which can further compound the challenge of maintaining large, healthy trees in urban areas. Given the many benefits provided by trees though, there are mechanisms imposed which aim to retain trees in urban spaces, whilst minimising challenges and alleviating community concerns.

Some of the environmental, social, and economic benefits provided by trees.





Other Considerations for Tree Planting

TREES ARE DEFINED HEREIN AS: WOODY VEGETATION REACHING A MATURE HEIGHT OF AT LEAST 3M



This Guide focuses on a selection of tree species that are preferred for planting under powerlines as they minimise pruning maintenance. However, it should be noted that all trees planted under powerlines may be subject to pruning for various reasons. As well as pruning requirements, a range of other constraints in urban areas should also influence species selections.

For example:

- Proximity to other utilities and infrastructure (e.g. sewer; footpaths);
- Climate and soil type;
- Weather conditions (e.g. coastal salt spray, wind intensity, annual rainfall, temperature);
- Growth form (e.g. narrow upright forms that maintain line-of-sight along roads);
- Visual amenity;
- Community conflict (e.g. allergies);
- Biodiversity value/resources;
- Weed / invasive potential;
- Resilience to climate change (e.g. increased species diversity, and consideration of pest/disease impacts); and
- Maintenance requirements (e.g. watering and pruning) and cost-benefit of plantings.

Councils may additionally have their own preferred tree species planting lists which may include species not shown in this Guide. Plantings of tree species not in this Guide or on the existing SAPN List 1 or List 2, should consider the primary and secondary criteria outlined in this Guide.



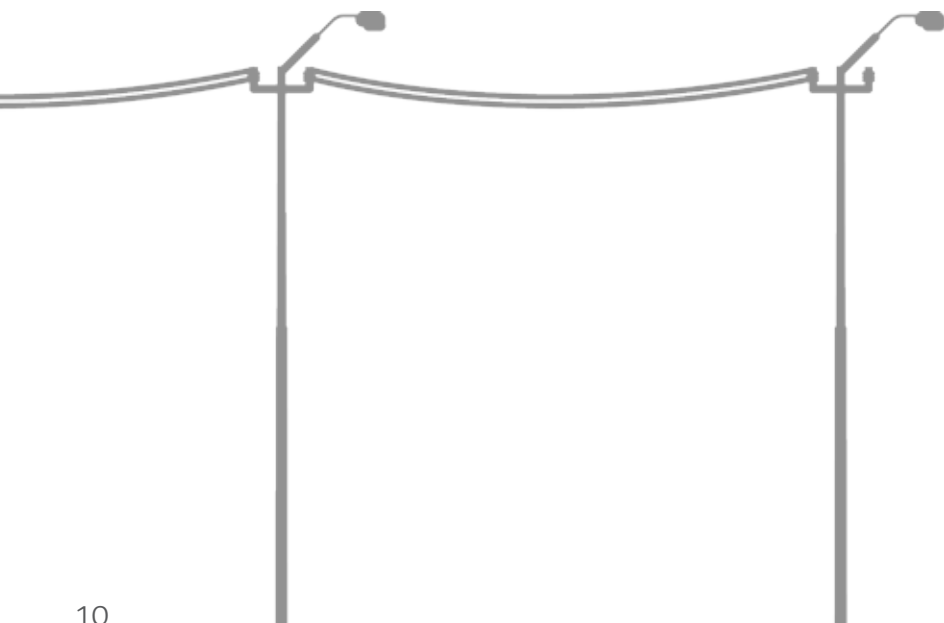
Process of Selecting Trees

The trees listed in this Guide were selected following a desktop review of existing relevant literature and documents, and a series of consultation workshops conducted with representatives from SA Power Networks, Office of the Technical Regulator, the nursery industry, SA Power Networks' arborist reference group, the LGA working group, and Local Councils.

Six workshops were conducted in mid-2018 across the State with a focus on representing each of the key climate zones:

1. Campbelltown (stakeholder workshop)
2. Mt Barker (council workshop, mild temperate and coastal)
3. Glenunga (council workshop, metropolitan)
4. Clare (council workshop, warm temperate)
5. Port Augusta (council workshop, arid)
6. Naracoorte (council workshop, mild temperate)

Workshops focused on identifying key barriers to selecting and growing suitable species, and key criteria for selecting the "top 10-20" trees. Innovative ways to positively engage and educate the community about tree benefits and powerlines considerations were also discussed.





Climate Zones

All 68 local government areas contain non-bushfire risk areas, as defined by SA Power Networks

AN ECOTONE IS A TRANSITIONAL AREA BETWEEN TWO ECOSYSTEM TYPES. THE TERM CLIMATIC ECOTONE IS USED HERE TO DESCRIBE THE MEETING AND INTEGRATION OF TWO CLIMATE ZONES. ECOTONES MAY SHIFT IN RESPONSE TO A CHANGING CLIMATE.

These local government areas were classified into five broad zones, referred to here as “climate zones”. Climate zones will be important for influencing the growth rate and condition of species as well as the maintenance required. Three of the zones are true climate zones as defined by the Bureau of Meteorology and refined by CSIRO’s Australian Water Availability Project (Table 1). An additional two zones not recognized as formal climate zones were included given the contrasting growing conditions in these areas (Table 1):

1. mild temperate (distinctly dry and warm summer);
2. warm temperate (distinctly dry and hot summer); and
3. arid (warm to hot, summer droughts to persistently dry);
4. metropolitan (highly urbanised regions as defined by the Local Government Association of South Australia); and
5. coastal (any area along a defined oceanic coastline).

It should be noted that some Council areas contain more than one climate zone, and some share a climatic ecotone with a climate zone not mapped as occurring within the Council boundary. Given that climate zones may vary in response to climate change, local Councils should consult climate projections outlined in their Regional Climate Change Adaptation Plan and identify whether their region is predicted to change significantly in the future and select tree species for long-term planting programs accordingly. Climatic changes are likely to be most apparent at current climatic ecotones. Accordingly, shared climatic ecotones have also been identified for each Council area, as trees suitable in one climate zone may also do well in a neighbouring climate zone, particularly in areas near the ecotone (Table 1).

Table 1.

Local Councils within non-bushfire risk areas and their corresponding climate zone/s. Metropolitan Councils are those identified by the Local Government Association of South Australia. Climate zones allocated for each Council area are based on information derived from the Bureau of Meteorology and the Australian Water Availability Project. Note that some Councils cover more than one climate zone. A star in a cell indicates that the Council area shares an ecotone with the indicated climate zone/s. This acknowledges that climatic conditions may be particularly dynamic at climate zone boundaries, and tree species identified as suitable for one climate zone may also do well in other climate zones along a shared climatic ecotone.

LOCAL COUNCIL AREA	METROPOLITAN	MILD TEMPERATE	COASTAL	WARM TEMPERATE	ARID	LOCAL COUNCIL AREA	METROPOLITAN	MILD TEMPERATE	COASTAL	WARM TEMPERATE	ARID
Adelaide						Mount Gambier					
Adelaide Hills						Mount Remarkable					
Adelaide Plains						Murray Bridge					
Alexandrina						Naracoorte Lucindale					
Barossa						Northern Areas					
Barunga West						Norwood Payneham St Peters					
Berri Barmora						Onkaparinga					
Burnside						Orroroo Carrieton					
Campbelltown						Peterborough					
Ceduna						Playford					
Charles Sturt						Port Adelaide Enfield					
Clare & Gilbert Valleys						Port Augusta					
Cleve						Port Lincoln					
Coober Pedy						Port Pirie					
Coorong						Prospect					
Copper Coast						Renmark Paringa					
Elliston						Robe					
Flinders Ranges						Roxby Downs					
Franklin Harbour						Salisbury					
Gawler						Southern Mallee					
Goyder						Streaky Bay					
Grant						Tatiara					
Holdfast Bay						Tea Tree Gully					
Kangaroo Island						Tumby Bay					
Karoonda East Murray						Unley					
Kimba						Victor Harbor					
Kingston						Wakefield					
Light						Walkerville					
Lower Eyre Peninsula						Wattle Range					
Loxton Waikerie						West Torrens					
Marion						Whyalla					
Mid Murray						Wudinna					
Mitcham						Yankalilla					
Mount Barker						Yorke Peninsula					



Criteria for Selecting Trees to Plant Under Powerlines

1.1 Primary considerations

Primary considerations in identifying powerline-friendly trees relate specifically to under powerline planting suitability and context-specific issues, specifically:

- Low or high voltage lines – influences height of tree that can be planted; and
- Management limitations (e.g. resourcing, experience, frequency).



1.2 Secondary considerations

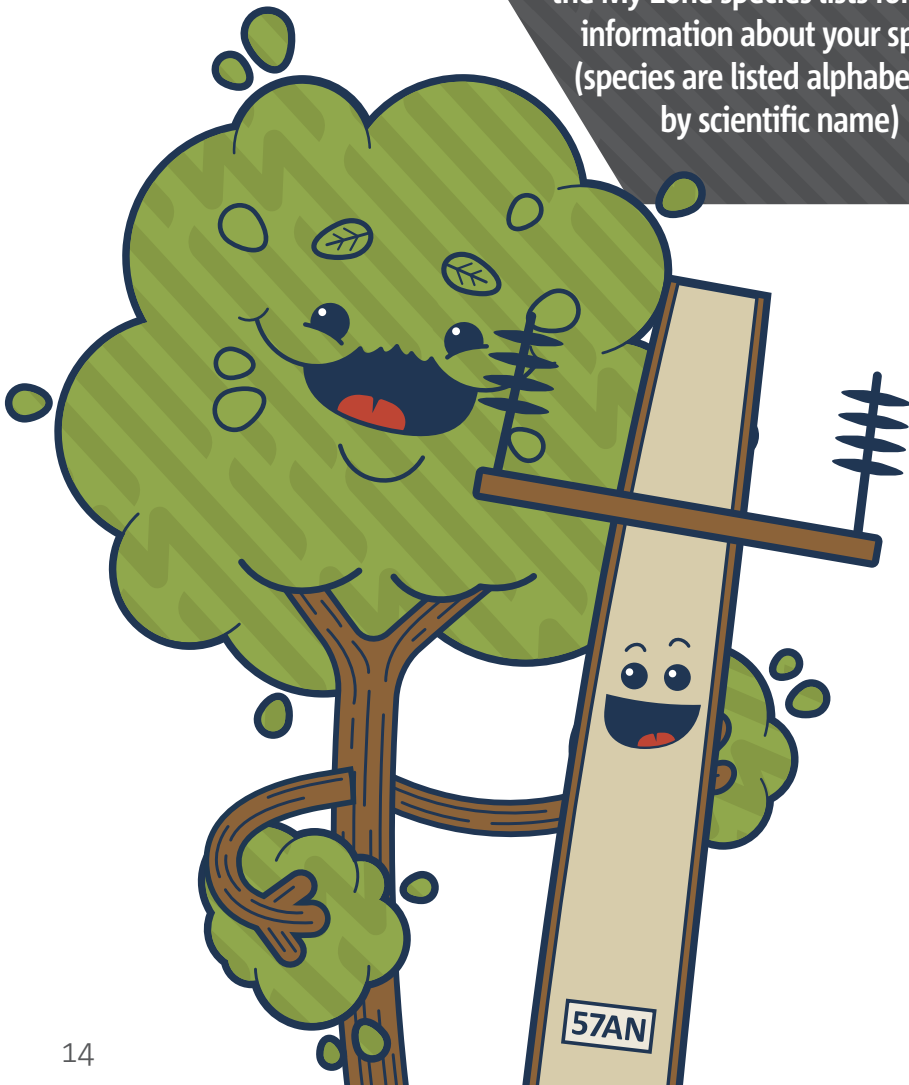
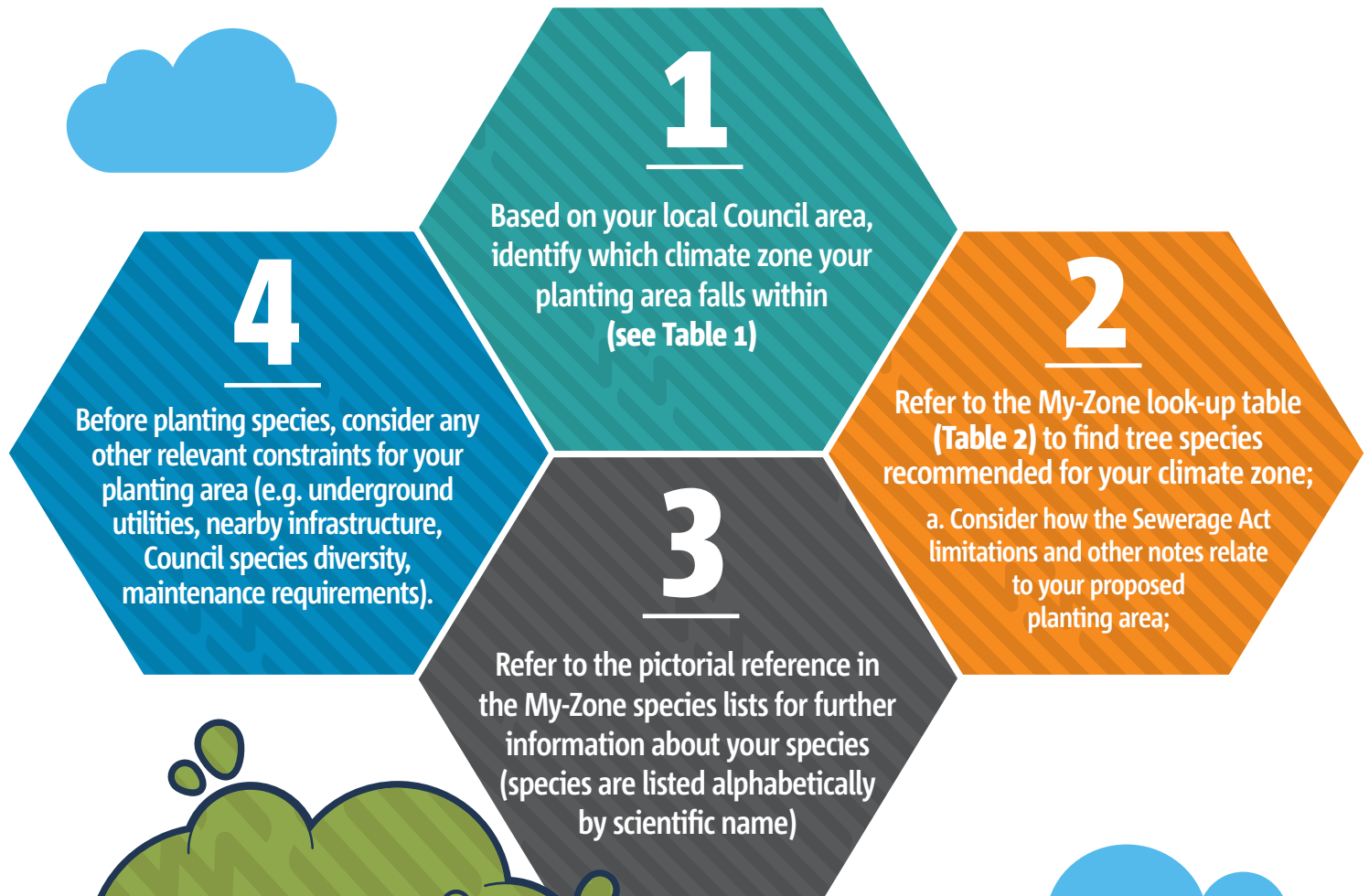
Secondary considerations in identifying powerline-friendly trees relate to other aspects that should be considered when planting trees. These considerations are not specific to planting under powerlines, but rather will apply generally for tree plantings in any location within a local Council area:

- Climate zone – influences growth rate, resilience, and height of tree
- Local location – influences soil type, extreme conditions (e.g. wind, salt, heat, frost)
- Other utilities (underground water mains);
- Other infrastructure e.g. footpaths, roads, buildings;
- Resilience through species diversity – Santamour diversity planting guidelines (30% family, 20% genus, 10% species); and
- Aesthetics and other benefits (e.g. biodiversity).



Selecting Species for Your Planting Area

The following assumes you are trying to select a tree species that is suitable for planting under powerlines in a non-bushfire risk region of the State.



N.B. Species in the My Zone look-up table are not intended to replace the species in the existing SA Power Networks' List 1 and List 2. Species from List 1 and List 2 may still be selected for planting under powerlines, though may require more trimming and management and will need local knowledge about the suitability of these plants for growing in different climate zones. All species selections, whether from the existing Lists 1 and 2, or the My Zone look-up table in this Guide should occur in the context of primary and secondary considerations, as well as other Council objectives and constraints.



My-Zone Look-up Table

The “My-Zone” look-up table provides a rapid reference of 69 species that are considered suitable for planting under powerlines, with minimal pruning requirements, in each of the different climate zones. Of the 69 species, each climate zone has between 14-39 species identified as suitable for planting based on climatic features of the region and species tolerances and requirements. The species in the My-Zone look-up table include species currently in the SA Power Networks’ Lists 1 and 2, as well as new species not currently formally listed.

Other information provided for each species in the My-Zone look-up table is:

- Expected height (max.) at maturity, noting that the maximum height may vary between climate zones as well as relative to the planting locations (e.g. street verge versus park). Species with an expected height of greater than 6m may not be suitable for planting under low voltage lines – with some trimming potentially required.
- Origin, defined as either indigenous to South Australia (Ind.), native to other States/Territories in Australia (Nat.), or introduced to Australia (Int.);
- Form refers to the general habit or natural shape of the tree canopy at maturity;
- Soil (texture and pH) shows the types of soils considered suitable for the species, with regard to texture. Cl = Clay, Gr = gravel; Li = Limestone; Lo = Loam; Sa = Sand
- Soil pH shows the types of soils considered suitable for the species, with regard to acidity tolerance. <7 = acidic soils with pH less than 7; N = neutral soils with pH of 7; >7 = alkaline soils with pH greater than 7.

- Sewerage Act indicates limitations regarding whether the species has been listed in Regulations under the Sewerage Act and provisionally classified under Schedule 2. High level indication of the specific limitations are provided, either: minimum planting distance to sewer main or connection (i.e. more than 2m or more than 3.5m) and/or requirements for written approval from SA Water for street or road plantings; and
- Existing List indicates if the species is currently listed on List 1 or List 2. If no List number is provided, the species is not currently formally listed; and
- Other notes include specific considerations that should be considered if selecting the species for planting (e.g. weedy potential).

A pictorial reference guide for species listed in the My-Zone look-up table is provided in the My-Zone Tree Species Appendix.



Table 2.

My-Zone look-up table showing 63 tree species suitable for planting under powerlines and the Climate zone to which each is best suited.

SCIENTIFIC NAME	COMMON NAME	CLIMATE ZONE					EXPECTED HEIGHT (MAX.)	ORIGIN	FORM	SOIL		SEWERAGE ACT	EXISTING LIST	OTHER NOTES
		METROPOLITAN	MILD TEMPERATE	COASTAL	WARM TEMPERATE	ARID				TEXTURE	PH			
<i>Acacia cultriformis</i>	Knife-leaf Wattle				Yes		4m	Nat.	Round	Cl, Lo, Sa	<7, N, >7	-	2	
<i>Acacia oswaldii</i>	Umbrella Wattle				Yes		5m	Ind.	Round	Li, Lo, Sa	<7, N, >7	-	2	
<i>Acacia pycnantha</i>	Golden Wattle	Yes	Yes	Yes	Yes	Yes	6m	Ind.	Oval	Cl, Lo, Sa	<7, N, >7	>2m	2	
<i>Acacia victoriae</i> spp. <i>victoriae</i>	Elegant Wattle				Yes		5m	Ind.	Domed	Cl, Lo	<7, N, >7	>2m	2	Moderate weedy potential;
<i>Acer campestre</i> 'Elsrijk'	Field Maple	Yes					7m	Int.	Round	Cl, Lo, Sa	<7, N, >7	-	-	May require some trimming
<i>Acer monspessulanum</i>	Montpelier Maple	Yes	Yes	Yes	Yes		7m	Int.	Round	Cl, Lo, Sa	<7, N, >7	-	-	
<i>Allocasuarina verticillata</i>	Drooping She-oak (Southern Lofty)		Yes	Yes			8m	Ind.	Round	Cl, Li, Lo, Sa	<7, N, >7	-	-	Grows to 5m in coastal areas
<i>Angophora hispida</i>	Dwarf Apple	Yes		Yes		Yes	7m	Nat.	Open	Cl, Lo, Sa	<7, N, >7	-	-	Suitable in coastal e.g. Victor Harbor/ Goolwa. Demand has dropped
<i>Arbutus x andrachnoides</i>	Hybrid Strawberry Tree	Yes	Yes	Yes			7m	Int.	Round	Cl, Lo, Sa	<7, N, >7	>3.5m	2	Potentially invasive: <i>A. unedo</i> is listed under List 2
<i>Banksia integrifolia</i>	Coast Banksia		Yes	Yes			8m	Nat.	Spreading	Cl, Lo, Sa	<7,N,>7	Written approval for street or road plantings	-	
<i>Banksia marginata</i>	Silver Banksia		Yes	Yes			8m	Ind.	Columnar	Cl, Lo, Sa	<7, N, >7	-	-	
<i>Bauhinia variegata</i>	Orchid tree	Yes		Yes			8m	Int.	Spreading	Cl, Lo, Sa	<7, N, >7	-	2	In coastal areas plant away from exposed sea front
<i>Brachychiton acerifolia</i> x <i>populneus</i> 'Bella Donna'	Bella Donna	Yes					8m	Nat.	Domed	Lo, Sa	<7, N, >7	-	2	Frost sensitive, unreliable stock
<i>Brachychiton discolor</i> x <i>populneus</i> 'Griffith Pink'	Griffith Pink	Yes					8m	Nat.	Spreading	Cl, Lo, Sa	<7, N, >7	-	2	Requires pruning
<i>Callistemon citrinus</i> 'Splendens'	Bottlebrush	Yes			Yes		4m	Nat.	Domed	Cl, Lo, Sa	<7, N, >7	-	2	
<i>Callistemon citrinus</i> 'Kings Park Special'	Kings Park Special	Yes		Yes	Yes		5m	Nat.	Domed	Cl, Lo, Sa	<7, N, >7	-	-	Hardy and adaptable
<i>Callistemon citrinus</i> x <i>viminialis</i> 'Harkness'	Harkness Bottlebrush		Yes	Yes	Yes	Yes	8m	Nat.	Domed	Cl, Li, Lo, Sa	<7, N, >7	>2m	-	Needs extra water for establishment in arid areas
<i>Callistemon viminalis</i> 'Dawson River Weeper'	Dawson river Weeper Bottlebrush				Yes		6m	Nat.	Domed	Cl, Lo	<7, N, >7	-	-	Best pruned after flowering
<i>Callitris gracilis</i>	Southern Cypress Pine	Yes	Yes	Yes	Yes		14m	Ind.	Pyramidal	Cl, Li, Lo, Sa	<7, N, >7	>2m	-	May grow to 5m in some areas
<i>Callitris verrucosa</i>	Mallee Pine					Yes	5m	Ind.	Pyramidal	Lo, Sa	<7, N, >7	Written approval for street or road plantings	-	
<i>Cercis canadensis</i> 'Forest Pansy'	Eastern Redbud	Yes					8m	Int.	Open	Cl, Lo, Sa	<7, N	-	-	Can be pruned: Avoid planting in very exposed, windy sites

SCIENTIFIC NAME	COMMON NAME	CLIMATE ZONE					EXPECTED HEIGHT (MAX.)	ORIGIN	FORM	SOIL		SEWERAGE ACT	EXISTING LIST	OTHER NOTES
		METROPOLITAN	MILD TEMPERATE	COASTAL	WARM TEMPERATE	ARID				TEXTURE	PH			
<i>Citrus glauca</i>	Lime Bush		Yes			Yes	7m	Ind.	Open	Cl, Lo, Sa	<7, N, >7	-	2	Moderate weedy potential; Endangered in SA
<i>Citrus limon</i> 'Eureka'	Lemon	Yes	Yes		Yes		6m	Int.	Oval	Cl, Lo, Sa	<7, N, >7	-	2	Constricted roots will constrain size; Dwarf cultivars available
<i>Citrus limon</i> 'Lisbon'	Lemon	Yes					6m	Int.	Oval	Cl, Lo, Sa	<7, N, >7	-	2	Constricted roots will constrain size
<i>Citrus x sinensis</i> 'Washington Navel'	Washington Navel Orange	Yes					5m	Int.	Oval	Cl, Lo, Sa	<7, N, >7	-	2	Dwarf cultivars available
<i>Corymbia citriodora</i> (dwarf cultivars)	Dwarf Lemon Scented Gum	Yes	Yes	Yes			8m	Nat.	Open	Cl, Lo, Sa	<7, N	-	2	Grafted cultivar
<i>Corymbia eximia</i> 'Nana'	Dwarf Yellow Bloodwood	Yes	Yes	Yes			8m	Nat.	Open	Cl, Lo, Sa	<7, N	-	2	
<i>Cupaniopsis anacardioides</i>	Tuckeroo	Yes	Yes	Yes		Yes	8m	Nat.	Spreading	Cl, Lo, Sa	<7, N, >7	-	-	Non-invasive roots; Needs frost protection when young
<i>Eucalyptus albopurpurea</i>	Port Lincoln Gum	Yes	Yes	Yes		Yes	12m	Ind.	Open	Cl, Li, Lo, Sa	<7, N, >7	-	-	Mature height often <10m for street plantings
<i>Eucalyptus calycogona</i>	Square-fruited Mallee		Yes	Yes			6m	Ind.	Open	Li, Lo, Sa	<7, N, >7	-	-	
<i>Eucalyptus erythronema</i> var. <i>erythronema</i>	Red Flowering Mallee			Yes		Yes	9m	Nat.	Open	Cl, Lo, Sa	<7, N, >7	-	-	Grows to 5m in Port Pirie, but may grow taller in wetter areas where some trimming may be required
<i>Eucalyptus kruseana</i>	Book-leaf Mallee				Yes	Yes	6m	Nat.	Open	Cl, Lo, Sa	<7, N, >7	>2m; written approval for street or road plantings	-	
<i>Eucalyptus lansdowneana</i>	Crimson Mallee Box				Yes	Yes	6m	Ind.	Open	Cl, Li, Lo, Sa	<7, N, >7	-	2	
<i>Eucalyptus leucoxylon</i> 'Euky Dwarf'	Dwarf SA Blue Gum	Yes	Yes				6m	Nat.	Open	Cl, Lo, Sa	<7, N, >7	-	2	
<i>Eucalyptus orbifolia</i>	Round-leaved Mallee					Yes	6m	Nat.	Open	Lo, Sa	<7, N	-	2	Slow growing
<i>Eucalyptus platypus</i>	Round-leaved Moort		Yes	Yes		Yes	8m	Nat.	Open	Cl, Li, Lo, Sa	<7, N, >7	-	-	May be prone to overloading and blowing over when mature
<i>Eucalyptus viridis</i>	Green Mallee					Yes	8m	Nat.	Open	Cl, Li, Lo, Sa	<7, N, >7	>3.5m	-	
<i>Eucalyptus websteriana</i>	Webster's Mallee					Yes	6m	Nat.	Open	Li, Lo, Sa	<7, N, >7	-	2	

SCIENTIFIC NAME	COMMON NAME	CLIMATE ZONE					SOIL					SEWERAGE ACT	EXISTING LIST	OTHER NOTES
		METROPOLITAN	MILD TEMPERATE	COASTAL	WARM TEMPERATE	ARID	EXPECTED HEIGHT (MAX.)	ORIGIN	FORM	TEXTURE	PH			
<i>Fraxinus griffithi</i>	Evergreen Ash	Yes					10m	Int.	Oval	Cl, Lo, Sa	<7, N, >7	-	-	May require some trimming
<i>Fraxinus ornus</i> 'Meczek'	Flowering Ash		Yes				5m	Int.	Round	Cl, Lo, Sa	<7, N, >7	-	2	Slow growing and highly adaptable
<i>Geijera parviflora</i>	Wilga	Yes	Yes		Yes	Yes	<9m	Ind.	Round	Cl, Lo, Sa	N, >7	>2m	2	Constricted roots will constrain size
<i>Gleditsia tricanthos</i> 'Continental'	Honey Locust	Yes	Yes	Yes	Yes		8m	Int.	Columnar	Cl, Lo, Sa	<7, N, >7	>3.5m	2	Tolerates variable conditions; Does not produce fruit
<i>Hakea laurina</i>	Pin-cushion Hakea	Yes	Yes	Yes			5m	Nat.	Domed	Cl, Lo, Sa	<7, N, >7	>2m	2	Potentially invasive
<i>Hibiscus tiliaceus</i> 'Rubra'	Red Cotton Tree	Yes	Yes	Yes	Yes		8m	Int.	Columnar	Cl, Lo, Sa	<7, N, >7	-	2	Can be frost tender
<i>Koelreuteria bipinnata</i>	Chinese Flame Tree	Yes	Yes	Yes		Yes	6m	Int.	Oval	Cl, Lo, Sa	<7, N, >7	-	2	May be difficult to source
<i>Koelreuteria paniculata</i>	Golden Rain Tree	Yes	Yes	Yes			10m	Int.	Oval	Cl, Lo, Sa	<7, N, >7	>3.5m	-	May require some trimming
<i>Lagerstroemia indica</i>	Crepe Myrtle	Yes	Yes		Yes		6m	Int.	Open	Cl, Lo	<7, N, >7	-	-	Includes cultivars: 'Natchez', 'Lipan', 'Tuscarora', 'Biloxi', 'Sioux'; Mildew resistant
<i>Melaleuca decussata</i>	Crossed-leaved Honey Myrtle, Totem Poles	Yes	Yes	Yes			5m	Nat.	Round	Cl, Li, Lo	<7, N, >7	-	2	Need stock grown locally to avoid risk of disease e.g. Myrtle rust. Swamp tolerant
<i>Melaleuca halmaturorum</i>	KI Paperbark	Yes		Yes	Yes		6m	Ind.	Open	Cl, Li, Lo, Sa	<7, N, >7	>3.5m	-	Does not like cold or wet feet. Saline swamp species
<i>Myoporum platycarpum</i>	Sugarwood, False Sandalwood					Yes	6m	Ind.	Domed	Li, Lo, Sa	<7, N, >7	-	2	
<i>Pistacia chinensis</i>	Chinese pistachio	Yes	Yes	Yes	Yes	Yes	12m	Int.	Spreading	Cl, Lo, Sa	<7, N, >7	-	2	May require some trimming
<i>Pittosporum angustifolium</i>	Native apricot					Yes	7m	Nat.	Spreading	Cl, Lo, Sa	<7, N, >7	>2m; written approval for street or road plantings	-	
<i>Podocarpus lawrencei</i>	Mountain Plum Pine					Yes	6m	Nat.	Open	Cl, Lo, Sa	<7, N	-	2	Copes with salt spray

SCIENTIFIC NAME	COMMON NAME	CLIMATE ZONE					EXPECTED HEIGHT (MAX.)	ORIGIN	FORM	SOIL		SEWERAGE ACT	EXISTING LIST	OTHER NOTES
		METROPOLITAN	MILD TEMPERATE	COASTAL	WARM TEMPERATE	ARID				TEXTURE	PH			
<i>Prunus cerasifera</i> 'Nigra'	Purple-leaved Cherry Plum	Yes	Yes	Yes	Yes		6m	Int.	Oval	Cl, Lo, Sa	<7, N, >7	-	2	
<i>Prunus cerasifera</i> 'Oakville Crimson Spire'	Flowering Plum	Yes	Yes	Yes	Yes		6m	Int.	Conical	Cl, Lo, Sa	<7, N, >7	-	-	Moderate weedy potential; Non-invasive root system
<i>Prunus fruticosa</i> 'Globosa'	Designer Cherry		Yes				7m	Int.	Round	Cl, Lo, Sa	<7, N, >7	-	-	
<i>Pyrus betulaefolia</i> 'Southworth Dancer'	Southworth Dancer	Yes					8m	Int.	Oval	Cl, Lo, Sa	<7, N, >7	-	-	Non-invasive root system; May require some trimming
<i>Pyrus calleryana</i>	Ornamental Pear	Yes	Yes		Yes		7m	Int.	Columnar	Cl, Lo, Sa	N, >7	>3.5m	-	For narrow, shaded streets – otherwise may require pruning; Includes varieties: 'Capital', 'Southworth Dancer'
<i>Pyrus calleryana</i> x <i>betulaefolia</i> 'Edgedell'	Ornamental Pear	Yes	Yes	Yes	Yes		8m	Int.	Round	Cl, Lo, Sa	N, >7	-	-	May require some trimming
<i>Santalum acuminatum</i>	Quandong					Yes	5m	Ind.	Oval	Cl, Li, Lo, Sa	<7, N, >7	-	2	Needs host plant, hard to source
<i>Sophora japonica</i>	Japanese pagoda tree	Yes	Yes		Yes		6m	Int.	Round	Cl, Lo, Sa	<7, N, >7	-	-	Highly tolerant of adverse conditions
<i>Tristanopsis laurina</i>	Kanooka Gum	Yes					10m	Nat.	Round	Cl, Gr, Lo, Sa	<7, N, >7	-	-	Several cultivars e.g. 'Luscious'

Further Information

Further Information.

Botanic Gardens of South Australia Plant Selector + <http://plantselector.botanicgardens.sa.gov.au/home.aspx>

Climate zones

<http://www.bom.gov.au/climate/how/newproducts/images/zones.shtml>

<http://www.csiro.au/awap/>

<http://www.metvis.com.au/acc/index.html>

Non-bushfire risk areas

Further information include maps of non-bushfire risk and bushfire risk areas is provided in Schedule 4 of the Electricity Regulations (Principles of Vegetation Clearance) 2010

Nursery and Garden Industry

www.ngisa.com.au

Planting restrictions over underground power lines


Near an underground power line of 66 kV or more, only trees with a mature height of less than 2 metres can be planted within 3 metres of the centre of the underground power line.

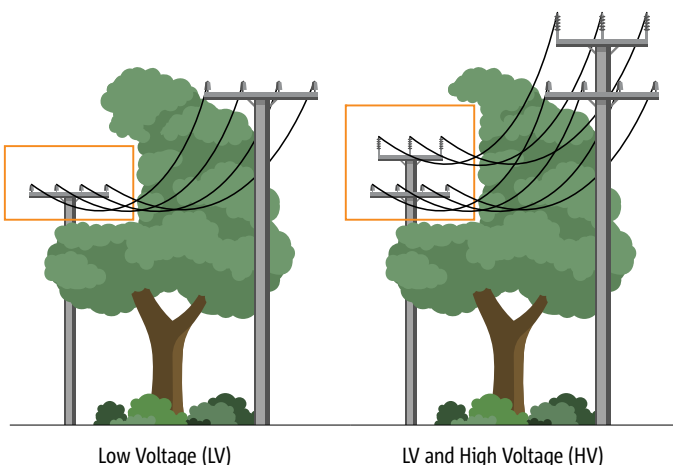
Electricity Act 1996 and Electricity Regulations (Principles of Vegetation Clearance) 2010

Proposed changes to the Act and Regulations seek to extend the risk-based approach (adopted in metropolitan Adelaide in 2010) for clearance around low voltage powerlines to a number of non-bushfire risk areas to align clearance with risk (see diagram below). This includes the 10 towns over 10,000 residents: Mt Gambier, Port Pirie, Port Lincoln, Port Augusta, Whyalla, Victor Harbour/Goolwa, Mt Barker, Murray Bridge, and Gawler.

Proposed changes also seek to remove the prescribed Lists contained within Schedule 2 of the Regulations to enable the List of approved species to be more flexible. Instead, a note within the Regulations would refer to a List of species approved by the Office of the

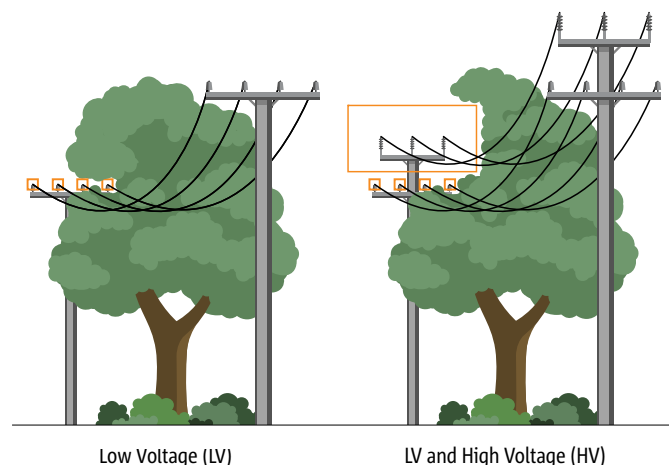
Existing legislation (Non-bushfire risk areas)

 **Clearance zone** –
Vegetation must be clear from inside of legislated Clearance Zones



Proposed 'risk-based' legislation (Non-bushfire risk areas)

Trees allowed to 'grow through' Low Voltage powerlines based on a risk assessment



Key considerations:

1. Availability of emergency services
2. Population density (>10,000)

3. Built-up areas
4. Non-bushfire risk area

Contact...

SA Power Networks

sapowernetworks.com.au

Contact: Alex Lewis (SA Power Networks Stakeholder Engagement Lead)
alexandra.lewis@sapowernetworks.com.au

SA Power Networks' commitment and approach to vegetation management:
Protocol for Vegetation Management Near Powerlines 2016-2018

Trev the Tree and Stan the Stobie animation:
sapowernetworks.com.au/centric/corporate/trees_and_powerlines.jsp
www.youtube.com/watch?v=5W6mQsrECg8



**Think before
you plant**