Addressing the Impacts of Red Meat Consumption: Lessons from Australia’s Tobacco Control Regime

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Declaration

This work is substantially my own, and where any part of this work is not my own, I have indicated this by acknowledging the source of that part or those parts of the work.
Acknowledgement

I would first like to thank my supervisor, Dr Robert Macneil. In an institution as large as the University of Sydney where you too often feel like nothing more than your student number, Robert was the first lecturer to remember my name. It was in one of Robert’s classes that I came across this thesis topic and where I was inspired to pursue a career focused on environmental politics. It is true when they say that small actions can have big impacts.

I would also like to thank the Sydney Environment Institute for providing me with not only a desk, but an Honours family. This includes my ever-patient Honours mum, Anastasia, and my jolly fellows, Alice and Patrick, whose comradery and early morning boot camps made those tougher days that much easier.

Finally, I would like to thank my partner, Aidan, for always believing in me, and also my family for raising me to believe that my opinion was worth sharing.
Abstract

In spite of the negative impacts red meat consumption is having on public health and the environment, the issue is largely absent from environmental politics literature. This thesis will address this gap by considering potential policy mechanisms to mitigate the impacts of red meat consumption, barriers these policies might face, and how these could be overcome. Using Australia as a case study, a comparative analysis between Australia’s tobacco control regime and red meat consumption is conducted, supplemented by stakeholder interviews. This comparison is framed around the main influences on policy outcomes; ideas, interests, and institutions. The analysis highlights the essential roles of awareness-raising, cohesive policy networks, and a gradual increase in interventionism for ensuring policy regime success. It also demonstrates the larger scale of barriers for policy addressing the impacts of red meat consumption, and the potential policy windows that are opening due to a shift in meat consumption patterns.
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<tbody>
<tr>
<td>ABS</td>
<td>Australian Bureau of Statistics</td>
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<tr>
<td>ACOSH</td>
<td>Australian Council on Smoking and Health</td>
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<tr>
<td>AEC</td>
<td>Australian Electoral Commission</td>
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<td>AMA</td>
<td>Australian Medical Association</td>
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<td>BAC</td>
<td>Blood Alcohol Content</td>
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<td>BUGA UP</td>
<td>Billboard Utilising Graffitists Against Unhealthy Promotions</td>
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<tr>
<td>CCA</td>
<td>Climate Change Authority</td>
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<tr>
<td>CCV</td>
<td>Cancer Council Victoria (Originally the Anti-Cancer Council of Victoria)</td>
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<tr>
<td>CFI</td>
<td>Carbon Farming Initiative</td>
</tr>
<tr>
<td>CO₂</td>
<td>Carbon Dioxide</td>
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<tr>
<td>CSIRO</td>
<td>Commonwealth Scientific and Industrial Research Organisation</td>
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<td>ERF</td>
<td>Emissions Reduction Fund</td>
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<td>FAO</td>
<td>Food and Agriculture Organisation</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>GHG</td>
<td>Greenhouse Gas</td>
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<td>GRP</td>
<td>Gross Regional Product</td>
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<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
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<tr>
<td>INCOSI</td>
<td>International Committee on Smoking Issues</td>
</tr>
<tr>
<td>IPCC</td>
<td>Intergovernmental Panel on Climate Change</td>
</tr>
<tr>
<td>MLA</td>
<td>Meat &amp; Livestock Australia</td>
</tr>
<tr>
<td>MOP UP</td>
<td>Movement Opposed to the Promotion of Unhealthy Products</td>
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<tr>
<td>NCCI</td>
<td>National Cancer Control Indicators</td>
</tr>
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<td>NGO</td>
<td>Non-Government Organisations</td>
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<tr>
<td>NHMRC</td>
<td>National Health and Medical Research Council of Australia</td>
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<tr>
<td>NO</td>
<td>Nitrous Oxide</td>
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<tr>
<td>NSW</td>
<td>New South Wales</td>
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<td>POS</td>
<td>Point-of-Sale</td>
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<tr>
<td>RDC</td>
<td>Research and Development Council</td>
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<tr>
<td>RET</td>
<td>Renewable Energy Target</td>
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<tr>
<td>SA</td>
<td>South Australia</td>
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<tr>
<td>TIA</td>
<td>Tobacco Institute of Australia</td>
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<td>WA</td>
<td>Western Australia</td>
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Chapter 1: Introduction

There is substantial evidence which indicates that red meat consumption is having serious negative impacts on both public health and the environment (Raphaely & Marinova, 2014, p. 90). Consumption of red meat is the cause of a number of the most prolific and costly diseases in the developed world, including colorectal cancer and cardiovascular disease (D'Silva, 2016, p. 202). Red meat production is also one of the largest single-sector contributors to climate change (Gerber, et al., 2013, p. 15), not to mention the substantial negative impacts it has on biodiversity, water, and soil quality (Machovina & Feeley, 2014, p. 419); and its role in the diversion of millions of tonnes of food fit for human consumption (Machovina & Feeley, 2014, p. 425).

In spite of this, it is largely unfeatured in environmental politics literature. Whilst there are books and journals dedicated to other greenhouse gas (GHG) emissions sources, red meat consumption has typically been put in the ‘too hard’ basket. As a result, the current literature lacks consensus and sufficient research into potential policy mechanisms which might address the impacts of red meat consumption, the barriers these policies might face, and how these barriers could be overcome.

In order to address this gap, this thesis will use as its case study one of the highest GHG emitters and consumers of red meat per capita in the world, Australia. It will utilise a comparative framework, hereafter referred to as the ‘three I’s framework’, to consider the ideas, interests and

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1 For the purpose of this analysis, and to remain in line with the majority of literature, red meat here refers to meat derived from ruminant animals, most commonly cattle, sheep or goats.

2 It is important to note the impacts that red meat consumption, and consumption of animal products in general, has on non-human animals. Due to the comparison between red meat consumption and tobacco being based on the human impacts, non-human animal impacts of red meat consumption will not be discussed in depth in this thesis. For a consideration of the politics surrounding non-human animal welfare in Australia see Chen’s Animal Welfare in Australia: Politics and Policy (2016). For a discussion of the ethics of veganism and issues surrounding speciesism see Singer’s Animal Liberation (2009).
institutions which influenced Australia’s tobacco control policy in contrast with policy addressing the impacts of red meat consumption.

This comparative framework will be supplemented by a stakeholder analysis based on 20 semi-structured interviews in order to ensure the comprehensiveness of the comparison, and to inform the suggested policy mechanisms drawn from its conclusions.

This thesis will begin by outlining the nature of the impacts of red meat consumption, followed by an overview of the current environmental politics literature on the topic, and a summary of the methodology for the analysis.

The next three chapters will follow the three I’s framework, each addressing a different influence on policy outcomes; first considering tobacco control and then comparing red meat. This analysis uncovers a number of key policy insights, including the necessity of a cohesive and collaborative coalition of policy entrepreneurs, the need for awareness-raising to precipitate policy, and the role of a gradual increase in the level of policy intervention in order to ensure success. It also considers the broader scale of barriers to policy aimed at red meat, compared to tobacco, and the ways these might be overcome.

This analysis will then be followed by a concluding chapter which outlines suggestions for potential policy mechanisms to address the impacts of red meat consumption. These policies are based loosely on Australia’s tobacco control framework, but also consider the broader spectrum of influences on policy outcomes, including the significance of the red meat industry to Australia’s economy and cultural identity. This will then be followed by an outline of future opportunities for research. The conclusion that this study draws is that, while the implementation of these policy mechanisms is likely to remain distant for now, there is a notable shift in what Australians are eating, with a movement towards plant-based diets and food habits which leaves the possibility that, in future, a policy window may open.
Chapter 2: The Impacts of Red Meat Consumption

2.1. Red Meat Consumption and the Environment

Anthropogenic climate change is the most pressing issue facing governments this century, with far reaching implications not only for the environment, but also for food security, geopolitics, inequality, and public health (Wellesley, et al., 2015, p. viii).

The agriculture industry is one of the most significant contributors to climate change, accounting for almost 40% of GHG emissions (Mehta-Bhatt & Ficarelli, 2015, p. 514). By far the largest contributor to agricultural emissions is livestock, producing at least 14.5% of global GHG emissions (Gerber, et al., 2013, p. 15), equivalent to the total emissions from the entire transportation sector (Intergovernmental Panel on Climate Change [IPCC], 2014, p. 9). This is primarily due to the emission of gases with high ‘global warming potential’ such as nitrous oxide (NO), ammonia and methane through ruminant meat production. Methane remains in the atmosphere for 9-15 years before converting to carbon dioxide (CO2), and traps heat 21 times more effectively than CO2. NO is 296 times more effective than CO2 for trapping heat, and remains in the atmosphere for an average of 114 years (Mehta-Bhatt & Ficarelli, 2015, p. 514).

Ruminants also require 20 times more area to produce a tonne of meat than chickens or pigs (Machovina & Feeley, 2014, pp. 426-427) and their pastures now encompass an area 3.5 times larger than the USA, which has led to the loss of one-third of all natural forests worldwide (Machovina & Feeley, 2014, p. 420). Agriculture accounts for 92% of humanity’s freshwater footprint (Gerbens-Leenes, et al., 2013, p. 25) and if feed crops grown for livestock were to be diverted to human consumption, there would be a 70% increase in the number of calories available for food (Machovina & Feeley, 2014, p. 425).

Australia is the third highest consumer of meat products in the world, with Australian adults consuming an average of 116.2kg of meat per capita per year (the world average is 50.9kg).
(Food and Agriculture Organisation [FAO], 2018). This is equivalent to 2.23kg per week, including 560g of red meat (National Cancer Control Indicators [NCCI], 2017). The National Health and Medical Research Council of Australia (NHMRC) recommends no more than 455g of lean meat per person per week (Raphaely & Marinova, 2014, p. 93).

Australia is also ranked eighth in the world in terms of GHG emissions per capita (World Resources Institute, 2015), the highest of the developed world (United Nations, 2014, p. 145). Ruminant livestock emissions contribute to at least 14% of Australia’s GHG emissions3, close to the transport sector (17.7%) and more than double industrial processes (6%) (Department of the Environment and Energy [DoE], 2015). Considering Australia’s emissions reduction target is 26-28% on 2005 levels by 2030 (DoE 2015), addressing red meat consumption could significantly contribute to this target being met.

2.2. Red Meat and Public Health

While many people believe that eating meat is nutritionally necessary or beneficial, the increase of red and processed meat consumption in developed countries has been cited as a major factor for rising rates of debilitating, deadly and costly diseases (Raphaely & Marinova, 2014, p. 91). It is estimated that if the consumption of meat, dairy products and eggs in the European Union were to be halved, there would be a 40% reduction in the intake of saturated fat, leading to a reduction in cardiovascular mortality (Westhoek, et al., 2014, p. 196). Similarly, if meat intake in the average US diet were to be significantly reduced, there could be a decrease of between 20-45% of the relative risk of non-communicable diseases such as cardiovascular disease, colorectal

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3 The Australian National Greenhouse Gas Inventory calculates land use change and agricultural emissions separately. For the purpose of this research, the related land use change of forest loss for grazing land was included in this figure. However, it was not possible to determine from the inventory data how much land use change has occurred for feed crop land and this, potentially significant figure, could not be included.
cancer and type 2 diabetes, and of healthcare costs by US$77-93 billion per year (Hallstrom, et al., 2017, p. 199).

Furthermore, mass-production meat facilities are now understood to be responsible for the rapid selection and amplification of pathogens, such as Bovine spongiform encephalopathy – also known as ‘mad cow disease’. There are also serious health issues stemming from the use of growth hormones and antibiotics in livestock production that is later consumed by meat eaters (Raphaely & Marinova, 2014, p. 92).

Colorectal cancer is the second most common cancer diagnosed in both men and women in Australia, and a large portion of these are attributable to red and processed meat consumption (Nagle, et al., 2015, p. 431). Moreover, 3.9% of Australians have type-2 diabetes, while a further 3.1% are at a high-risk of diabetes (Australian Bureau of Statistics [ABS], 2013c), and cardiovascular disease is the leading cause of death for Australians (ABS, 2013b). Each of these diseases has been related to excessive red meat consumption (Raphaely & Marinova, 2014, p. 92). The reduction of these preventable non-communicable diseases in Australia could release over $2.3 billion dollars into the economy and increase workforce productivity by 10% (Wilcox, 2014, p. v).
Chapter 3: Literature Review & Methodology

3.1. The Gap in Environmental Politics Literature

In comparison with other GHG emissions sources, the topic of reducing red meat consumption has attracted minimal attention from political scientists (Wirsenius, et al., 2011, p. 159; Dagevos & Voordouw, 2013; Nordgren, 2012, p. 564). The Routledge Handbook of Global Environmental Politics (2014) only mentions the term ‘meat’ five times, and ‘red meat’ not at all (Harris, 2014). While the IPCC identifies the GHG mitigation potential of reduced meat consumption, it does not address the best means of doing so; with a report from the IPCC stating that “at present insufficient research attention has been paid to investigating how shifts in diets are to be achieved” (IPCC, 2015, p. 11).

Currently, most literature on this topic has remained outside the realm of environmental politics debates, arising instead from environmental scientists, consumer behaviourists and public health experts (see Graca, et al., 2015; Sui, et al., 2016; Macdiarmid, et al., 2016; Green, et al., 2015; Hallstorm, et al., 2017; and Westhoek, et al., 2014; Charlebois, et al., 2016).

The following section will therefore outline what debates do exist regarding the best means of reducing red meat consumption and how there is clear evidence of a need to address the lack of stakeholder analyses, the absence of in-depth state level case studies, and for more concrete pathways for policy action.

3.2. Means of Addressing the Impacts of Red Meat Consumption

3.2.1. Co-benefits of Reducing Red Meat Consumption

There is general consensus, between those in political science who have explored means of reducing the impacts of red meat consumption, of the need for policy advocates to consider the ‘co-benefits’ (Smith, 2013, p. 67), focusing not only on the environmental benefits, but also on those for public health (Yip, et al., 2013, p. 683).
Raphaely and Marinova (2014, pp. 91-92) argue that there are four discrete negative impacts of excessive meat consumption:

1. Direct impact on climate change (through GHG emissions);
2. Indirect impact on climate change (for example, water availability);
3. Direct impact on human health (through non-communicable diseases);
4. Indirect impact on human health (through impacts on mental and physical health due to climate change).

Mehta-Bhatt and Ficarelli (2015, p. 517) term these co-benefits as “political negatives, in the sense that animal welfare, climate change and public health can all be utilised by political actors as negative factors related to meat consumption”.

3.2.2. The Technological Answer

A current area of contestation in the literature is whether or not to direct focus on technical and biological means of addressing these ‘political negatives’, rather than economic and cultural mechanisms (Raphaely & Marinova, 2014, p. 94).

Henry and Eckard (2009, p. 232) argue that feed modification, animal breeding and herd management, rumen manipulation, and animal waste and fertiliser management are the optimal means of reducing livestock emissions.4

On the other hand, Nordgren (2012, p. 574) contends that if we want to achieve truly substantial reductions of GHG emissions in the livestock sector, livestock numbers and consumption of red meat have to be reduced. Cederberg, et al., (2013) agrees:

“Due to the relatively limited potential for reducing food-related emissions by higher productivity and technological means, structural changes in food

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4 It is important to note that one of the authors of this research, Beverly Henry, is employed by Meat & Livestock Australia.
consumption towards less emissions-intensive food might be required for meeting the two degree target” (Cederberg, et al., 2013, p. 330).

Similarly, Hedenus, et al. (2014) found that over the next 50 years of population growth, if we rely upon livestock productivity and technical mitigation measures, livestock emissions would only remain steady. Overall emissions will only decrease if red meat consumption is reduced (Hedenus, et al., 2014, p. 79).

3.2.3. Carbon Taxing Meat

The main measure posited by the literature to reduce red meat consumption is a carbon tax on meat. Wellesley, et al., (2015, p. viii) argue that governments must tax carbon intensive products such as red meat, and raise awareness of the link between livestock and climate change. They are supported by Raphaely and Marinova (2014):

“Cigarettes, alcohol, petrol and energy all incur a high cost or taxes that are used to offset their negative health and environmental consequences. Meat production and consumption need similar taxes to offset human and environmental health implications” (Raphaely & Marinova, 2014, p. 94).

Wirsenius et al., (2011, p. 180) also argue that a consumption tax on animal products, differentiated by the GHG emissions per food unit, can be a cost-effective policy to abate agriculture emissions.

Nordgren (2012, p. 577) suggests that non-coercive measures such as governmental recommendations to consume less meat and other methods such as carbon intensity food labelling are one way to reduce consumption. However, these will not be sufficient for realising substantial results in climate change mitigation. Instead, coercive measures are necessary, either through command and control regulation, such as a ban on meat imports, or market based approaches such as a carbon tax on meat (Nordgren, 2012, p. 578).
Nonetheless, critical views persist which argue that environmental taxes are unlikely to occur in liberal market economies like Australia, Canada and the US. Macneil (2016, p. 22) argues that due to neoliberal reforms, the economic anxieties of workers can easily be translated into “virulently anti-tax politics”.

Felder and Schleiniger (2002, p. 107) believe it is possible to overcome this opposition through combining a carbon price with labour subsidies to allay fears for the job market, while Cremer and Donder (2004, p. 703) argue that there should be a proportional tax reduction based on wage incomes.

3.2.4. Non-Coercive Approaches

Rather than a tax, Dagevos and Voordouw (2013) support a non-coercive approach. They suggest that a gradualist strategy based on the four E’s policy framework (enabling, encouraging, exemplifying, and engaging) would be best. They believe that, through raising awareness and testing consumer commitment to the idea, one can ascertain whether to move forward with more coercive policies (Dagevos & Voordouw, 2013, p. 67).

Revell (2015) suggests that achieving a significant level of voluntary reduction in meat consumption would require sustained measures of consumer education, and only then could we expect behavioural change. Wellesley, et al., (2015) agree that it would be difficult, if not impossible, to implement higher intervention policy mechanisms such as carbon taxing red meat without first investing substantial time and resources into awareness-raising and encouraging a discourse in the public and political systems regarding the impacts of red meat consumption (Wellesley, et al., 2015, p. 9).
3.3. Which Gaps to Fill?

In the end, it is clear that there is little consensus regarding the best means of addressing red meat consumption and its impacts. Austgulen (2014) and Lerner, et al., (2013) argue that this lack of agreement means that there is little hope for strong political action.

Much of the literature has taken a macro-level analysis, assessing the broader impacts of global red meat consumption. However, due to the country-specific nature of food consumption patterns and culture (Vranken, et al., 2014, p. 97) this does little to assist in determining feasible policy mechanisms to address these impacts.

Furthermore, the literature fails to take into account potentially valuable policy insights from either other emissions sectors or other areas of consumption that cause negative externalities similar to red meat.

Finally, there exists to date only one stakeholder analysis, by Lerner, et al., (2013), regarding the best means of reducing the climate change impacts of red meat consumption. Stakeholder analyses provide a valuable tool for assessing the feasibility of policy (Varvasovsky & Brugha, 2000, p. 338), and their absence may well be one of the reasons for a continued lack of consensus regarding the best way to address the impacts of red meat consumption.

3.4. Methodology

It is these gaps (the lack of stakeholder analyses, the absence of in-depth state level case studies, and the need for more concrete pathways for policy action) that this thesis will address. This analysis aims therefore to answer the following questions:

1. What barriers inhibit, or are likely to inhibit, policy action aimed at reducing the impacts of red meat consumption?

2. What are the opinions of key stakeholders regarding these policy actions and the barriers they face?
3. What policy insights can be gained from other areas that can give further understanding of these barriers and how they might be overcome?

4. What policy mechanisms should therefore be undertaken to address the impacts of red meat consumption?

As highlighted earlier, these questions are difficult to answer on a broader level analysis due to the localised nature of food culture at, and below, the state level. Therefore, this study will use Australia (due to its high GHG emissions and red meat consumption per capita) as the case study.

Another reason for this choice is because Australia is also home to one of the most successful government interventions into specific product consumption. Australia’s tobacco control regime has become a model for not only reducing smoking rates, but for public health advocacy and policy mechanisms around the world (Studlar, 2005, p. 270). There are a number of similarities between red meat consumption and tobacco consumption, including links to disease and illness through consumption, economically and politically powerful vested interests, and cultural affiliations which make it an ideal case for comparison.

This thesis will assess these similarities, as well as potential differences, through a thematic analysis based on the three I’s framework, which considers the influence of ideas, interests, and institutions on policy outcomes. The three I’s framework synthesises these three main categories of influence in order to ensure a comprehensive policy analysis (Smith, et al., 2014, p. 333). The three categories can be defined as follows:

Ideas, which has a symbiotic relationship with power (Cairney, 2012, p. 15), reflects both the shared beliefs (what is considered to be ‘true’) and the shared values (what ‘should be’) of actors (Pomey, et al., 2010, p. 709).
Interests represents a more traditional understanding of power mechanisms in policy making; incorporating those who have a stake, usually financial but sometimes ideological, in the policy. Essentially, who will win, and who will lose, and by how much (Lavis, et al., 2002, p. 141).

Institutions stress the role political institutions, constitutional and legislative frameworks (Humpage, 2010, p. 236), policy networks, and policy precedents (Lavis, et al., 2002, p. 141) have on outcomes.

The three I’s framework is useful not only in understanding policy regimes retrospectively, but also prospectively – by using the framework to understand the different influences that will arise in the policy making process, their connections to one another, and the power they may yield (Walt, et al., 2008, p. 308). The policy insights from the analysis of each area of influence on tobacco control are therefore combined with the responses gained through semi-structured stakeholder interviews in order to outline the ideas, interests and institutions which would likely influence policy aimed at addressing the impacts of red meat consumption.

For this analysis, 20 stakeholders were interviewed (see Appendix D for a list of interviewees and their respective reference codes which will be used throughout this thesis). Of these, three were experts in tobacco control, and their input was used to inform the analysis of Australia’s tobacco control policy. Of the stakeholders for red meat consumption, the interviews focused on their perspectives on the impacts of red meat consumption, the best means to address these impacts, as well as the potential barriers these mechanisms would face (the interview themes and questions are outlined in Appendix E). All interviewees were fully informed regarding their right to withdraw from the study at any time and their ability to remain anonymous. The responses from these interviews were used not only to inform the three I’s analysis, but also to construct the policy matrix for addressing the impacts of red meat consumption outlined in Chapter 7.
3.4.1. Limitations

As with all qualitative research this study is limited by the subjectivity inherent in the research method (Travers, 2013, p. 245). Furthermore, whilst the stakeholder analysis provides a necessary addition to the field, it is of a limited sample of individuals and is missing certain groups whose viewpoints could have contributed to the overall analysis (see Appendix D).

The interviews were also limited in their ability to gain explicit positions on particular policy mechanisms from participants such as those from The Greens or those involved in the meat industry.

Nonetheless, through this qualitative, multi-methods analysis, this thesis assists in addressing the large gaps that exist in regards to means of addressing the impacts of red meat consumption, in particular the policy insights that can be gained through comparative analysis and the contribution of stakeholder perspectives.
Chapter 4: Ideas

4.1. Tobacco

Tobacco control policy in Australia did not happen overnight. From the landmark reports on the impacts of smoking on health published in the early 1960s, to the most recent bans on smoking in outdoor dining areas, it has involved significant shifts in the values and attitudes of the Australian public and its politicians. This section will address some of the core ideas surrounding tobacco smoking which changed between the early 1960s and the current day, and what the catalysts for these shifts were. These include the rise in awareness of the health impacts of smoking, the move away from the association between masculinity and smoking, and the shift towards seeing smoking as not just impacting individuals, but society.

4.1.1. Denormalising Smoking

Tobacco smoking was prevalent in Australia from the start of colonisation, with the first plantations established in the early nineteenth century (Cancer Council Victoria [CCV], 2017c). At their peak, smoking rates among men in Australia were at 72% in 1945, and 33% among women in 1976 (Winstanley & Woodward, 1995). As of 2012, 18.3% of Australian men smoke daily and 14.1% of women (ABS, 2013a). Smoking has gone from a common, even social, habit to one that is the target of wreathes of legislation and regulation, an anti-social behaviour that is only permitted on the sidelines of society (Chapman, 2007, p. x).

In mid-twentieth century Australia it was common to see smoking in every hour of the day, on television and newspapers, in bars, on planes, in taxis, and in almost every home in the country (Chapman, 2007, p. 153). Now, it would be uncommon to see a smoker on a street in Australia, television and media are free of tobacco advertising, and films and pop culture rarely show even a cigarette. 75% of smokers want to quit (Chapman & Freeman, 2008, p. 26), meaning only 3.75% of regular smokers in Australia want to continue to smoke (ABS, 2013a). This dramatic
change required not only a comprehensive shift in policy and regulation, but a shift in culture, values and beliefs around the practice of smoking (Chapman & Freeman, 2008, p. 25).

Science and Smoking

Reports that emerged in 1962 from the Royal College of Physicians (Royal College of Physicians, 1962) and 1964 from the Surgeon General in the United States (U.S. Department of Health and Welfare, 1964) emphasised the strong links between smoking and cancer, among other diseases. These reports initiated the galvanisation of public health policy networks around the world to petition governments to take action and to raise awareness among the public:

“It all started when the science started coming in. Because if there was no case to be made against smoking being a problem then it would have spluttered along as a kind of moralistic issue.” (Tobacco-3)

In 1962, in response to the report, public health associations including the Australian Medical Association (AMA), the Royal Australasian College of Physicians and the CCV made a joint recommendation to the Australian Government to impose restrictions on tobacco advertising and to launch a public health education campaign (Walker, 1984, p. 87). They cited the fact that lung cancer, once an uncommon disease with only 140 reported cases as of 1900 (Proctor, 2012, p. 87), had skyrocketed. In 1968 there were 2,883 deaths in Australia from lung cancer, and this number continued to increase each year as the smoking population aged (Australian Institute of Health and Welfare [AIHW], 2017).

Masculinity and Smoking

When these reports emerged, 58% of men and 28% of women in Australia smoked. This decreased to 45% for men by 1969, though the level for women remained stagnant (Winstanley & Woodward, 1995). Reid, et al. (1992, p. 192) attribute a similar decline in the United Kingdom to the publication and subsequent media coverage of the reports.
Anti-tobacco advocates began public campaigns in the late 1960s, aiming to raise public awareness of the risks of smoking. These campaigns included short films, pamphlets titled ‘Smoking and your health’, and sporting celebrities on posters (see Figure 1) encouraging people to consider the health risks of smoking (CCV, 2018b).

Smoking and masculinity had long been linked in Australian tobacco culture. Since colonisation it had been seen as part of a ‘man’s world’ (Walker, 1984, p. 5). During World War 2, the British Medical Association’s Australian branches asked members to donate money so that tobacco might be supplied to Australian soldiers (Walker, 1984, p. 56), further consolidating the use of tobacco as the norm among Australian men and its close identification with masculinity (Ballard, 2004, p. 90). Such was the strength of this link that Marlboro changed its promotional imaging in Australia from a woman, which it had used overseas, to a cowboy. Marlboro became particularly popular among young men, with one study showing that they were attracted to the brand’s strong, confident, outdoorsy male image (Walker, 1984, p. 77).

However, the links between strength and virility, and masculinity were partly tobacco’s downfall among Australian men. As the health impacts became more well-known and accepted, men who were concerned about this very health, strength and virility quit at a rapid pace, leading to the drop in male smoking rates (Walker, 1984, p. 92).
Smoking is Unhealthy

The 1970s are generally considered to be the starting point for the introduction of an increasingly comprehensive tobacco control regime in Australia, as evidence against smoking began to mount and awareness in the public increased (Chapman & Wakefield, 2001, p. 275).

The Australian government introduced its first piece of anti-tobacco legislation in 1969, requiring all cigarette packets to display the phrase “Warning – Smoking is a Health Hazard”, although this legislation was not enacted until 1973, due to legislative and regulatory changes (CCV, 2017b).

Another key policy change occurred in 1973, when direct advertising of cigarettes on radio and television was banned and phased out over a three year period (Winstanley & Woodward, 1995). During this time, the first federal mass media campaign on the dangers of tobacco smoking was launched. Named ‘National Warning Against Smoking’ the campaign ran from 1972 to 1975 (Winstanley & Woodward, 1995).

The real shift in the political and public perception of smoking came when new evidence emerged regarding the impacts of second-hand cigarette smoke:

“[…] in the early 1980s, evidence started coming in about people’s smoke being hazardous to other people who weren't smoking […] before that, it was: ‘Well, my smoking is dangerous to my health, but if I want to damage my health that's my business’, whereas after that it was: ‘Well my smoking is also dangerous to your health’, and so people have a right, according to the John Stuart Mill Principle of Liberty, to say: ‘Well you can't. You can do what you like, but you can't harm me’.” (Tobacco-3)

Whilst the idea of ‘smoking is normal’ had begun to transform into ‘smoking is unhealthy’, this had not been enough to galvanise sufficient public concern or political will to initiate substantive
tobacco control policy or to push smoking into the realm of antisocial behaviours that it exists in today. However, with the new understandings of the impacts of smoking on more than just the smoker, action began to take shape at a much more rapid rate.

4.1.2. Prioritising the Public Good

Although smoking in public places had been common in Australia from the early twentieth century, with it being the norm anywhere from the workplace to a restaurant (Ballard, 2004, p. 104), complaints by non-smokers did gradually lead to the banning of smoking on public transport (Ballard, 2004, p. 104). Resistance against this move led to the establishment of the Smokers’ Rights League, who likened the bans to the oppression of the Jewish people in Nazi Germany (Walker, 1984, p. 116). While not so extreme in their opposition to the incursion on the civil liberties of smokers, the Coalition government, in power from 1976 to 1983, held the view that smoking was a problem of individual behaviour rather than a public policy issue (Ballard, 2004, p. 95).

However, this all changed in 1986 when various reports emerged outlining the impacts of passive smoking, including publications by the U.S. Surgeon General, the World Health Organisation (WHO), and the NHMRC (Ballard, 2004, p. 105). These reports called for the restriction, or preferably prohibition, of smoking in workplaces and in enclosed public places such as hospitals, restaurants and forms of transportation (Ballard, 2004, p. 105). The revelations of the links between passive smoking and diseases such as lung cancer, asthma and other respiratory illnesses led to a series of workers’ compensation cases. In 1987 smoking was banned on all domestic flights, and regulations progressively flowed to other forms of transport (Ballard, 2004, pp. 105-106).

As per John Stuart Mill’s principle of liberty, the smoker’s rights were limited by the harm their habit did to others:
“[…] the sole end for which mankind are warranted, individually or collectively, in interfering with the liberty of action of any of their number, is self-protection … The only purpose for which power can be rightfully exercised over any member of a civilised community…is to prevent harm to others.” (Chapman, 2007, p. 11)

In other words, it is justifiable, even in the view of advocates for civil liberties, for the government to intervene in individual action for the sake of public health and safety (Ballard, 2004, p. 111). As multiple interviewees highlighted, this philosophy is common among most public health and safety law “it's not okay to endanger other people; drinking and driving, and all that sort of stuff” (Tobacco-3). This notion is named by some scholars as ‘secular morality’, whereby it has become the norm to consider it the government’s moral duty to intervene in individual lifestyle choices for the sake of the public good (Studlar, 2005, p. 269).

Over time, smoking became gradually relegated further out of the public space, with policies beginning to reach places such as restaurants and hotels in the mid-1990s and throughout the early 2000s (Ballard, 2004, p. 106). These regulations were passed through the utilisation of the notion of secular morality, and this could be observed in the moralistic language used in parliamentary debate (Hooker & Chapman, 2006, p. 39). Because this moral tone was used in almost all discussion surrounding tobacco control, it communicated to the public that tobacco control was a government responsibility. The principles of free will and smokers’ rights were consigned to the sidelines in favour of the public good (Hooker & Chapman, 2006, p. 40).

4.1.3. Smoking is Anti-social

When one compares tobacco consumption in Australia now to the 1950s, the distinctions are clear. If we consider ideas as being “knowledge or beliefs about what is” as well as “views about
what ought to be” (Pomey, et al., 2010, p. 709) then we can see demonstrably see how ideas in
Australia around smoking have changed.

Firstly, the knowledge or beliefs regarding smoking and its benefits and risks changed drastically
over the course of forty years. Prior to the 1960s, very few Australians knew of the risks of
smoking. In 1972, 80.4% of Australians believed that smoking was a health hazard (Walker,
1984, p. 106), and in 2000 that had increased to 94% of the population (Purcell, et al., 2015).

Secondly, the view that smoking was normal, that it was social, was overcome by the notion that
not only was smoking bad for individuals, but bad for the public. It was endangering others and a
drain on the public health system (Ballard, 2004, p. 89). Smoking, once framed as a pleasure and
as a facilitator for companionship (Hooker & Chapman, 2006, p. 40), is now seen as a ‘dirty
habit’. It is “to wear a badge that says ‘I am either an immature youth, have little education or
life aspiration, or I am a resigned addict’” (Chapman, 2007, p. x).

Furthermore, views on the role of government in the intervention of individual lifestyle choices
has shifted, particularly in the realm of public health. It is now an expectation in Australian
society that if an individual choice has sufficient impact on the welfare of the general public,
then that behaviour should be regulated, and even persecuted. Results from the most recent
National Drug Strategy Household Survey demonstrate that even today, after nearly three
decades of one of the world’s most comprehensive tobacco control strategies, the Australian
public is still in favour of even tighter legislation and higher prices (AIHW, 2017).

These changes were achieved through a combination of public awareness-raising and consistent
campaigning of government by anti-tobacco advocacy groups. There was increasingly
consolidated research demonstrating the impacts of tobacco on both individuals and others, and a
broadening system of legislation which labelled smoking as abnormal and as a burden on the
Australian public. Ideas about smoking changed, and the normality of the habit gave way to a society based on policy driven by secular morality.

4.2. Red Meat

A consistent message throughout the interviews for this study was that the main barrier facing policy aimed at reducing red meat consumption in Australia was ideational: “you could see the front page of the Telegraph go ‘Ah! These crazy people, they want to destroy the lifestyle of Australians and stop us eating meat pies!’” (Greens-1).

Firstly, there is a lack of knowledge regarding the impacts of red meat production on the environment and the impacts of consumption on health. Secondly, there are strongly ingrained views regarding red meat consumption such as the association between masculinity and meat eating, the relationship between ‘Australianism’ and red meat, and the perceptions of the role meat should play in the composition of a meal.

This section will briefly describe the nature of these ideas and will also posit ways in which they may be shifted towards viewing the reduction of red meat production and consumption in a more favourable light.

4.2.1. Red Meat and Climate Change

All stakeholders who were interviewed had some awareness of the impacts of red meat production on climate change, though the depth of knowledge was not consistent. For instance, some did not realise the GHG intensity of methane compared to CO2. While this is a positive sign that awareness is high among the interviewed stakeholder groups, the same cannot be said for the general Australian public.

A survey of what Australian consumers take into consideration when choosing to eat meat showed that less than 1% thought about the environmental impacts of red meat production (Bogueva, et al., 2017, p. 484). Furthermore, of the respondents who abstained from eating meat,
none cited environmental concerns as a motivating factor (Bogueva, et al., 2017, p. 484). This is in spite of 56% of participants stating that they were worried about climate change (Bogueva, et al., 2017, p. 485).

Another study found that Australians feel that decreased use of packaging by food manufacturers is the most important way to reduce impacts of the food industry on the environment, whilst lower meat consumption was considered the least likely to help (Lea & Worsley, 2008, p. 207). Similar results emerged from a study conducted in 2004 in which the respondents ranked health benefits such as lower saturated fat intake and higher fibre intake as a reason to adopt a plant-based diet. Meanwhile, benefits to the environment ranked relatively low, with a large number of respondents stating they were unsure what these benefits might be (Lea, et al., 2006, p. 833).

These results indicate that in spite of the publication, and the subsequent media coverage (Mayes, 2016, p. 87), of reports such as the FAO’s *Livestock’s Long Shadow* (2006) and the *Garnaut Climate Change Review* (Garnaut, 2008), awareness of the links between climate change and red meat production have not increased among the Australian public.

Regarding how this may relate to the history of tobacco control in Australia; similar to red meat and climate change, tobacco and lung cancer was first brought to international attention through landmark reports published by well-respected institutions. Although it did take a number of years after the publication of the reports for substantive policy changes to occur, public awareness of the risks of smoking did increase. There has not been the same reaction when it has come to red meat consumption.

This could perhaps be attributed to the fact that large networks of public health professionals and organisations took up the cause of raising awareness among both the public and politicians in the case of smoking, a movement that is almost entirely absent in the environmentalism sphere for red meat. Environmental NGOs are simply unwilling or unable to campaign strongly for the
reduction of red meat consumption, with few carrying the issue further than mentioning the links between red meat and climate change on their website (Laestadius, et al., 2013, p. 25). Reasons cited for this lack of action included these organisations not feeling that it was an issue relevant to their mission, as well as the limited social and political appeal (Laestadius, et al., 2014, p. 32).

This lack of public awareness, paired with an absence of consolidated action by environmental activist groups, means that the same push towards policy action is missing from the red meat and climate change equation compared to tobacco control. If this is to continue, the Australian public will remain unaware of the impacts that their eating habits are having on the climate.

4.2.2. Red Meat and Health

Unlike with climate change, the understanding and acceptance of the links between red meat and disease was less consolidated among interviewees. Livestock farmers felt that their product was not having as great an impact on Australian health as chemical spray used on crops, overconsumption of processed foods, or hormones used when producing poultry. Nutrition experts felt that there was only cause for concern regarding excessive red meat consumption (that is, over the 455g per week recommended by the National Dietary Guidelines), and these views were supported by others such as Greens politicians and some climate change experts.

Similarly, knowledge among the Australian public regarding the impacts of red meat consumption on health are inconsistent. Whilst health benefits were cited as the most important reason for adopting a plant-based diet (Lea, et al., 2006, p. 828), and Australians acknowledge the health impacts of eating red meat, concern over the lack of adequate nutrients or the ‘unhealthiness’ of a plant-based diet was sufficient to motivate consumers to continue eating red meat (Lea & Worsley, 2001, p. 130).

No studies currently exist which have charted whether the perceptions of Australians regarding the health impacts of red meat have shifted since the publishing of the International Agency for
Research on Cancer (IARC) report on the links between red and processed meat with diseases such as colon cancer (IARC, 2015). However, analysis of global media coverage following the report indicates that discussion regarding the report’s conclusions were inconsistent, with many articles instead taking the chance to comfort readers of the purported benefits of eating red meat, claiming they outweighed the risk (Leroy, et al., 2018).

The lack of consistent understanding regarding the health impacts of red meat consumption that exists not only in the general public, but among media, politicians, and health professionals is a significant barrier to shifting perceptions on red meat consumption. Unlike tobacco, where understanding was consistent, and the link between the risk and the behaviour black and white, red meat consumption is far more complex:

“I think it's always difficult to sell complex health policy as opposed to simple black and white stuff, and with tobacco it's pretty black and white. You know like ‘Hey, don't smoke, not just a little bit, just don't.’ Whereas with food, you've got ‘Oh well, you know, if I don't need much meat, or if I exercise a lot’, there's all this sort of stuff everywhere...” (Tobacco-3)

Without clarity in the messaging and convictions among opinion leaders it cannot be expected that the general public will be able to shift from the idea that meat is a necessary, and healthy, component of diet.

4.2.3. Cooking a Meal without Meat

Another consistent theme among interviewees was that one of the main barriers to the uptake of a plant-based diet was a lack of cooking skills and knowledge when it comes to plant-based meal recipes: “[...] even if you could get them to that point where they know the harms, a lot of people don’t know what else to eat or how to prepare it. I would say a lot of people with basic cooking skills are still stuck at meat and two veg” (Health-1).
This barrier is also reflected in the literature, with studies indicating that a lack of knowledge of how to follow a plant-based diet and how to cook vegetarian food was a significant barrier to reducing meat consumption (Lea & Worsley, 2001, p. 133). People raised on meat-centred diets find it difficult to conceptualise a meal without meat at the centre (Tucker, 2014, p. 175).

In order to overcome this barrier, it has been suggested that it is best to ease the transition. Rather than encouraging the removal of all animal products, opt for promoting meat substitution with products such as cheese (Schosler, et al., 2012, p. 46), or a less carbon intensive meat product such as chicken, or by promoting recipes which have a much smaller serving of meat (Laestadius, et al., 2016, p. 88). These promotions could be through ‘Meat Free Mondays’ or ‘Less but Better Quality’ style campaigns (Lang, et al., 2010, p. 265) or through point-of-sale (POS) promotions such as recipe cards or cooking demonstrations which promote plant-based meals (Graham & Abrahamse, 2017, p. 106).

4.2.4. ‘Real Men Eat Meat’

Moving on from the knowledge surrounding the impacts of red meat consumption towards the values related to it, one clear ideational barrier in Australia is the perceived link between masculinity and red meat consumption: “[…] the only thing where anybody meets the dietary guidelines and exceeds them is meat consumption among men.” (Nutrition-1)

According to the National Cancer Control Indicators (NCCI), Australian men consume over 50% more red meat than women, consuming 97.3g daily, equivalent to 681g per week (2017). This is approximately 50% more than the recommended intake of 455g by the National Dietary Guidelines (NHMRC, 2013, p. 52). These figures are hardly surprising when we consider that a medium-rare steak is the food most associated with men and masculinity (Bogueva & Phau, 2016, p. 267). Meat consumption, in its depiction of physical power and stamina, has become inherently masculinised; “the identification of raw meat with power, male dominance, and
privilege is among the oldest and most archaic symbols still visible in contemporary civilisation” (Willard, 2002, p. 113).

Men score higher than women in all dimensions of meat attachment (Graca, et al., 2015, p. 123) and older men are the least likely demographic to become vegetarian (Lea & Worsley, 2001, p. 127). Studies have also shown that men value ‘Power’ (associated with a preference for meat consumption) over ‘Universalism’ (a value more prevalent amongst women and one which leans more towards reduced meat intake) (Hayley, et al., 2015, p. 98).

Australian advertising campaigns such as ‘Feed the Man Meat’ and ‘Red Meat, We Were Meant to Eat It’ (see Figure 2) capitalise on these perceptions and sustain the relationship between meat eating and masculinity (Ankeny, 2008, p. 24).

While the masculine values associated with red meat consumption are no doubt deeply ingrained in the Australian psyche, there is possibility for these to be overcome. Just as concerns regarding health, stamina and wellbeing motivated Australian men to quit smoking, a similar pattern has also occurred for red meat in the past. From 1978 through to 2000, red meat consumption in Australia declined by almost 50% (Ratnasiri & Bandara, 2017, p. 3) due to concerns regarding the health impacts of high saturated fat intake. This caused Australian consumers, including men, to turn to protein sources perceived as healthier, such as chicken (Ankeny, 2008, p. 20).
It is possible that by promoting the benefits of more plant-based diets for health, stamina and well-being, it may be possible to continue to chip away at the masculinisation of red meat consumption.

4.2.5. Its Un-Australian not to Eat Meat

Perhaps more difficult to overcome than the associations between masculinity and meat consumption is the relationship between red meat and the Australian cultural identity: “[…] there are a lot of barriers that are cultural, that are linked to Australian identity. There are many advertisements stressing that we Australians put chops on the barbeque on Australia Day” (Climate-3).

The link between red meat consumption and Australian identity is a combination of two factors, one being the pastoral history of Australia, and the other its inherited western European and Anglo food cultures.

*Pastoral History*

The pastoral expansion of Australia is a narrative taught to Australian children from a young age with poems such as *The Man from Snowy River* read in every classroom (Elder, 2007, p. 34). The 2008 film *Australia* by Baz Luhrmann was set on cattle station with a cattle drover as the main protagonist, evoking the proximity of the Australian identity with its pastoral history (Nugent & Konishi, 2010).

The abundance of meat available due to this pastoral expansion and relatively low population levels was used as a lure in immigration schemes for colonial Australia with phrases such as ‘Meat three times a day!’ used to promote Australia as a haven for the meat lover (Baghurst, et
Anglo-European Diet

Colonisation brought British food culture to Australia, with ‘meat and three veg’ still the staple formula for meal composition for many Australians today (Lupton, 2000, p. 94). The Australian pastime of ‘chucking a steak on the barbie’ is now a symbol of the white Australian food culture (Lang, et al., 2010, p. 264), one that has been capitalised upon in red meat promotion campaigns (see Figure 3).

However, as mentioned above, red meat is gradually moving out of the Australian diet, indicating a culture shift away from the traditional meal composition. Plant-based diets are increasing in Australia, with 30% of Australians having days where they eat no meat at all (ABS, 2014, p. 5). This is an increase of 11.2% since 1995 (ABS, 1995, p. 46).
Between 2012 and 2016, the number of Australian adults whose diet was all or almost all vegetarian rose from 1.7 million to 2.1 million, or 11.2% of the population (Roy Morgan Research, 2016). An increasing number of immigrants from non-Anglo backgrounds (ABS, 2018) have introduced new food cultures which frequently include meals without meat at the centre including Mediterranean, South-East Asian and South Asian cuisines. This is not to mention an increasing number of vegetarian and vegan restaurants, and restaurants offering plant-based meal options (Steen, 2016). The relationship between food and socialising also works in favour of this spread of plant-based diets, as people are likely to eat less meat if those around them live on plant-based diets (Lea & Worsley, 2001, p. 134).

While red meat continues to play a central role in meal composition in Australia, its position is by no means stable or guaranteed. If policy mechanisms such as mandates requiring the provision of plant-based food options on menus, restrictions on the advertisement of red meat products, or mass media campaigns such as ‘Meat Free Monday’ were introduced, it is possible that this trend might continue.

However, as will be discussed in the next section, significant interests would have to be overcome in order to allow these kinds of policies, or even a permanent shift in food culture, to occur.
Chapter 5: Interests

5.1. Tobacco

For tobacco control, one of the main barriers to policy was a powerful industrial lobby which had a reputation for exerting enormous pressure on governments to prevent unfavourable regulation. However, there were other, perhaps less well known, interest groups involved in resisting tobacco control policy in Australia, including politicians, farmers and civil liberties groups, as well as smokers themselves.

Up against them was a coalition of anti-tobacco campaigners, composed of a network of public health professionals and concerned citizens, all striving to reduce consumption.

This section will consider each of these main interest groups and how they went about achieving, or losing, their desired outcomes.

5.1.1. Tobacco Industry

“Australia is a template for anti-smoking groups in other countries. Recently, a prominent anti-smoking activist, Nigel Gray, said that the battles all had been won; that the tobacco industry had been defeated and was a spent force. Our goal is to prove that he is wrong and to destroy the template.” – CEO of Philip Morris to his Director of Planning, November 30, 1993 (Ballard, 2004, p. 89)

Lobbying by the tobacco industry against tobacco control in Australia was ongoing and comprehensive, and has carried on to this day (Studlar, 2005, p. 263). Their opposition strategies as structured as they were aggressive. Considering that, at its peak, Australian domestic expenditure on tobacco sales was AUS21.72 billion, after inflation, this is hardly a surprise (CCV, 2018a).
Domestic and International Networks

In 1978, two years after the ban on direct tobacco advertising in the media had come into force and the first national campaign on the dangers of smoking had been completed, the Tobacco Institute of Australia (TIA) was founded. It aimed to “promote understanding of the tobacco industry in Australia” (CCV, 2017c). Up until that point, the Australian chief executives of Philip Morris, Wills, and Rothman had been collaborating through an ad hoc committee which had been created in order to actively stave off anti-smoking laws and regulations. Assisted by 15 specialists, including publicists, media experts and lobbyists; the committee had close links with Australian tobacco farmers, unions, the Media Council of Australia, the Association of National Advertisers, as well as various sporting groups and organisations throughout the country. It also maintained consistent contact with media outlets and pursued an ongoing lobbying campaign with major Federal and local political parties (Ballard, 2004, p. 96).

The TIA took up the mantle of this committee in an official capacity, employing whatever tactics necessary in order to prevent or reduce the reach of tobacco control policy. For example, after health warnings became mandatory on all cigarette packs, the TIA took it as an opportunity stave off further regulation, utilising the fact that smokers were now informed of the risks and could make up their own minds as to whether they would continue to smoke or not. This was their statement to that effect at a Senate hearing in 1995: “The tobacco industry believes that people who smoke do so fully informed of the reported health risks of smoking…If the public is adequately informed then the necessity or logic of further government intervention must be questioned” (Chapman, 2007, p. 13).

Around the same time that the TIA was established, an international lobby group dedicated to promoting smoking and restricting tobacco control policy was founded, the International Committee on Smoking Issues (INCOSI). Formed as a collaboration between seven tobacco
company chief executives, it went on to create common anti-tobacco control strategies and a global network of tobacco manufacturing associations (McDaniel, et al., 2008, p. 1).

While INCOSI no longer exists in its original form, the international network of the tobacco industry still challenges tobacco control policy to this day. In 2012, Australia became the first nation to introduce plain packaging on tobacco products, removing distinctive branding and leaving only large and graphic health warning labels behind (CCV, 2017c). This move was not only challenged by the tobacco industry on the national level through the judicial system, but also bilaterally via investor state arbitration, and multilaterally at the World Trade Organisation (Curran & Eckhart, 2017, p. 87).

Smoking and Sports
Such overt political pressure is by no means the tobacco industry’s only tactic. On a domestic level, the tobacco industry has utilised close links with some of the Australia’s largest and most beloved cultural and sporting institutions in order to exert control over government and have a more trusted voice alongside theirs in opposition to tobacco control policies. The Australian tobacco industry began supporting sports and cultural events in the 1950s, serving as the major sponsor for the Australian Olympic team in 1960. In 1976, Philip Morris helped establish the Confederation of Australian Sport, which became the main sports representation body and an influential proponent for the tobacco industry (Ballard, 2004, pp. 94-95).

Lobbying by these sports groups helped to defeat attempts in South Australia (SA) and Tasmania to mandate health warnings on all tobacco advertising. This was likely due to the sponsorship contracts between the tobacco industry and sports associations containing clauses allowing for the withdrawal of funds if legislation began to interfere with the way tobacco was advertised (Ballard, 2004, p. 96).
Ties were also strong with the media, with Australian media mogul Rupert Murdoch on the Philip Morris board, and 10% of fellow media baron, Kerry Packer’s, advertising income coming from the tobacco industry. Naturally, both opposed any further impositions on tobacco advertising in Australia (Ballard, 2004, p. 102).

*Smoking and Science*

One of the other main tactics utilised by the tobacco industry in order to undermine government action against tobacco was to discredit the scientific basis for policies. It has been using this practice as long as the reports about the dangers of smoking have existed (Walker, 1984, p. 120). These efforts increased in their vigour after research emerged regarding the effects of second-hand smoke in the 1980s. The tobacco industry spent vast sums aiming to keep controversy around the findings alive by funding dozens of scientists whose studies trivialised the risks and claimed that they were overstated. Funding for this area only increased, with Philip Morris’ budget for attacking smoking restrictions reaching US$91.476 million by 1995 (Chapman, 2007, p. 158).

5.1.2. Tobacco Production and Politics

The Australian Government supported tobacco growing for most of the twentieth century, with both Federal and State governments providing subsidies for producers (Studlar, 2005, p. 256). Support also came in the form of market stabilisation plans and protection against foreign imports. By 1977, 57% of the contents in cigarettes and cut tobacco had to be Australian leaf (Freeman, 2016).

By the 1980s, tobacco leaf production was the most heavily subsidised economic sector in Australia (Studlar, 2005, p. 256), receiving assistance over 12 times the average rate of other agricultural activities (Freeman, 2016). 60% of tobacco leaf was grown in Queensland, with lesser amounts in north-east Victoria (Studlar, 2005, p. 256). The location of these farms
(Griggs, 2002, p. 47) were, for the most part, in safe Country Party electorates. However, some, such as Eden-Monaro, lay in important swing seats (Australian Electoral Commission [AEC], 2016).

The link between tobacco farmers and their political representatives was a significant factor in the lack of action on tobacco control until the 1980s. Conservative Federal governments, a coalition of the Liberal and Country (now National) parties, held power from 1949 to 1972 and were strongly committed to the promotion of national agricultural development, particularly in regards to tobacco (Ballard, 2004, p. 91). Even when Coalition Prime Minister Malcom Fraser in 1976 declared the implementation of a tobacco advertising ban, the leader of the Country Party succeeded in adding in an industry-sponsored amendment permitting ‘incidental and accidental’ display of advertising (Ballard, 2004, p. 94).

This relationship between government and industry only started to come to an end due to a new wave of economic rationalism in the late 1970s during which the Industry Assistance Commission recommended the phasing out of support for what was the most highly assisted industry in Australia (Ballard, 2004, pp. 91-92).

In the end, the argument for tobacco being a driver for economic development became overwhelmed by the links between tobacco and health, and the subsequent costs to the public health system and the economy. Tobacco farming was assisted by the Federal Government to be phased out throughout the 1990s (Griggs, 2002, p. 48).

5.1.3. The Anti-Tobacco Coalition

The sheer size of the tobacco industry, and its far-reaching influence, indicate the challenge that the anti-tobacco movement faced in propelling tobacco control policy in Australia. Not to mention the political and economic barriers. However, what tobacco control had that many
policy issues lack today was a co-ordinated and strategic coalition of advocates that were
dedicated to the cause and did not let the issue rest for over 50 years:

“[…] we’ve also had – and this is really important – a small group of dedicated
advocates who have stayed the course. So, one of the things that you notice
about a lot of public policy issues is that people drift in an out, they don’t stay
the course” (Tobacco-2)

Some of the most prestigious public health advocacy organisations in Australia today grew out
of the anti-tobacco movement. For example, the CCV, which became more prominent, both
politically and socially, than any other state cancer council, and even the Australian Cancer

Other groups included the Australian Council on Smoking and Health (ACOSH); Action on
Smoking and Health (ASH); the AMA; the Non Smokers Movement; and, in the early 1980s, the
more radical community groups: MOP UP (Movement Opposed to the Promotion of Unhealthy
Products), and BUGA UP (Billboard Utilising Graffitists Against Unhealthy Promotions)

Organisations such as the CCV, ACOSH and ASH began in the 1960s, in light of the reports on
the impacts of smoking, to agitate government into action (Studlar, 2005, p. 263). They also
produced their own public campaigns, due to a lack of government initiative, in order to raise
public awareness of the risks of smoking. The CCV in 1963 produced 80,000 copies of a
brochure titled Smoking and Your Health, and in 1966 it distributed learning materials titled
Smoking and You – the Burning Question to schools (Walker, 1984, p. 88). In 1968, ACOSH
published a newsletter Smoking and Health which was sent to doctors, hospitals and the media,
alongside a public campaign (Walker, 1984, p. 90).
The CCV in the 1970s was the first to develop an anti-tobacco television campaign, a series of short clips satirising the glamour of the tobacco advertisements and utilising celebrity power to attract attention. These clips eventually helped lead to the change in the Labor Party’s policy on tobacco, as well as Coalition Prime Minister Malcom Fraser’s decision to implement the advertising ban on tobacco in 1976 (Ballard, 2004, p. 97).

The medical prestige of these organisations, usually headed by medical doctors or public health professionals, assisted in legitimising this message. For example, Dr Bill Keogh, the medical director at CCV, was the driving force behind mobilising the Liberal Party of Victoria to call for health warnings on cigarette packs in 1957 (Ballard, 2004, p. 96).

Alongside the professional anti-tobacco partners were the more radical, yet extremely popular, protest groups MOP UP and BUGA UP. Campaigns by MOP UP against tobacco advertisements led to the removal of a campaign by Rothmans featuring Australian celebrity Paul Hogan, and the end of Marlboro’s sponsorship of the Australian Open tennis tournament. An offshoot of MOP UP, BUGA UP was the more radical of the protest movements, becoming an international example for civil disobedience to inspire change. Over eight years, BUGA UP ‘re-faced’ tobacco billboard advertisements across Australia, transforming slogans such as ‘Anyway, Have a Winfield’ into ‘Anyway, Have a Wank, It’s Healthier’. The campaign caught public attention and is credited with the swing in public opinion against tobacco advertising (Ballard, 2004, p. 98). These movements helped remove the perception of tobacco regulation as ‘draconian’ governance, and popularised the anti-tobacco movement (Chapman, 2007, p. 277).

In the end, it was a consolidated and coordinated approach, a mix of the conventional and the unconventional, which led to the triumph of the anti-tobacco movement over the tobacco industry. Clear and consistent messaging, paired with strong and continuous leadership spanning across decades of campaigning, accompanied by the medical prestige of the primary advocates,
helped lead to the success of tobacco control policy in Australia. The prestige and trustworthiness of the tobacco industry, and its supporting organisations and politicians, became undermined by the authenticity and perseverance of the anti-tobacco coalition. Studies now show that the Australian public feels that tobacco industry representatives are ‘not at all believable’ and that they mostly did not, or never, told the truth about smoking (Freeman, et al., 2016).

5.2. Red Meat

After ideas, interests were the next most significant barrier mentioned by interviewees. A combination of lack of political will, the influence of the red meat industry and its lobbies, and the economic value for the national economy and farmers were all cited as impediments towards policy aimed at addressing the impacts of red meat consumption.

Pitted against these opposing forces are environmental and animal welfare groups, public health and nutrition advocates, and climate change action researchers and policy entrepreneurs.

On face value, these interests appear similar to those involved in tobacco control. However, as will come to light in this section, the forces of opposition are far more powerful and the anti-red meat groups in their messaging, strategy, and motivations, far less cohesive.

5.2.1. The Red Meat Industry

Australia is the largest exporter of beef and goat meat and the second largest exporter of sheep meat, in proportion to domestic consumption, in the world. The red meat industry employs 405,000 people either directly or indirectly, and it contributes AU$18 billion to Australian gross domestic product annually (Ernst & Young, 2017, pp. 5-6).

The industry is represented by an industry advocacy group, the Red Meat Advisory Council, which overarches producer organisations including the Australian Lot Feeders Association, Cattle Council of Australia, Goat Industry Council of Australia, and Sheep Producers Australia
and works in collaboration with other advocacy groups such as the National Farmers Federation. Acting as a marketing, research and development service provider to the industry is Meat and Livestock Australia (MLA) (MLA, 2016). MLA is the largest and most prominent organisation servicing the red meat industry in Australia (Peace, 2011, p. 6). With its funding supported on a dollar for dollar basis by the Federal Government and farmer levies, it has an annual budget of AU$267.3 million. Of this, AU$35.9 million is spent on red meat promotion and communication programs for the domestic market, and AU$11.5 million is spent on improving ‘on-farm and off-farm sustainability’ (MLA, 2017a). While MLA is prohibited (via its statutory limitations) from taking official positions on government policy, it plays an active role in advising policy decisions, promoting the red meat industry, and to ensure the longevity of red meat consumption and production in Australia: “Meat & Livestock Australia are very powerful, and they’re very powerful particularly when the Coalition is in government, because they're very good influencers on the National Party” (Nutrition-1).

This combination of organisations forms what is one of the most powerful lobby groups in Australia. It has not only the economic backing, but also the cultural support of a nation that places red meat at the centre of a meal. It also has the social backing of the rural Australian community who are either dependent on or tied to the continuity of red meat production and consumption. Unlike the tobacco industry lobby, which is formed primarily of a small number of powerful foreign corporations (Fuchs, 2007, p. 53), the red meat industry is a conglomeration of over 75,000 businesses, with the majority being Australian based (Australian Taxation Office, 2016, p. 4). However, foreign companies do have a large stake in the processing side of the industry, with US based Cargill and Brazilian meat processor JBS representing at least 20% each (Ernst & Young, 2017, p. 6). Cargill is one of the largest agribusinesses in the world, with annual revenues of US$133.9 billion (Sojamo & Archer Larson, 2012, p. 628). JBS is the world’s
largest meat processing company with an annual revenue of US$51.5 billion (JBS, 2018, p. 1). This means any policy aimed at reducing consumption would be targeting Australian businesses directly, and would also face opposition from some of the world’s largest agribusinesses.

Social Marketing Tactics

Similar to the tobacco industry is the proactivity which the red meat industry displays in addressing potential forms of opposition, or attempts to decrease consumption of their product. As described earlier, red meat consumption in Australia saw a significant decline at the end of the twentieth century. In reaction to this, the red meat industry, led by MLA, undertook an AU$43 million campaign aimed at halting the ongoing decline in consumption (MLA, 2009, p. 3). The result was the ‘Red Meat – Feel Good’ campaign of the early 2000s to address the perception of red meat as an unhealthy product by emphasising its nutritional benefits. The campaign employed ‘nutritionism’, whereby the nutritional profile of a food product is reduced to a few select nutrients in order to promote it as not only a healthy, but an essential food item (Scrinis, 2016, p. 17). In the case of red meat, these were iron, zinc, protein, omega 3s, and vitamin B12 (TCP & MLA, 2007, p. 14).

This campaign was soon followed by a larger advertising blitz, as MLA had found that their first attempt had not been sufficient to solidify the idea for Australian consumers that red meat was not only healthy, but essential for a good diet (TCP & MLA, 2007, p. 16). The follow up campaign, ‘Red Meat – We Were Meant to Eat It’ (see Figure 2), utilised the (disputed) positive correlation between human evolution and red meat consumption, legitimised by citing select scientific evidence (Peace, 2008, p. 6) – a tactic not unlike that which was employed by the tobacco industry (Chapman, 2007, p. 32). The campaign, released in time for the mass viewership of the Melbourne 2006 Commonwealth Games (Peace, 2008, p. 6), assisted in converting the ‘resistors’ to the view that red meat was not only a healthy component of diet, but a natural one (TCP & MLA, 2007, p. 33).
Another campaign that has run through the late 1990s to the present day is the ‘We Love Our Lamb’ campaign. Featuring ex-footballer and Australian comedian Sam Kekovich, the campaign capitalises on the association between Australian national identity and red meat (see Figure 3) in order to maintain consumption (Ankeny, 2008, p. 21). Timed to coincide with Australia Day, the Kekovich advertisements evoked patriotism with the national anthem playing in the background of dialogue, whilst sitting Kekovich in front of an Australian flag. Certain sections of the script arguably border on xenophobic, with quotes such as “as mishaps spread throughout the land like bird flu through a Chinese chicken coop, what [are] we doing about it? […] it’s time to remind ourselves of what lies are the core of our national identity: lamb chops on a barbie” (Ankeny, 2008, p. 22). Later versions of the campaign have embraced a more multicultural message, attempting to appeal (with varying degrees of success) to an increasingly multicultural population with varying food traditions, adopting the slogan to ‘You Never Lamb Alone’ (Trigger, 2017).

These campaigns were a saving grace for the domestic red meat industry in Australia, causing beef consumption to rise to its highest point since 1990, and lamb its highest since 1985 (TCP & MLA, 2007, pp. 31-32). Domestic spending on beef increased by AU$3 billion during the campaign (MLA, 2009, p. 3), though this has declined by AU$500 million since (MLA, 2017b, p. 1).

Support from Science

MLA funds a large majority of research into red meat production and consumption by the Commonwealth Scientific and Industrial Research Organisation (CSIRO). There have been allegations in the past that the reliance on MLA’s funding for ongoing research has led to bias in the research outcomes, in particular regarding the benefits of red consumption for diet (Dixon, et al., 2004, p. 10).
An example of the dangers of this funding relationship is the controversy that surrounded the CSIRO’s *Total Wellbeing Diet*, a cookbook based on research conducted by CSIRO, and funded by MLA, which emphasised a high-protein, high in red meat, diet and was purchased by 1 in 10 Australian households (MLA, 2009, p. 5). Nutritionists criticised the research for not testing the benefits of a more plant-based diet and only considering animal-derived proteins (Stanton, et al., 2005, p. 37).

As with the tobacco industry, advertising and consumer communication strategies remain a powerful tool for the red meat industry to encourage consumption and to counter challenges such as concerns regarding health impacts of the product. Similar to tobacco, this is achieved both through the utilisation of select science in order to legitimise the message and build trust with consumers, and through a capitalisation upon the ideas and values associated with the product.

5.2.2. The Politics of Red Meat

Currently, none of the major parties on the Federal or State level in Australia have an official position on policy to address the impacts of red meat consumption. Even The Greens have deemed the issue too hot to touch: “[…] I'm happy to be frank about that, that we recognize the science very much, but when you're in politics, there’s one thing of having a policy, there's another thing of what you do with it” (Greens-1).

In 2008, the Commonwealth commissioned *Garnaut Review* of Australia’s GHG emissions recommended tackling agriculture’s contribution, particularly from the livestock sector, through an emissions trading scheme (Garnaut, 2008, p. 540). However, when the time came for the carbon tax to be put into place, agriculture was exempted (DoE 2014, p. 2). This was due not only to the economic significance of the red meat industry for Australia, but also the culture of meat consumption. Additionally, various rural electorates are almost entirely dependent on the red meat industry, whether that be through production or processing.
In many rural communities, meat processing is the biggest private employer. In Dubbo – a regional centre of western New South Wales (NSW) – the local abattoir is the town’s biggest employer (AEC, 2010, p. 14). Red meat is also a valuable commodity of Gross Regional Product (GRP) in rural areas such as the Northern Rivers district in north NSW, where 3.3% of the population is employed in the beef industry (more than double the national average). In one town in the region, Kyogle, beef production contributes over 65% of the agricultural GRP (Regional Development Australia, 2015, p. 8).

The reality is that, unlike for tobacco, the Australian economy is reliant on the red meat industry. It is one of Australia’s biggest exports and a major employer, particularly in rural areas. At its peak, the tobacco manufacturing industry employed 6,000 people (compared to 405,000 for red meat) (WHO, 2002). Although, it should be noted that the height of domestic expenditure on tobacco was almost double the amount currently spent on red meat. While the political value of red meat is higher in terms of retaining electoral seats, as well as the value of the industry to the export economy, tobacco still had a high worth.

The real difference between the two, in regards to political will, is that red meat lacks the counter lobby that was so pivotal in getting tobacco control policy across the line and shifting public opinion. While the anti-tobacco lobby presented a tireless and united front, the same cannot be said for red meat.

5.2.3. Advocates for Reducing Red Meat Consumption

Tobacco control had a clear set of advocates that emerged from the public health and medical spheres, however red meat consumption is not so easily delineated when it comes to opposition and supporters of policy aimed at reducing consumption. Most interviewees cited that animal welfare and environmental NGOs would be most likely to support policy action aimed at reducing red meat consumption. They could possibly be joined by public health advocates who
are concerned over the excessive amounts of red meat being consumed by certain groups and the impacts that is having on Australia’s public health. However, a large question mark remains over whether or not these groups would be capable of working cohesively and systematically together in order to get legislation across the line.

Tobacco control advocates were led by a relatively small group of policy entrepreneurs, such as Dr. Bill Keogh, Professor Simon Chapman and Dr Nigel Gray, who worked together across Australia to make the most of policy windows and maintain the momentum of addressing tobacco control. These policy entrepreneurs all came from similar public health backgrounds and had strong consensus and cohesion in their approach (Studlar, 2005, p. 267). They also had the same desired outcome: to end smoking. Could the same be said for advocates for reducing red meat consumption? The answer is likely no.

While all dieticians interviewed advocated for a reduction in red meat consumption, none called for the absolute removal of red meat from the Australian diet, pointing to the health benefits that eating the recommended amount can bring.

The message amongst environmental activist groups is also inconsistent, with some advocating for a complete removal of red meat, others a reduction in red meat, and others again opting for instead the message of ‘better’ red meat such as organic or grass fed (Laestadius, et al., 2016, p. 84).

Finally, regarding animal rights advocacy groups, the impacts of red meat consumption on the environment is often used as a means of encouraging the complete removal of not only red meat, but all meat from the diet, with the groups citing the benefits to animals as an important motivator (Laestadius, et al., 2014, p. 33).

The lack of consistency in messaging regarding red meat consumption is not the only issue. There is also a lack of consensus as to which group should be advocating for the reduction of red
meat, to what extent, and the absence of a leader or leaders to bring the groups together (Laestadius, et al., 2014, p. 35): “[…] if there’s one thing a minister hates, it’s division in the sector that they’re trying to help” (Tobacco-1).

Gaining public support was also a significant contributor to tobacco control policy being implemented. The messaging to the public was clear, and personal motivations for support from the public were relatively consistent (Campbell, et al., 2017). On the other hand, when it comes to reducing red meat consumption, studies have shown that motivations vary widely from animal welfare concerns, to health concerns, to environmental (De Backer & Hudders, 2014, p. 639). These attitudes also have an impact on consumption patterns, not to mention support for policy. For instance, a person who is vegetarian or vegan and is motivated by animal rights concerns may not be inclined to support a policy that only aims to reduce, and not remove, red meat from the diet. Or, they may argue that the government should not only be focused on red meat, but on all animal products. On the other hand, a person who has reduced their red meat intake due to health concerns may not want policy that aims to reduce levels below the dietary guidelines.

When considering the lessons from tobacco control advocacy in Australia, it becomes clear that a lack of consistency and cohesive strategy by advocates is therefore one of the biggest barriers to policy aimed at reducing the impacts of red meat consumption. The sheer scale of political, social, cultural and economic interests invested in the continuation of Australia’s red meat industry is even larger than that which existed for tobacco. Without a strong policy coalition, with a cohesive and clear strategy, it is likely that policy addressing red meat consumption will not reach the floors of Australia’s parliament, let alone the agenda of The Greens.

Nonetheless, as will be discussed in the following section; if such a policy coalition were to exist, there would be significant institutional barriers to overcome. However, there are also a number of opportunities.
Chapter 6: Institutions

6.1. Tobacco

There were a number of institutional factors which contributed to the success of tobacco control policy in Australia, including governance structures, the leverage of policy legacies, and the utilisation of policy networks. This section will consider each of these institutional factors and the lessons they may provide for policy aimed at reducing red meat consumption.

6.1.1. A Decentralised System

Due to the decentralised nature of the Australian political system, States and Territories have a significant amount of authority over policy areas such as public health, transport, food and beverage venue licencing, and POS restrictions. The Federal Government maintains jurisdiction over policy issues such as advertising restrictions and taxation (Parliament of NSW, 2018). This division of authority meant that, when it came to tobacco control, there was a significant amount of action that the States and Territories could take in order to address consumption, as well as to communicate public support for tobacco control to the Federal Government (Cairney, et al., 2012, p. 152).

When we consider the pattern of landmark tobacco control policies in Australia, we can see a distinct pattern of action first on the State level, typically in more progressive states such as SA, Victoria, the Australian Capital Territory, and Western Australia (WA) (see Appendix A). It was then typical for these policies to diffuse to neighbouring states as public support would build and other State governments would note the success of the policy. This policy diffusion and the increasing de-normalisation of smoking then led to further Federal action addressing tobacco. Often the Federal level policies would have the most effect on tobacco related behaviours (Chapman, 2007, p. 134), however these would not have been possible, or would not have occurred so quickly, without the initial state action:
“So some people argue, ‘Oh, the most efficient way to do these sort of things is just to do it Federally’ Well, what history shows you is that you need successes in States and Territories, and then the Feds get so embarrassed that they end up doing something.” (Tobacco-2)

For example, when the Federal Government refused to address a loophole which allowed for incidental advertising of tobacco on broadcasts and still allowed for print advertising, the States took matters into their own hands (Ballard, 2004, p. 102). Victoria introduced the 1987 Tobacco Act which banned advertising outdoors and in cinemas, on billboards, in handbills or leaflets, on shop fronts and on vehicles. The Act also established VicHealth, which – funded by a levy of 5% on tobacco products – offered alternative funding for sports groups and helped promote health messages and anti-smoking campaigns (Powles & Gifford, 1993, p. 126). This was soon mimicked by other states, including SA and WA (Grace, 2016).

The decentralised government structure also made it easier for tobacco control advocates to maintain momentum in policy. When they were not having success with the Federal Government, they would move to the regional level and invest their resources there until a better Federal policy window emerged (Studlar, 2007, p. 165).

The decentralised structure of the Australian system may well work in the favour of policies aimed at reducing red meat consumption. Mass-reach public health campaigns, labelling standards, agriculture emission reduction targets, and POS restrictions can all be undertaken at the State level without the need for Federal approval. Furthermore, if these policies are successful, and the States and Territories who undertake them can demonstrate ongoing public support, the instruments may diffuse to other States, or the Federal government may undertake broader action such as including agriculture in future emissions trading and carbon pricing schemes.
6.1.2. The ‘Half-Pregnant’ Principle

“[…] you can't be half-pregnant right? When government […] first banned tobacco advertising on television and radio; but not in print, cinema, billboards, sporting sponsorship, all of that; it allowed us to go ‘Well, you banned smoking on television because children saw the ads? Guess what, they also see them everywhere else.’” (Tobacco-3)

When it came to tobacco control in Australia, policy precedent was essential for spurring government action. Whether it was in the form of policy diffusion from the State to the Federal level, or due to loopholes left in previous policy, the precedents that were created each time a new instrument was employed laid the ground work for those which followed. It was difficult for the government to justify, having already created a policy banning smoking in some workplaces, such as Commonwealth public service departments from 1986 onwards (CCV, 2017c), why others, such as bars and restaurants, should still allow smoking. It was easy for tobacco control advocates to spin that into the message that the government felt that the health of some workers was more important than others. Just as a person cannot be ‘half-pregnant’, so too a policy aimed at protecting people from second-hand smoke cannot only apply to certain work environments (Chapman, 2007, p. 157).

The same principle might be applied to policies aimed at reducing carbon emissions or reducing the rate of non-communicable disease due to red meat consumption. The argument could be made that the government cannot tackle GHG emissions in Australia without considering agriculture, and in particular, the livestock sector. Similarly, if the government hopes to reduce rates of diseases such as colorectal cancer, it must consider the over-consumption of red meat by particular population groups.
6.1.3. Secular Morality and Public Health

While the concept of secular morality and its influence on changing perceptions regarding government’s role in tobacco control has already been discussed, what is relevant to this chapter is how this mentality was demonstrated in other public health issues, setting a policy precedent for tobacco control.

The prioritisation of the public good over the individual’s right to choose was an important concept which was coming to fruition in the years building up to a comprehensive tobacco control policy (Cairney, et al., 2012, p. 155). For example, around the same period as the first major tobacco control legislation, the first actions were taken to address drink driving. In 1976, police were given the authority to stop drivers at random for a breath test measuring blood alcohol content (BAC), and around this time the BAC level deemed safe for driving was also lowered. In 1979, governments began investing in mass reach campaigns discouraging Australians from driving under the influence (South, 1990, p. 112).

The policy precedent of government intervention for the sake of the public good in other areas of public health therefore also assisted in ensuring public acceptance of tobacco control. This may also be applicable in regards to red meat consumption if, say, a policy imposing a tax on sugar were to be passed in Australia. Such a policy would set a precedent on taxing a food product in order for the public purse to be compensated for the cost of the health (or environmental) damages caused by the consumption of that product, and also as a deterrent for consumers when making purchases. Considering that organisations such as the AMA are already petitioning government for a tax on sweetened beverages (AMA, 2018), this may not be unrealistic.
6.1.4. Public Health Policy Networks

The policy networks between advocates were of particular importance to the success of tobacco control policy. Particularly on the State level, the networks between NGOs, bureaucracies, and health ministers were essential for policy implementation,

Tobacco control NGOs worked closely with influential public servants and government advisors to help advocate for tobacco control both within and beyond government. This collaboration assisted in activities such as placing tobacco related items onto the agenda of ministerial meetings, interpreting and reframing messages from NGOs, and working closely with the formation of legislation (Chapman & Wakefield, 2001, p. 281).

The openness of the Federal and State bureaucracies, and their regular consultation with external experts and stakeholder organisations permitted these anti-tobacco policy networks to be so effective. This shows that when there are significant economic and political interests invested in opposing the policy, it requires a network of supporters within different pillars of policy making in order for the legislation to pass. For red meat, this indicates the need to utilise institutionalised connections between government and NGOs in order for policy to be successful, or even likely.

6.2. Red Meat

When it comes to the influence of institutions on policy addressing the impacts of red meat consumption, there are two main factors to consider. The first is regarding policy legacies; precedents which indicate that there is sufficient political will and public support to enact certain policies which might address the impacts of red meat consumption.

The second factor relates to the current nature of relationships between governments and the red meat industry; with each being a financial support for the other, they will be difficult to separate.
6.2.1. Building on Precedent

*Demand Side Policy*

While the Australian government has done little in terms of direct action to address the impacts of red meat consumption on health and the environment, indirect action is beginning to build. It is at its clearest in the Australian Dietary Guidelines.

The 2013 revision of the guidelines was successful in singling out red meat as a potentially harmful product (NHMRC, 2013, p. 49) for the first time (NHMRC, 2003). A limit of 65g per day (up to a maximum of 455g per week) was recommended for the consumption of lean meat in order to avoid associated health risks. This is equivalent to half a cup of lean mince, two small chops or two slices of roast meat (NHMRC, 2013, p. 53). This limit was accepted by MLA in theory (MLA, 2015), however in practice its own beef recipe site advertises recipes with meat serving sizes well above the guidelines\(^5\).

Red meat was the only product from the five main food groups which was given specified limit for health reasons (NHMRC, 2013, p. 53), indicating the government’s, and seemingly the industry’s, willingness to curb the excessive consumption of red meat.

While public awareness of the Guidelines may be low, these changes also mean that if a mass reach campaign were to be launched, it would be expected that there would be a stronger emphasis on the under-consumed food groups such as vegetables, wholegrains and pulses, rather than red meat. Considering MLA’s support for the current limit, it could be possible that industry resistance might be less than otherwise expected.

The emphasis on encouraging the consumption of fruit, vegetables and wholegrains can already be seen in school garden programs such as the Stephanie Alexander Kitchen Garden National

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\(^5\) For example, one recipe for beef casserole suggests 1000g of chuck steak, a serving size of 250g raw, or approximate 162g cooked, of red meat per person (Meat & Livestock Australia, 2018).
Program which was awarded $12.8 million by the Australian government for a national rollout and is now running in 10% of Australian primary schools (Yeatman, et al., 2012, p. i). The initiative, which is working with schools to develop programs where students grow, prepare, cook and eat plant-based meals themselves, has been demonstrated to have succeeded in encouraging children to eat more vegetables and to reconsider the need for meat to complete a meal (Yeatman, et al., 2012, p. vii).

Supply Side Policy

In 2011, when the carbon tax was introduced, the Federal government was aware of the contributions of agriculture to Australia’s emissions, however it did not include agriculture in the carbon pricing scheme. Instead, the Carbon Farming Initiative (CFI) was launched (Climate Change Authority [CCA], 2014, p. 1), an incentive scheme whereby farmers could apply for grants to undertake emissions reduction initiatives such as increasing soil carbon sequestration and reforesting their properties (CCA, 2014, p. 8). The CFI was relatively successful, achieving a reduction of approximately 10Mt CO₂e between 2011 and 2015 (CCA, 2014, p. 6). For comparison, the Renewable Energy Target (RET), which aimed to reduce electricity related emissions, achieved a reduction of 20Mt of CO₂e between 2001 and 2012 (CCA, 2014, p. 25).

In 2014, the CFI was absorbed into the Emissions Reduction Fund (ERF) after the carbon tax was abolished by the newly elected Coalition government (CCA, 2014, p. 1). While its overall emissions reductions were not as substantial as those achieved in areas such as curbing deforestation (CCA, 2014, p. 26), the CFI provides a firm precedent for the government working with farmers to reduce carbon emissions related to agriculture production.

Issues with the CFI such as uncertainty in credit prices leading to low participation, the perceived complexity involved in participating, and the delay in seeing large-scale benefits due to the need to develop new techniques and technologies could also be addressed in similar
policies that incentivise or assist producers in reducing their on-site emissions (CCA, 2014, p. 60). Policy precedents such as the ERF could therefore provide a valuable institutional driver for furthering policy addressing the impacts of red meat consumption.

6.2.2. Institutionalised Relationship between Government and Industry

There exists a co-dependency between government and the red meat industry in Australia, one which goes beyond traditional protectionist politics. In 1985, the Federal Government decided to establish and partially fund research and development councils (RDCs) for the primary agricultural industries including dairy, eggs, grains, sugar, wool, pork, and red meat (Zhou, 2013, p. 117). The RDCs would be funded on a dollar-for-dollar basis by the Government and levies paid by producers, and their task was to assist in improving the efficiency and longevity of Australia’s agricultural production (Zhou, 2013, p. 119).

This process led to the establishment of MLA, now one of the most powerful among these bodies. MLA relies on government funding to continue operating, and in turn, the red meat industry (and by extension, the government through the income it gains from it) relies on MLA for its continued survival through its research and marketing activities, as well as its leadership.

The institutionalised ties between government and industry in this case are clear, but does this mean that policy aimed at reducing red meat consumption and its impacts is impossible? The answer – not necessarily. Unlike the tobacco industry, MLA is investing less in a denialist campaign, having already accepted the recommendation to limit red consumption. Furthermore, in 2017 MLA announced that it would aim to make Australia’s red meat industry carbon neutral by 2030 and commissioned the CSIRO to investigate a path towards this (MLA, 2017c). The report that emerged demonstrated that it would be a formidable task (Mayberry, et al., 2018, p. 4), arguably impossible without a reduction in red meat consumption and therefore livestock. However, even the simple act of acknowledging the problem indicates that MLA, and the
industry as a whole, may prove receptive to certain, softer, policy mechanisms aimed at reducing red meat related emissions and health impacts. This was also reflected by livestock farmers and the industry representative during their interviews. If that is the case, then the close relationship, both formal and informal, between MLA and government may well prove an advantage.
Chapter 7: Conclusion and Policy Recommendations

This chapter will summarise the main conclusions from the three I’s analysis regarding the differences and similarities between each category. Based upon these insights, policy mechanisms will be suggested which could potentially address the issues that have arisen and overcome the barriers in the face of policy, in order to reduce the impacts of red meat consumption in Australia. Finally, this chapter will discuss opportunities for future research and conclude with some closing remarks.

7.1. Ideas
A shift in ideas surrounding tobacco consumption was extremely important for the success of tobacco control policy in Australia. This was embodied both in a shift in the understanding of the impacts associated with smoking on the one hand, and in the values of society regarding the role of government when it came to intervening in consumption behaviours on the other. Smoking went from a social norm, a glorified behaviour that signified freedom, rebellion, and a coming of age, to an anti-social behaviour, associated with addiction and ill-health. The Australian public, over the course of 50 years, went from viewing the government’s place in intervening in tobacco consumption as one of off-handed guidance and education, to expecting the government to delineate public spaces where smoking would be prohibited.

Even more so than for tobacco, ideas are the most significant barrier impeding action to reduce the impacts of red meat consumption. The beliefs and values associated with red meat in Australia are strongly imbedded. These must be addressed before there is any chance of implementing more interventionist policy mechanisms.

Australian consumers generally lack awareness of the benefits associated with reducing their meat consumption to the recommended levels, or below. Similarly, many livestock farmers appear to not understand, or demonstrate concern, regarding the link between their product and
climate change, which is already beginning to affect their production due to extreme climate events:

“I think we’re living with the impacts of climate variability […] we have a whole different production system to maintain our production. We use containment areas for our sheep during the drier periods, and that historically was never done. We’d set up some containment areas for the occasional drought, but we tend to be using them every year, and […] we’re only sustaining the production that we historically had, we’re not actually sustaining more numbers.” (Farmer-3)

In the case of tobacco, in order to tackle these ideational hindrances, mass reach public awareness campaigns were essential. A rise in public awareness of the impacts of smoking was a necessary precursor for the implementation and success of subsequent tobacco control mechanisms. This therefore leads to the first policy step that is necessary for addressing the impacts of red meat consumption – awareness raising.

7.1.1. Awareness Raising

For the supply side, this policy path might include working with MLA to increase awareness among farmers of the impacts that climate change will have, and is having, on their property and production, and also the potential benefits that reducing on-farm emissions can have for overall production.

For example, by increasing soil carbon sequestration, farmers can decrease their water table and help avoid excessive soil salinity during dryer periods (George, et al., 2012, p. 28). This not only increases carbon absorption on the property, but may also lead to more efficient production, and therefore the need for potentially less livestock for the same financial outcome (DeLonge, et al., 2013, p. 962). MLA already has programs such as the Australian Beef Sustainability Framework
which could help disseminate the necessary information and training, although its current funds inhibit its effectiveness (Industry-1).

Regarding demand side intervention, all interviewees agreed that excessive red meat consumption should be addressed due to its negative health impacts. The current Australian Dietary Guidelines are a valuable tool which could be utilised to promote the benefits of reducing red meat consumption, both for health and the environment.

Mass reach campaigns promoting a balanced diet higher in vegetables, pulses, and fruit, as well as emphasising the recommended size of red meat portions, may assist in increasing awareness of the benefits of reducing excessive red meat consumption.

From a non-governmental standpoint, in order to see the same effectiveness in the reduction of consumption as what occurred for tobacco, joint campaigns by environmental, animal welfare and health advocacy groups regarding the impacts of red consumption and the benefits of reducing intake could further bolster government efforts.

Unlike tobacco, however, the health impacts of red meat consumption are not as clear-cut. Furthermore, the environmental or animal welfare benefits of reducing red meat consumption and production may be insufficient motivation. In raising awareness on both demand and supply sides, clear and consistent messaging, with targeted focuses depending on the audience is essential.

7.1.2. Enhancing Consumer Choice

A means of further enhancing consumer awareness of the impacts of red meat consumption is to educate and highlight the related risks to consumers at the POS, in order to allow them to make informed choices regarding their food shopping.
There was general consensus among interviewees that using product labelling as a strategy for adjusting both consumption and production behaviours would be an acceptable move. The argument being that it is difficult to oppose providing consumers with further information and enhancing their right to choose. Labelling was an effective policy utilised in tobacco control that was instigated early within the regime for this very reason: “[…] everyone believes that consumers should be informed. It’s very difficult to say ‘No, we should keep people in the dark’. Yeah, so that's an easy one to sell” (Tobacco-3).

On the demand side, this may manifest in the form of a carbon neutral certification system, whereby farmers who successfully achieve carbon neutrality in their production can sell their product at a premium for the consumer who wants to reduce the emissions related to their meat purchase. A number of limitations exist for this system, including the fact that if MLA is successful in its plan for the industry to be carbon neutral by 2030, individual producers may be dis-incentivised to undertake the work (MLA, 2017c). Furthermore, due to the nature of the Australian food distribution system, it is often difficult to trace a particular product to a particular grower (Dalley, 2014). Although this barrier has already been overcome by certified organic meat product lines. Finally, whilst a meat product might be carbon neutral before it leaves the farm, this does not necessarily apply to the rest of its supply chain: “the product leaving the farm may be carbon neutral, but by the time it gets to the supermarkets it’s not carbon neutral, that’s almost a certainty” (Climate-6).

Another means could be a ‘green star’ rating whereby all food products are rated based on their GHG intensity or overall environmental impact, giving consumers a visual cue to discern which product may be more environmentally friendly. This would mean that red meat products would have a lower rating than pork or poultry, which in turn would be lower than vegetables. This system could work alongside the already established ‘health star’ rating. However, that mechanism is not without its faults or critics, and has arguably not had the desired effect on
consumer behaviour (Hamlin & McNeill, 2016, p. 327). Furthermore, as the health star rating is not currently mandatory on all products (Jones, et al., 2018, p. 522), this may also be the case for the ‘green star’, meaning some producers may simply omit the rating if it reflects poorly on their product.

On the supply side, these kinds of mechanisms may encourage producers (in the case of a carbon neutral certification), or industry as a whole (in the case of a green star rating) to take action to improve their products standing within the marketplace. This could be a relatively low intervention, market led measure that initiates action on the supply side to reduce environmental impacts. However, the logistics and complications involved in ensuring accurate measures for carbon neutral certification (including whether or not to include emissions that occur beyond the farm gate), also the means by which to determine the ‘green star’ rating, all add potential barriers to this style of policy.

7.1.3. Advertising Restrictions

Whilst consumer awareness is a vital first step, from an ideational perspective the Australian culture of excessive red meat consumption and the values it places on red meat such as associations to ‘Australianism’ and masculinity, cannot be overcome without addressing the advertisement of red meat.

Similar to tobacco, and as can be seen through the past MLA campaigns, advertising is a key means for the industry to maintain a culture which normalises excessive consumption of the product. This potentially undermines the impact of awareness raising activities regarding the impacts red meat consumption has on the environment and health. The government should therefore cease funding the marketing activities of agriculture research bodies such as MLA in favour of promoting a more balanced diet featuring all the core food groups.
7.1.4. Carbon Price

The majority of the literature which discusses methods of reducing the impacts of red meat consumption and production points to a carbon price on red meat as the solution. It is true that in order to solidify the understanding of the cost of red meat production to both the environment and public health it is important to signify this with the cost of the product itself. Furthermore, a carbon price would incentivise industry to act quickly in order to adjust to the expected changes in customer demand.

However, while this kind of ‘Pigouvian tax’ seems the most obvious answer in theory, as the previous chapters have outlined and the interviewees conclusively agreed, the barriers preventing this from occurring in Australia should not be underestimated.

This is not to say that the policy would not be effective. Rather, what is clear from the passage of tobacco control in Australia is that an understanding among both industry and the public is required as to why this kind of policy is necessary, as well as the political will to embark upon it.

7.2. Interests

Whilst ideas are the most significant barrier to reducing red meat consumption, for tobacco it was interests. This can be seen in the scale of the tobacco industry’s influence, determination, and success in inhibiting effective tobacco control legislation, particularly on a Federal level, in Australia for almost 20 years after evidence linking smoking with lung cancer and other diseases became well known.

In the case of red meat, it is not large transnational corporations that are the biggest vested interest, but the contribution that the red meat industry makes to the Australian economy. Unlike the tobacco industry where consumption was almost entirely domestic (Freeman, 2016), Australia exports 80% of its red meat product (Ernst & Young, 2017, p. 13). Therefore, even if
domestic consumption was reduced at the same scale as tobacco, whilst there would be significant benefits to consumer health, the environment would continue to be severely impacted. Furthermore, the passionate and resourceful interest groups which fought for tobacco control in Australia simply do not exist for red meat. Environmental, health, and animal welfare groups – while each having an interest in seeing consumption decrease – lack the cohesion, policy entrepreneurs and legitimacy to achieve the scale of change that the anti-tobacco lobby achieved. Whilst from a policy standpoint this second issue is difficult, if not impossible, to address, there are options for tackling the impacts of red meat production and working to overcome the barriers to action that may come from the industry.

7.2.1. Co-operating with Industry

Although awareness-raising campaigns, as was demonstrated with tobacco control, will assist in undermining the legitimacy and strength of opposition from interests aiming to prevent action to reduce the impacts of red meat production and consumption, taking an antagonistic stance towards the red meat sector will inevitably be unproductive.

The livestock sector holds too much political power, carries too much economic significance, and is too vital to large swathes of regional Australia to be simply ignored. Particularly as the majority of action which has been taken thus far to combat the impacts of red meat production on the environment has been taken by either the industry’s representative bodies, or by individual producers. Therefore, as was also the consensus with most stakeholders in the interviews, the most constructive path forward is one of cooperation.

*Investment in Research and Development*

While there are some technologies which exist that might help significantly reduce the environmental impacts of red meat production, such as a vaccine reducing methane output from livestock, different additives to feed, and breeding mechanisms (Mayberry, et al., 2018, p. 3); the
implementation of these mitigation measures is still far from scalable on a national level (Mayberry, et al., 2018, p. 4).

Interviewees from both the industry and academic sectors emphasised the necessity of increased funding in order to accelerate the pace of putting mitigation measures such as these in place. Increased investment in research and development into this area will not only potentially lead to lower livestock related emissions, but also make Australia a supplier of a more sustainable protein source. This is particularly important considering the fact that while domestic consumption can be decreased to virtual zero, the Australian red meat industry has a wealth of international clients to make up the shortfall.

_Transitioning Industry_

Currently, the likelihood of technical measures being sufficient to reduce emissions related to red meat production in Australia, on its current scale, is low (Mayberry, et al., 2018, p. 4). Without significant advances in technology, uptake and implementation of these new techniques, red meat related emissions will continue to make a significant contribution to climate change, in turn reducing the amount of viable farming land in Australia, whilst damaging the landscape, causing deforestation, and polluting waterways.

Therefore, in particular if the aforementioned policy mechanisms are introduced, there will likely be a necessary transition by red meat farmers to a less GHG intensive industry. Considering the significance the red meat industry has for many rural communities and the challenges many farmers already face, it is essential that this transition is assisted by governments. So called ‘just transition’ frameworks exist, and have been implemented, for other high-carbon industries around the world (McCauley & Heffron, 2018, p. 3). According to just transition processes, the trade-offs between different values and needs must be made clear, with public engagement on the different values, discourses and potential losses involved (Schlosberg, et al., 2017, p. 416).
Farmers must be provided seats at the table, and transition policies such as skills training for lower-carbon activities, should be offered.

7.3. Institutions

For both tobacco and red meat consumption, institutions are the least significant of the barriers to instigating policy. However, it still offers valuable opportunities that are necessary to capitalise upon in order to address ideational and interest-based opposition. For instance, the decentralised nature of Australia’s political system worked in the favour of anti-tobacco advocates who could capitalise upon the different jurisdictions of public policy areas. This factor may also assist in reducing red meat consumption’s impacts, as significant actions can be taken at the State level, avoiding the barriers and interests that linger at the Federal.

However, unlike tobacco, red meat has a further institutional complication due to the interwoven relationship between the red meat industry and government, largely through the nature of MLA. On the other hand, this intimacy may work in both MLA and the government’s favour in ensuring that policies aimed at reducing red meat consumptions impacts will create the least shock for the industry and maintain support of rural voting blocs.

In addition, the significance of building upon policy precedent should not be underestimated. The ‘half-pregnant’ principle facilitated what eventually became one of the most comprehensive tobacco control regimes in the world. Not unlike tobacco, policies that address the impacts of red meat consumption, while small and in some cases not past their infancy, could be built upon to increase their impact.

7.3.1. Building on Precedent

Both Federal and State governments have already invested in policy mechanisms which can assist in reducing the impacts of red meat consumption.
On the supply side, the ERF, having absorbed the CFI, is an existing framework through which industry can be encouraged to reduce emissions. Lack of uptake of the program due to uncertainty of the policy’s long-term sustainability, as well as price variations, should be addressed (CCA, 2014, p. 41), with targeted marketing to farmers demonstrating the benefits of participating in the scheme. MLA and other grassroots level organisations are already working in this area and could be more successful with increased government support (Industry-1).

On the demand side, there already exists a number of government funded programs that can assist in an overall shift towards a more plant-based food culture. Education programs such as the Kitchen Garden Program have already been rolled out to 10% of primary schools (Yeatman, et al., 2012, p. i). Increased investment in implementing these curriculum-based activities, supplemented by lessons regarding the relationship between diet and the environment in all schools could assist in a long-term change in food culture for the new generation of Australians.

These kinds of education mechanisms were cited by multiple interviewees as a valuable starting point, with participants agreeing that educating consumers about where their food comes from, and increasing their appreciation for food production, is a beneficial thing.

Secondly, a number of State governments have undertaken programs to enhance cooking skills and confidence (Garcia, et al., 2016, p. 315). Initiatives such as Jamie’s Ministry of Food, a cooking skills program affiliated with celebrity chef and plant-based diet advocate, Jamie Oliver, has worked in States such as Queensland to help improve cooking skills and increase home-cooking and uptake of a balanced diet (Herbert, et al., 2014, p. 1162).

These projects currently only exist on a small-scale. However, considering the fact that cooking skills is one of the biggest barriers to adopting a more plant-based diet (Flego, et al., 2014, p. 2), further investment in programs such as these, in particular ones that can be affiliated with
celebrity chefs due to their popularity in Australia (Villani, et al., 2015, p. 7), could help overcome this barrier.

Policy precedent, on the other hand, can also be an institutional impediment to policy. Australia’s history regarding climate policy sets an unsteady legacy for success, particularly in an area as potentially controversial as red meat. Climate change related policy has contributed to the downfall now of four Prime Ministers (Crabb, 2018) and this track record would have to change for there to be any hope of policies aimed at red meat making their way through Parliament.

7.4. Comprehensive Policy Strategy

In order to address the impacts of red meat consumption and production in Australia it is clear that each area of influence on policy success must be addressed: ideational, interest-based, and institutional. In the case of tobacco, this was achieved through a comprehensive and long-term strategy. There is not one component that could be considered the single reason for the regime’s success. Rather, it was the combination of policies at multiple levels of governance and intervention that led to the reduction in tobacco consumption (Ballard, 2004, pp. 112-113).

As can be seen in Appendix B, Australia’s tobacco control regime was a comprehensive policy matrix which required both supply and demand side strategy (de Costa e Silva & Bettcher, 2010, p. 700). This involved a combination of policy mechanisms with an increasing scale of intervention, from public awareness campaigns through to a tobacco tax and restrictions on smoking in public. One that went on to be replicated in the Framework Convention on Tobacco Control (WHO, 2005).

Similarly for red meat, in order to address the barriers raised by ideas, interests and institutions, a synthesis of the policy mechanisms recommended above is necessary. Appendix C outlines a policy matrix, with similar structure to that for tobacco, which aims to address each barrier.
through a gradual build up in the scale of intervention. Addressing both supply and demand sides of the policy issue, it highlights the series of steps necessary to be taken before it would be feasible to introduce a carbon price on red meat.

In the context of the current literature regarding addressing the impacts of red meat consumption, this study therefore falls on somewhat of a medium ground. The results indicate that while emphasising the co-benefits of addressing red meat consumption for public health and the environment is important, different audiences and potential motivations for reducing consumption must be considered.

Secondly, this study demonstrates the necessity of employing technological means to address environmental impacts of red meat production. However, as Hedenus, et al., (2014) argue, these measures should only be one component of the overall solution.

Thirdly, while the results of this analysis emphasise the importance of awareness raising, it does not go so far as to claim that this will be sufficient in addressing the issue as Dagevos & Voordouw (2013), and Revell (2015) suggest. Nor is a sole focus on the implementation of a carbon price on meat as proposed by Wirsenius, et al., (2011) the optimal path.

Instead, this study aligns most closely with the conclusions drawn by those such as Nordgren (2012) and Wellesley, et al., (2015) that what is required is a build-up of increasingly interventionist policies, beginning with awareness raising and working up towards a carbon price. However, where this study differs from the conclusions of these authors is in its inclusion of both demand and supply side policies at each stage of intervention, taking into consideration the needs and challenges for not only consumers, but also for producers.

7.5. Opportunities for Further Research

This study has aimed to address the gaps that exist in the current literature regarding both the barriers and opportunities in this area moving forward. The stakeholder analysis, now the second
in the area of study, has provided important insights for where there is common ground among vested interests, such as in raising awareness of the benefits of keeping red meat consumption at a healthy level; as well as where contention lies, such as in the case of a carbon tax on red meat.

Furthermore, through the utilisation of the three I’s framework, this study has uncovered a number of valuable policy insights. This includes the necessity of a cohesive and strategic policy advocacy coalition, the value of awareness raising for enabling policy progression, and the importance of giving time to allowing the gradual build-up of interventionist policy mechanisms in order to avoid policy failure.

Finally, by combining the results of these analyses, this study produced a comprehensive policy matrix which outlines the path that policy makers and policy advocates should follow in order to provide the best chance of success in addressing the impacts of red meat consumption in Australia.

Nonetheless, this study is not without its limitations. Firstly, the lack of literature on the area of study impeded the depth of the analysis. Further research is needed not only into the attitudes of consumers towards red meat consumption, but their opinions regarding different policy mechanisms aimed at addressing red meats impacts, and the stances of policymakers on the issue.

Secondly, this analysis is limited by its scope in only considering the impacts of red meat consumption through a state-level lens, ignoring the impacts on an international scale. Demand around the world for red meat is increasing (Vranken, et al., 2014, p. 95), though the developed world’s tastes are petering off. Some of the most populous countries on Earth are accruing more wealth, and with it a taste for the luxury of red meat (Sans & Combris, 2015, p. 106). Further research should therefore be conducted into the possibilities of addressing red meat consumption on a global scale, potentially utilising a similar framework as outlined above.
7.6. Concluding Remarks

Tobacco and red meat are by no means a perfect match. As can be seen in the analysis, there exists many similarities but also many differences between the two policy areas. Red meat remains a far larger issue to tackle, with a broader range of complexities and barriers than existed for tobacco.

However, there is a general feeling of a shifting tide. Both the interviewees in this study and the broader literature have observed a notable increase in the uptake of plant-based diets, whether full-time or part-time. There is a movement that appears to be building at the grass-roots that is calling for a shift in Australia’s food culture. Whether this movement will gain sufficient momentum to turn the tide, or whether it fades away as softly as it came, only time will tell.

If awareness were to increase regarding the impacts of red meat consumption, if advocacy groups could align to petition for action, if governments were to take action to address this environmental and public health issue in a comprehensive and on-going manner, it may be long-lasting. In the end, it leaves room for speculation that a potential policy window may well open where one has not existed before.
Appendix A: Timeline of significant tobacco control instruments introduced at State and Federal levels

<table>
<thead>
<tr>
<th>Code</th>
<th>Policy Instrument</th>
<th>Year</th>
<th>Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal Government</td>
<td>Health warning on tobacco packs.</td>
<td>1968 (Not implemented until 1973)</td>
<td>Federal</td>
</tr>
<tr>
<td>Joint implementation or in close succession</td>
<td>Ban on direct advertising of tobacco in broadcast media begins.</td>
<td>1972 (phased in over 4 years until 1976)</td>
<td>Federal</td>
</tr>
<tr>
<td>Victorian Government</td>
<td>First Federal tobacco education campaign launched.</td>
<td>1972-1975</td>
<td>Federal</td>
</tr>
<tr>
<td>South Australian Government</td>
<td>Tobacco licence fee introduced, recommended retail price of cigarettes is no longer consist nationally.</td>
<td>1974</td>
<td>Victoria</td>
</tr>
<tr>
<td>Western Australian Government</td>
<td>Failed attempt to ban all forms of tobacco advertising.</td>
<td>1980</td>
<td>South Australia</td>
</tr>
<tr>
<td>Australian Capital Territory (ACT) Government</td>
<td>Failed attempt to ban all forms of tobacco advertising.</td>
<td>1982</td>
<td>Western Australia</td>
</tr>
<tr>
<td>Tasmanian Government</td>
<td>Tobacco excise policy is adjusted so that tobacco excise rises with the Consumer Price Index.</td>
<td>1983</td>
<td>Federal</td>
</tr>
<tr>
<td>NSW Government</td>
<td>Failed attempt to ban all forms of tobacco advertising.</td>
<td>1983</td>
<td>Western Australia</td>
</tr>
<tr>
<td>Northern Territory Government</td>
<td>Four new health warnings are mandated for tobacco packaging and displayed on a rotating basis.</td>
<td>1985 (delayed until 1987)</td>
<td>States/Territories collaboration</td>
</tr>
<tr>
<td>Queensland Government</td>
<td>Failed attempt to ban all forms of tobacco advertising.</td>
<td>1985</td>
<td>South Australia</td>
</tr>
<tr>
<td></td>
<td>Small pack sizes banned.</td>
<td>1986</td>
<td>South Australia, Victoria, Western Australia and the ACT</td>
</tr>
<tr>
<td></td>
<td>Tobacco Products Control Act introduced banning smoking in lifts and intrastate buses, the display of the tar and carbon monoxide content of all at the point-of-sale and a ban on confectionary ‘look-alike’ cigarettes (Chapman &amp; Reynolds, 1987, p. 9).</td>
<td>1986</td>
<td>South Australia</td>
</tr>
<tr>
<td>Event</td>
<td>Year</td>
<td>Location</td>
<td></td>
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<tr>
<td>----------------------------------------------------------------------</td>
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<td>---------------------------</td>
<td></td>
</tr>
<tr>
<td>Failed attempt to ban all forms of tobacco advertising.</td>
<td>1987</td>
<td>South Australia</td>
<td></td>
</tr>
<tr>
<td>Tobacco Act established VicHealth funded by a levy of 5% on tobacco</td>
<td>1987</td>
<td>Victoria</td>
<td></td>
</tr>
<tr>
<td>products to offer alternative funding for sports groups and promote</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>health messages regarding quitting tobacco. The Act also banned</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>advertising outdoors, in cinemas, on billboards, leaflets, on shops</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smoking banned on domestic aircraft.</td>
<td>1987</td>
<td>Federal</td>
<td></td>
</tr>
<tr>
<td>Tobacco Products Control Act amended to provide for a health</td>
<td>1988</td>
<td>South Australia</td>
<td></td>
</tr>
<tr>
<td>promotion foundation as was established in Victoria.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smoking banned on buses and coaches.</td>
<td>1988</td>
<td>Federal</td>
<td></td>
</tr>
<tr>
<td>Tobacco advertising further restricted.</td>
<td>1988</td>
<td>South Australia, Western</td>
<td></td>
</tr>
<tr>
<td>Advertising is banned in print media.</td>
<td>1989</td>
<td>Australia, ACT</td>
<td></td>
</tr>
<tr>
<td>Tobacco Control Act introduced.</td>
<td>1990</td>
<td>Western Australia</td>
<td></td>
</tr>
<tr>
<td>Failed attempt to introduce a Tobacco Act.</td>
<td>1990</td>
<td>Tasmania</td>
<td></td>
</tr>
<tr>
<td>Smoking banned on international flights in Australian airspace.</td>
<td>1990</td>
<td>Federal</td>
<td></td>
</tr>
<tr>
<td>National anti-smoking campaign launched.</td>
<td>1990</td>
<td>Federal</td>
<td></td>
</tr>
<tr>
<td>Tobacco advertising to be phased out by 1995.</td>
<td>1991</td>
<td>NSW</td>
<td></td>
</tr>
<tr>
<td>Healthway, a health promotion foundation is established.</td>
<td>1991</td>
<td>Western Australia</td>
<td></td>
</tr>
<tr>
<td>Tobacco Act introduced.</td>
<td>1991</td>
<td>Northern Territory</td>
<td></td>
</tr>
<tr>
<td>Tobacco Advertising Prohibition Act introduced.</td>
<td>1992</td>
<td>Federal</td>
<td></td>
</tr>
<tr>
<td>12 new and larger health warnings are mandated on tobacco packaging.</td>
<td>1992</td>
<td>States/Territories</td>
<td></td>
</tr>
<tr>
<td>More explicit health warnings adopted for tobacco packaging.</td>
<td>1993</td>
<td>Victoria</td>
<td></td>
</tr>
<tr>
<td>Smokefree Areas (Enclosed Public Places) Act is passed.</td>
<td>1994</td>
<td>ACT</td>
<td></td>
</tr>
<tr>
<td>More explicit health warnings adopted for tobacco packaging.</td>
<td>1994</td>
<td>Federal</td>
<td></td>
</tr>
<tr>
<td>Ministerial Tobacco Advisory Group established to advise the Federal</td>
<td>1996</td>
<td>Federal</td>
<td></td>
</tr>
<tr>
<td>Minister for Health.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restrictions on smoking in public dining and café areas.</td>
<td>1997</td>
<td>South Australia</td>
<td></td>
</tr>
<tr>
<td>National Tobacco Campaign launched including anti-smoking</td>
<td>1997</td>
<td>Federal</td>
<td></td>
</tr>
<tr>
<td>advertisements, a website and a national ‘quitline’.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restrictions on smoking in restaurants.</td>
<td>1998</td>
<td>Western Australia</td>
<td></td>
</tr>
<tr>
<td>Restrictions on advertising at point-of-sale.</td>
<td>1998</td>
<td>Tasmania</td>
<td></td>
</tr>
<tr>
<td>Excise tax changed to a per stick basis to address ‘budget’ bulk</td>
<td>1999</td>
<td>Federal</td>
<td></td>
</tr>
<tr>
<td>packs.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Event Description</td>
<td>Year</td>
<td>Location</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------------------------------</td>
<td>-------</td>
<td>------------------------</td>
<td></td>
</tr>
<tr>
<td>Restrictions on smoking in public dining areas.</td>
<td>1999</td>
<td>South Australia</td>
<td></td>
</tr>
<tr>
<td>Goods and Services Tax is introduced.</td>
<td>2000</td>
<td>Federal</td>
<td></td>
</tr>
<tr>
<td>Restrictions on smoking in enclosed restaurants and cafes.</td>
<td>2000</td>
<td>NSW</td>
<td></td>
</tr>
<tr>
<td>Anti-tobacco campaign launched.</td>
<td>2001</td>
<td>South Australia and Victoria</td>
<td></td>
</tr>
<tr>
<td>Phase out of tobacco sponsorship of internationally significant events.</td>
<td>2001</td>
<td>Federal</td>
<td></td>
</tr>
<tr>
<td>Point-of-sale advertising banned and product display restricted.</td>
<td>2002</td>
<td>Victoria</td>
<td></td>
</tr>
<tr>
<td>Licenced venues must provide a smoke free alternative.</td>
<td>2002</td>
<td>Victoria</td>
<td></td>
</tr>
<tr>
<td>Point-of-sale advertising and product displays restricted, indoor workplaces must be smokefree, licenced venues need a smoke free room.</td>
<td>2003</td>
<td>Northern Territory</td>
<td></td>
</tr>
<tr>
<td>Introduction of picture based warnings on tobacco products.</td>
<td>2004</td>
<td>Federal</td>
<td></td>
</tr>
<tr>
<td>Smoking indoors at licenced venues to be phased out by 2007.</td>
<td>2004</td>
<td>NSW</td>
<td></td>
</tr>
<tr>
<td>All workplaces, including bars, must be smokefree.</td>
<td>2004</td>
<td>Victoria</td>
<td></td>
</tr>
<tr>
<td>Smoking indoors at licenced venues to be phased out by 2006.</td>
<td>2004</td>
<td>Western Australia</td>
<td></td>
</tr>
<tr>
<td>Smoking banned in all enclosed public spaces.</td>
<td>2007</td>
<td>South Australia</td>
<td></td>
</tr>
<tr>
<td>Ban on smoking in vehicles with children under 16 present.</td>
<td>2007</td>
<td>South Australia</td>
<td></td>
</tr>
<tr>
<td>Ban on smoking in vehicles with children under 18 present.</td>
<td>2007</td>
<td>Tasmania</td>
<td></td>
</tr>
<tr>
<td>Ban on smoking in vehicles with children under 16 present.</td>
<td>2009</td>
<td>NSW</td>
<td></td>
</tr>
<tr>
<td>Ban on smoking in vehicles with children under 16 present.</td>
<td>2010</td>
<td>Queensland, Victoria</td>
<td></td>
</tr>
<tr>
<td>Ban on point-of-sale displays.</td>
<td>2010</td>
<td>ACT, Western Australia</td>
<td></td>
</tr>
<tr>
<td>Plain packaging legislation introduced to be accompanied by graphic pictorial health warnings.</td>
<td>2010</td>
<td>Federal</td>
<td></td>
</tr>
<tr>
<td>Restrictions on smoking outdoors in public spaces introduced.</td>
<td>2010</td>
<td>Western Australia</td>
<td></td>
</tr>
<tr>
<td>Ban on smoking in all outdoor eating and drinking places.</td>
<td>2010</td>
<td>ACT</td>
<td></td>
</tr>
<tr>
<td>Ban on point-of-sale displays.</td>
<td>2011</td>
<td>Victoria, Northern Territory, Queensland</td>
<td></td>
</tr>
<tr>
<td>Ban on smoking on enclosed public spaces, outdoor eating and drinking areas, and in public transport areas.</td>
<td>2011</td>
<td>Western Australia</td>
<td></td>
</tr>
<tr>
<td>Ban on point-of-sale displays.</td>
<td>2012</td>
<td>South Australia</td>
<td></td>
</tr>
<tr>
<td>Ban on smoking in vehicles with children under 16 present.</td>
<td>2012</td>
<td>ACT</td>
<td></td>
</tr>
<tr>
<td>Ban on smoking on certain outdoor public spaces including public transport areas.</td>
<td>2013</td>
<td>NSW</td>
<td></td>
</tr>
<tr>
<td>Ban on smoking in vehicles with children under 16 present.</td>
<td>2014</td>
<td>Northern Territory</td>
<td></td>
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<td>---</td>
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<td></td>
</tr>
<tr>
<td>Ban on smoking in commercial outdoor dining areas.</td>
<td>2015</td>
<td>NSW</td>
<td></td>
</tr>
<tr>
<td>Ban on smoking on certain outdoor public spaces including public transport areas.</td>
<td>2016</td>
<td>Queensland</td>
<td></td>
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<tr>
<td>Ban on smoking in commercial outdoor dining areas.</td>
<td>2017</td>
<td>Victoria</td>
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</table>

Source: Cancer Council Victoria, 2017a, 2017c
Appendix B: Policy matrix of tobacco control in Australia
Appendix C: Policy matrix to address impacts of red meat consumption in Australia
Appendix D: Interview Participants
The interviews were conducted by the author between July 2018 and August 2018. Interviewees were contacted via publicly available email addresses and interviewed face to face where possible.

Interviewees were selected based on their relevance to each of the following nine stakeholder groups: Australian Greens Party, National Party, public health governance, tobacco and public health experts, nutrition and public health experts, climate change and sustainability experts, sustainable agriculture experts, red meat industry representatives, and ruminant livestock farmers.

None of the contacted potential interviewees from the National Party agreed to participate in the study. Therefore, only eight of the nine original stakeholder groups are represented in the study.

The interviews followed a semi-structured format, for the interview schema see Appendix E, and varied in length, depth and focus. Participants had the opportunity to review their transcripts prior to the study being completed.

Participants had the option to remain unidentified and this was the case for Agriculture-1 and Industry-1. All other interviewees consented to be identified.

<table>
<thead>
<tr>
<th>Stakeholder Category</th>
<th>Name</th>
<th>Organisation/Position</th>
<th>Interview Date</th>
<th>Interview Type</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australian Greens</td>
<td>Lee Rhiannon</td>
<td>Former Senator for New South Wales (Resigned 15 August 2018)</td>
<td>July 2018</td>
<td>Face to face</td>
<td>Greens-1</td>
</tr>
<tr>
<td>Australian Greens</td>
<td>Sue Pennicuik MLC</td>
<td>Member of the Victorian Legislative Council</td>
<td>August 2018</td>
<td>Phone</td>
<td>Greens-2</td>
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<tr>
<td>Public Health Governance</td>
<td>Alexandra Jones LLM (Global Health)</td>
<td>Ph.D. candidate and Research Associate at The George Institute for Global Health</td>
<td>August 2018</td>
<td>Face to face</td>
<td>Health-1</td>
</tr>
<tr>
<td>Stakeholder Category</td>
<td>Name</td>
<td>Organisation/Position</td>
<td>Interview Date</td>
<td>Interview Type</td>
<td>Code</td>
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<tr>
<td>Tobacco and Public Health</td>
<td>Professor David Hill AO, PhD</td>
<td>Former Director of Cancer Council Victoria, Professorial Fellow at the University of Melbourne</td>
<td>July 2018</td>
<td>Face to face</td>
<td>Tobacco-1</td>
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<tr>
<td>Tobacco and Public Health</td>
<td>Maurice Swanson</td>
<td>CEO of Heart Foundation, Western Australia</td>
<td>July 2018</td>
<td>Phone</td>
<td>Tobacco-2</td>
</tr>
<tr>
<td>Tobacco and Public Health</td>
<td>Emeritus Professor Simon Chapman AO, PhD, FASSA, HonFFPH (UK)</td>
<td>Emeritus Professor of Public Health in the School of Public Health, University of Sydney</td>
<td>July 2018</td>
<td>Face to face</td>
<td>Tobacco-3</td>
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<tr>
<td>Nutrition and Public Health</td>
<td>Dr Rosemary Stanton OAM PhD (Hon), BSc, C Nut/Diet, G Dip Admin</td>
<td>Visiting fellow at the School of Medical Sciences at the University of NSW, and is a member of the NHMRC’s Dietary Guidelines Working Committee</td>
<td>July 2018</td>
<td>Phone</td>
<td>Nutrition-1</td>
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<tr>
<td>Nutrition and Public Health</td>
<td>Sue Radd-Vagenas Advanced Accredited Practising Dietitian, BSc, GDD</td>
<td>Director of the Nutrition and Wellbeing Clinic, Sydney, and Ph.D. candidate at the University of Sydney</td>
<td>July 2018</td>
<td>Face to face</td>
<td>Nutrition-2</td>
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<tr>
<td>Climate Change and Sustainability</td>
<td>Angie Plummer MGMC, BFA</td>
<td>CEO of Less Meat Less Heat</td>
<td>July 2018</td>
<td>Phone</td>
<td>Climate-1</td>
</tr>
<tr>
<td>Climate Change and Sustainability</td>
<td>Professor Chris Riedy BE, PhD</td>
<td>Professor of Sustainability Governance and Director of Higher Degree Research at the Institute for Sustainable Futures, University of Technology Sydney</td>
<td>July 2018</td>
<td>Face to face</td>
<td>Climate-2</td>
</tr>
<tr>
<td>Stakeholder Category</td>
<td>Name</td>
<td>Organisation/Position</td>
<td>Interview Date</td>
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<tr>
<td>Climate Change and Sustainability</td>
<td>Professor Dora Marinova PhD</td>
<td>Professor of Sustainability and Former Director of the Curtin University Sustainability Policy (CUSP) Institute</td>
<td>July 2018</td>
<td>Phone</td>
<td>Climate-3</td>
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<tr>
<td>Climate Change and Sustainability</td>
<td>Professor Mark Howden PhD, BSc  (Hons I)</td>
<td>Director of the Climate Change Institute at the Australian National University, Honorary Professor at Melbourne University, a Vice Chair of the Intergovernmental Panel on Climate Change (IPCC), and a member of the Australian National Climate Science Advisory Committee</td>
<td>August 2018</td>
<td>Face to face</td>
<td>Climate-4</td>
</tr>
<tr>
<td>Climate Change and Sustainability</td>
<td>Professor Stuart White PhD, BSc  (Hons)</td>
<td>Director of the Institute for Sustainable Futures at the University of Technology Sydney</td>
<td>July 2018</td>
<td>Face to face</td>
<td>Climate-5</td>
</tr>
<tr>
<td>Climate Change and Sustainability</td>
<td>Professor Will Steffen PhD</td>
<td>Councillor at The Climate Council, Emeritus Professor at the Fenner School of Environment and Society, Australian National University</td>
<td>August 2018</td>
<td>Face to face</td>
<td>Climate-6</td>
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<tr>
<td>Sustainable Agriculture</td>
<td>Anonymou s</td>
<td>Researcher working in climate mitigation and adaptation in farming systems</td>
<td>July 2018</td>
<td>Phone</td>
<td>Agriculture-1</td>
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<tr>
<td>Red Meat Industry</td>
<td>Anonymou s</td>
<td>Employee at Meat &amp; Livestock Australia</td>
<td>August 2018</td>
<td>Phone</td>
<td>Industry-1</td>
</tr>
<tr>
<td>Ruminant Livestock Farmer</td>
<td>Gillian Sanbrook Dip Farm Management</td>
<td>MLA Climate Champion, runs a cattle farm in regional NSW, advocate for soil improvement on farms</td>
<td>July 2018</td>
<td>Phone</td>
<td>Farmer-1</td>
</tr>
<tr>
<td>Ruminant Livestock Farmer</td>
<td>James Leigo</td>
<td>NSW Business Manager at GreenCollar, MLA Climate Champion,</td>
<td>July 2018</td>
<td>Phone</td>
<td>Farmer-2</td>
</tr>
<tr>
<td>Stakeholder Category</td>
<td>Name</td>
<td>Organisation/Position</td>
<td>Interview Date</td>
<td>Interview Type</td>
<td>Code</td>
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<tr>
<td></td>
<td></td>
<td>Cattle farmer in far west NSW</td>
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<td></td>
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<tr>
<td>Ruminant Livestock Farmer</td>
<td>Joe Keynes</td>
<td>MLA Climate Champion, president of Livestock SA board, runs a sheep/merino and cattle farm in South Australia</td>
<td>July 2018</td>
<td>Phone</td>
<td>Farmer-3</td>
</tr>
<tr>
<td>Ruminant Livestock Farmer</td>
<td>John Ive</td>
<td>MLA Climate Champion, Conservation Farmer of the Year 2009, former CSIRO scientist, runs ‘better than carbon neutral’ merino and cattle farm in NSW</td>
<td>August 2018</td>
<td>Face to face</td>
<td>Farmer-4</td>
</tr>
</tbody>
</table>
Appendix E: Interview Schemas for Stakeholder Analysis

*Australian Greens Party:*
These interviews centred on the participant’s perceptions of the political feasibility of reducing red meat consumption in Australia. This included what political barriers might hinder policy progress and also from where support may arise.

**Interview Questions:**

1. What is the stance of the Australian Greens Party on the links between climate change and meat consumption?
2. What benefits do you feel may arise from reducing red meat consumption in Australia?
3. What negative effects might reducing red meat consumption in Australia have?
4. Who may be likely to support policy aimed at reducing red meat consumption in Australia?
5. Who may be likely to not support policy aimed at reducing red meat consumption in Australia?
6. What kind of policy mechanisms could you foresee as being effective in reducing red meat consumption in Australia?

*Public Health Governance*
This interview centred on the participant’s perceptions on the health impacts of red meat consumption, what strategies might be employed to encourage people to reduce meat consumption, and what barriers these strategies might face.

**Interview Questions:**

1. What impact do you feel red meat consumption is having on the health of Australians?
2. What is your understanding of the links between red meat consumption and climate change?
3. What role do you feel the government should play in reducing red meat consumption?

4. What barriers do you think exist that may prevent action to encourage lowering red meat consumption?

5. What barriers do you think exist that may prevent individuals from reducing their red meat consumption?

6. What role do you feel policy mechanisms such as those used in tobacco control may have to play in reducing red meat consumption in Australia?

_Tobacco and Public Health_

These interviews centred on the participant’s perspectives on the reasons for success of Australia’s tobacco control policies. Furthermore, the discussion considered the potential applicability of tobacco control mechanisms for reducing red meat consumption.

_Interview Questions:_

1. How successful do you feel Australia has been at reducing tobacco consumption?

2. Why have Australia’s tobacco control policies been so effective?

3. What barriers did tobacco control policy have to overcome in order to achieve this success?

4. What is your understanding of any negative links between red meat consumption and health?

5. What is your understanding of the links between red meat consumption and climate change?

6. What role do you feel policy mechanisms such as those used in tobacco control may have to play in reducing red meat consumption in Australia?
Nutrition and Public Health

These interviews centred on the participant’s perspectives on the health impacts of red meat consumption, what strategies might be employed to encourage people to reduce meat consumption, and what barriers these strategies might face.

Interview Questions:

1. In your opinion, what is a healthy and balanced diet composed of?
2. What impact do you feel red meat consumption is having on the health of Australians?
3. What role do you feel the government should play in reducing red meat consumption?
4. What barriers do you think exist that may prevent action to encourage lowering red meat consumption?
5. What barriers do you think exist that may prevent individuals from reducing their red meat consumption?
6. What is your understanding of the links between red meat consumption and climate change?

Climate Change and Sustainability

These interviews centred on the participant’s perspectives on the environmental impacts of red meat consumption, what strategies might be employed to encourage people to reduce meat consumption, and what barriers this kind of policy might face.

Interview Questions:

1. What is your understanding of the links between red meat consumption and climate change?
2. What impacts do you think red meat consumption may have on health?
3. What strategies do you feel are best to encourage people to reduce red meat consumption?
4. What role do you feel the government should play in reducing red meat consumption?
5. What barriers do you think exist that may prevent action to encourage lowering red meat consumption?
6. What do you think is the culture of meat consumption in Australia?

Sustainable Agriculture

This interview centred on the participant’s perspectives environmental impacts of red meat consumption, what strategies might be employed to encourage people to reduce meat consumption, and what barriers these strategies might face.

Interview Questions:

1. What is your understanding of the links between red meat consumption and climate change?
2. What do you think are the best strategies for reducing emissions related to red meat consumption?
3. What role do you feel the government should play in reducing these emissions?
4. What is your opinion regarding implementing a carbon tax on red meat?
5. What negative impacts do you feel a policy aimed at reducing red meat consumption may have?
6. What barriers do you think exist that may prevent action to encourage lowering red meat consumption?
7. What does sustainable farming mean to you?

Red Meat Industry

This interview centred on the participant’s perspective regarding the impacts of red meat consumption and production in Australia, the political feasibility of reducing red meat
consumption and the position that associations such as MLA may take if any policies of this nature were to be formulated.

**Interview Questions:**

1. What impacts do you think red meat consumption has on the environment?
2. What impacts do you think red meat consumption has on health?
3. What actions has Meat & Livestock Australia taken to address any impacts associated with red meat production and consumption?
4. What significance do you feel red meat has in Australian culture?
5. What significance does red meat have for the Australian economy?
6. What position do you think Meat & Livestock Australia may have if the government were to consider a policy aimed at reducing red meat consumption?

*Ruminant Livestock Farmer*

These interviews centred on the participant’s perspectives on the environmental impacts of red meat consumption, the impacts of climate change on farming and agriculture in Australia, and how different farming practices address sustainability concerns.

**Interview Questions:**

1. What is your understanding of the links between red meat consumption and climate change?
2. How serious do you think the risk of climate change is, why?
3. What impacts do you think it would have if the government were to implement a meat tax or take other actions in order to reduce meat consumption?
4. What does sustainable farming mean to you?
5. What do you feel are the best ways to reduce greenhouse gas emissions related to agriculture production?
References


Freeman, B., 2016. 10.1 The tobacco growing industry, Melbourne: Cancer Council Victoria.

Freeman, B., Greenhalgh, E. & Winstanley, M., 2016. 10.17 Public attitudes to the tobacco industry, Melbourne: Cancer Council Victoria.


