

Economic Impact Assessment (EIA)

International best-practice route selection always seeks to ‘avoid impacts in the first place’ by utilising existing easements and rights of way. This should always be the priority and highlights the ill-conceived methodology used to determine the area of interest and final preferred route of the Western Victorian Transmission Network Project (WVTNP). The routing and siting of transmission infrastructure should always seek to avoid areas of high ecological, cultural, economic, and aesthetic value and sensitivity.

A summary of potential economic impacts from planning, construction, operation, maintenance, emergency repairs and long-term impacts associated with the WVTNP has been provided below. These represent direct and indirect economic disbenefits that must be explored and understood. It is important that flow through effects are also considered to fully understand the broader economic impacts. See FIG 1.

Agriculture

Transmission lines can impact farm operations and increase costs for the farm operator. Potential impacts depend on the transmission line route, design and the type of farming. Transmission lines can affect field operations, irrigation, aerial spraying, wind breaks, and future land uses.

- Direct loss of land for farming purposes due to construction, acquisition and easements
- Reduced efficiency, productivity and competitiveness of affected agricultural properties due to new physical and property barrier
- Short term disruptions to business trade during the construction period (e.g. construction on farmland/agricultural businesses)
- Soil mixing, erosion, rutting, and compaction are interrelated impacts commonly associated with transmission construction and can greatly impact future crop yields
- Inability to meet Calp Act obligations, ie control of weeds and pests will have a significant impact on properties
- The value of agricultural property is likely to decrease due to inhibited farm operations and visual amenity - directly affecting access to finance
- Once an easement for a transmission circuit is approved, it will always be a primary consideration for further infrastructure development, such as the addition of more transmission capacity or towers
- Permanent access to transmission infrastructure will be required for maintenance and inspection activities, thereby impacting the continuity of farming activities on the property.

The placement of transmission structures can cause the following agricultural impacts:

- Create problems for turning field machinery and maintaining efficient fieldwork patterns
- Increase soil erosion by requiring the removal of windbreaks that were planted along field edges or between fields
- Create opportunities for weed and other pest encroachment
- Compact soils and damage drain tiles
- Result in safety hazards due to pole and guy wire placement
- Hinder or prevent aerial spraying or seeding activities by planes or helicopters
- Interfere with moving or utilising irrigation equipment
- Limit the size of machinery and equipment useable in certain areas - limiting efficiencies of scale (for example augers)

- Hinder future consolidation of farm fields or subdividing land for residential development
- Result in loss of shelter belts to agriculture productivity (ie sheep and cattle)
- Hinder adoption of novel agricultural practices such as drones for stock work, spraying and surveying as prohibited on easement
- Result in loss of biodiversity
- The requirement for access tracks to every tower will impact the productivity of every paddock that provides access to, or contains, transmission equipment.
- Land set aside for access tracks needs to be permanently usable by heavy vehicles during periods of significant rainfall. Consequently, making tracks resilient through surface modification sterilises that soil, making it unsuitable for further agricultural use
- Any reduction in the productivity or profitability of farming businesses will have significant flow through for the local economies of Beaufort, Ballarat, Ballan, Bacchus Marsh and Melton. Between 85 and 95 cents of every dollar earned from potato income is spent - a large proportion through the local service industries
- A reduction in the potato crop in the Ballarat district is a significant concern for processors in Melbourne and Ballarat. Potatoes grown in sandy soil or at higher temperatures (SA or NSW) have a shorter shelf life - being prone to shooting earlier or breaking down sooner. McCain also pay a significant transport subsidy to growers in South Australia.

Regional Appeal

- High potential for a decrease in the attractiveness of towns to future residents relative to current conditions, at least in areas proximate to or in view of the transmission lines
- Implications for population attraction and retention, property values and businesses relying on population-led demand
- Urban growth area land may be impacted depending on the ultimate alignment, including developable area, efficient development and investment value
- A material reduction in land supply available for new housing will have implications for housing availability, choice and affordability.

Landscape and neighbourhood amenity

[Healthy parks](#) provide significant amenity benefits to surrounding residents. There are about 12,000 residences immediately adjacent to Melbourne parks and 85,000 residences adjacent to parks outside the Greater Melbourne area. A conservative estimate of the amenity value for those residents immediately adjacent to Melbourne's metropolitan parks alone is \$21–28 million per year. This is based on international studies on the relationship between urban and peri-urban parks and housing prices, which can be used as a proxy for the value of improving people's welfare or wellbeing.

Biodiversity - Protecting our Natural Capital

The term 'natural capital' is used to describe the resources provided by nature – minerals, soil, water, ecosystem services, and all living things from which we derive material or financial value. Biodiverse ecosystems are the core component of natural capital. Victoria's agriculture, forestry and fisheries sectors, which directly rely on natural capital, contribute around \$8 billion, or 2.8 per cent, to annual Gross State Product. The physical presence of transmission lines can have an effect on wildlife and natural capital. These potential effects include long-term changes to habitat, bird strikes, access issues, noise effects and associated avoidance behaviour, and electric and magnetic fields.

Fragmenting habitat for transmission line easements will impact biodiversity by:

- Altering the types of wildlife found in an area, threatening already threatened species
- Limits the ability of wildlife to move to larger areas for food, breeding and genetic diversity
- Creates more edge habitat
- Increases mortality risks to birds.

There is nothing more important to our existence than a healthy natural environment. We need to stop the decline of our biodiversity and ensure that our natural environment is healthy, valued and actively cared for. Biodiversity is fundamental to the health, wellbeing and prosperity of current and future generations.

- It reduces the impacts of climate change
- It is important to Victorians' identity
- It is vital to Victoria's tourism – our parks alone bring in \$1.4 billion each year
- It is fundamental to the cultural practices of Aboriginal Victorians
- It has intrinsic value and a right to exist, regardless of human considerations.

A study of the economic benefits of Victoria's national parks and conservation reserves showed the range of benefits that parks provide. These contributions highlight the potential exposure of the economy if our natural capital is eroded by external impacts such as inappropriate infrastructure development, pollution, overuse, inadequate management of threats and climate change, which can degrade the condition of ecosystems and their ability to generate or support the provision of essential products and services.

Valuation of benefits from Victoria's parks

- Tourism: \$1.4 billion in spending per year associated with visits by tourists to Victoria's parks, generating \$1 billion gross value added to the state economy and 14,000 jobs
- Health benefits: visits to parks are estimated to save Victoria between \$80 million and \$200 million per year from avoidance of disease, mortality and lost productivity
- Water purification: avoided costs estimated at \$33 million per year in metropolitan areas and \$50 million per year in non-metropolitan areas
- Flood protection: \$46 million per year from avoided infrastructure costs
- Carbon sequestration: Victoria's terrestrial parks store at least 270 million tonnes of carbon
- Marine parks store at least 850,000 tonnes. In addition, Trust for Nature reserves and covenants are estimated to store a further 12 million tonnes of carbon.

Tourism

- High potential for negative impact on natural amenity and views which would directly conflict with the tourism brand and reasons for visit which are often based on scenic values and nature-based assets. The economic contribution of park-attributable tourism
- High potential for impacts on tourism and related businesses including future tourism initiatives such as the [Bald Hill Activation Project](#) in Bacchus Marsh
- Many regional landowners operate tourism businesses on their land. These businesses need to be identified and the economic impact understood
- Significant adverse impact on the development of Agri-tourism in the district. There are many farms within the area hosting farm-stays, BnBs, trail-rides, and glamping

- Significant adverse impact on [commercial hot-air balloon flight paths](#) and landing zones in the Myrning / Korobeit / Mt Prospect areas.

Recreation and well-being

The enjoyment that visitors obtain from visiting parks is estimated at \$600–\$1,000 million per year across Victoria. Around 23 million visits to parks per year are primarily for physical activity which can provide a wide range of health benefits. An indicative analysis suggests that the avoided healthcare costs and productivity impacts associated with undertaking physical activity regularly in Victorian parks could be up to \$200 million per annum. Recreation areas include parks, trails, lakes, or other areas where recreational activities occur. Transmission lines can affect these areas by:

- Discouraging potential users of recreational areas whose activities depend on the aesthetics of natural surroundings (e.g., backpackers, cyclists, hikers)
- Impacting the well-being benefits obtained through recreation
- Impacting the economic benefit to recreation related and supporting businesses.

Visual Amenity

The overall aesthetic effect of a transmission line is likely to be negative to most people, especially where proposed lines would cross natural landscapes and private properties. Development of overhead transmission lines changes the landscape and impacts visual amenity. Changes in amenity can create economic impacts to regions, towns, residents and businesses that rely on or are drawn to visual amenity. Aesthetic impacts depend on:

- The physical relationship of the viewer and the transmission line (distance and sight line)
- The activity of the viewer (e.g., living in the area, driving through, or sightseeing)
- The contrast between the transmission structures and the surrounding environment, such as whether the line stands out or blends in.

A transmission line can:

- Degrade the surrounding environment (e.g., intruding on the view of a landscape)
- Change the context of the view shed (e.g., evoking an image of development in a previously rural area)
- Introduce direct and cumulative visual impacts on residences, public viewpoints and the surrounding landscape
- Impact on the landscape character and significant landscape features
- Impact the integrity of significant physical landforms and environmental values

Property Impacts

Concern relates to how some property owners bear the economic burden so that everyone else can use the electricity, pitting property owner rights versus public benefit. Another concern relates to who should be considered as affected by the new line, IE properties with easements and infrastructure as well as neighbouring properties.

- Property Values: The potential decline in property values due to the proximity to a new transmission line
- Loss of Visual Amenity and associated economic losses
- CFA Restrictions: CFA will not fight structural or grass fires in close proximity to transmission lines due to safety concerns (key example - proposed TL between Mt Beckworth and Mt Bolton placed on strategic fire-break between two state parks)

- Property owner Insurance impacts due to the above
- Electricity transmission lines generate both electrical and acoustic noise. Electrical noise can severely degrade radio and television reception over large distances, depriving property owners or even communities of reliable access to those services
- Property development is limited by the proximity of transmission infrastructure due to the need to maintain safe separation between structures and transmission lines.
- Transmission lines pose a risk to rural property owners engaged in aviation activities for property management (e.g. ultralight pilots and the use of drones) Restricted ability equates to economic losses.

Aviation Safety Impacts

Concern relates to the lack of consideration of the impacts upon the current aviation corridor which parallels and intersects the proposed route.

- Air Ambulance, Police, commercial and private air services using the existing corridor will be at extreme risk when flying VFR at reduced altitudes to avoid IMC conditions in proximity to the Lerederg State Park and Wombat State Forest. This presents service level impacts affecting commercials as well as a significant liability risk in the event that there is a wire strike accident.
- Aerial Firefighting activities will be adversely impacted along the route resulting in the potential for structures to be lost, or fires causing more damage, due to additional delays incurred in needing to avoid transmission lines.

Force Majeure Claims

Concern relates to how often AusNet will claim for economic loss due to:

- Catastrophic weather events or bushfires damaging or toppling towers
- The transmission lines starting bushfires and the associated losses and liabilities over the life of the infrastructure.
- The Transmission line preventing the effective fighting of fires - leading to excessive loss of property or life (reference Lexton-Mt Major Fire on 20-12-2019 where the break in the fire fight due to the location of transmission lines led to a small fire getting away into 3,000ha fire that resulted in the death of 1,000+ sheep, and the loss of multiple sheds and a house.)

These claims are processed by AusNet as Force Majeure events and the costs passed onto the Victorian community. (The PG&E liability for a transmission line ignited fire in the US amounted to US\$30B and the estimated cost of the transmission line shutdown after the Tatong Fire in 2007 was \$460m [January Supply Interruptions - Executive Summary \(energy.vic.gov.au\)](#))

Weather-related cost pass through applications

There has been an increase in the cost pass through applications being submitted for damage sustained from natural hazards. Summarised below are a list of cost pass through applications made by networks in the period 2015-2020. Applications are expected to increase in line with predictions of increased severe weather events and these potential costs should be factored into any economic study.

Application Date	Network Operator	Nature of Event	Economic Cost
31 August 2020	Endeavour	Bushfire	\$31.27 million
31 July 2020	Ausgrid	Storm	\$37.6 million
10 July 2020	AusNet Services	Wind	\$25.07 million
14 May 2020	AusNet Services	Bushfire	\$21.50 million
21 August 2015	Ausgrid	Storm	\$43.20 million

FLOW THROUGH EFFECTS

When considering economic impacts, it is important that flow through effects are also considered. For example:

- A decline in visits to regional parks results in economic impact to a range of stakeholders not directly associated or located within the park
- A decline in wedding photography bookings at a wildflower farm through loss of visual amenity directly impacts catering businesses, photographers and nearby accommodation providers
- Decline in agricultural production impacts workers, logistics companies, wholesale operations, food processing operations and retailers

The following diagram has used indicative figures and associated businesses by way of example.

