

Kooyong Climate Change Alliance
Candidate Scorecard

Candidate Questionnaire

Name:

Dr Angelina Zubac

Political Party:

Independent

Please tell us about your general views on climate change

1.1 Do you accept the views of climate scientists that

- The earth is already too hot?
- We face a climate emergency?
- Greenhouse gas emissions must be reduced to zero as fast as possible?

Comments/Explanation/Extended Response:

I am totally convinced of the effects of climate as a result of high levels over time in carbon emissions.

Those who are not totally convinced should be encouraged to think of the harm that can be done to the ecosystem more generally and to the health of the population, especially the long-term health of babies and children, as this is better than nothing.

1.2 Are you committed to supporting implementation of evidence based policies consistent with restricting global warming to 1.5 degrees C?

- Yes
- No

Comments/Explanation/Extended Response:

Yes, since this is the level which would minimise harm to a low level and may mitigate the probable existential threat from emissions levels above 1.5%.

Any other comments on your general views on climate change:

It is clear that there are considerable problems to achieve this outcome politically and practicably. This is in the context that China is increasing its energy efficiency in that they are reducing emissions proportionally but increasing its total productive output of

consumables and other goods, including for trade as a percentage of GDP and as a percentage of total world output.

USA is doing a better job. However, the problem is that though the country has moved from thermal coal, it has shifted to natural gas, which still produces considerable amounts of emissions and fracking is extremely problematic. It is also difficult to understand to what extent conservatives in the US could in part reverse this trend and revert back to thermal coal for energy production. As indicated, fracking for gas is extremely problematic, although it may be the lesser of two evils until renewable energies and new technologies make it possible for this form of production to be significantly reduced and eventually eliminated, which I believe will be the case with thermal coal usage in the US, that it will be eliminated. The New Green Deal put forward by Ocasio-Cortez is a good step in that direction and US electors may be able to see a way forward for adopting its principles in the future. Unfortunately, the US still needs to achieve critical mass in how they use solar power, wind power and hydro methods to generate power via its various grid systems. I believe the argument is that the New Green Deal could be achieved if the same amount of effort were applied as was by the population as a whole to win WWII.

Germany is reliant on a range of sources and I am hopeful that they eliminate the use of nuclear energy in a way that is efficient and minimises the potential for political backlash. Germany has some of the best engineers and its economy is sound so it is likely that this country could provide a model for going forward. However, allowing for the fact that nuclear power has its own problems and there have been some serious incidents related to that we do need to appreciate that it does not harm the atmosphere.

Developing/emerging economies and transitioning economies are increasing their use of energy since many of these countries are in the middle of an economic boon and investment in them is high. However, the upside is that they have been disinclined to invest in the sort of legacy systems that are causing problems in Australia and are currently in a position to invest in new and more efficient, clean energy sources and technologies. As has been the case with telecommunications where copper networks were bypassed in favour of optic fibre and mobile technologies. Aid initiatives and investments by other countries should encourage the uptake of much more or marginally costly but technologically/ environmentally sounder energy solutions.

It is also not inconceivable that technologies will be developed in the future that render coal energy production viable and clean but I do not believe we have these technologies yet and we should not bet on them or assume this is a reason why plants using thermal coal should not be phased out as soon as this is practicably possible. Where possible, retrofitting of existing plants should occur if a technology could improve the generation plant and make its energy production cleaner but, again, this would need to be based on evidence that demonstrates that emissions would be rendered zero or close to zero during the phasing out of these technologies over the next decade. This is within the context that I do not believe the mining process in itself is clean or that there is very little possibility that polluting fires in mines will not occur. Thus, I do not think we need any more mines and, so far, no compelling case has been made for new ones being opened up.

In addition to global agreements on reducing greenhouse gas emissions to which Australia should be a signatory and committed to taking a lead, I believe we need to establish a global standard on the mining of coal and how the global coal industry should be devolved over time.

We need to ensure there is a concerted effort in Australia and across the world to lower carbon output and ensure Australians, through government initiatives and market processes, pay to develop and implement sustainable energy solutions over the next decade and beyond as devolution of the coal industry is inevitable. I believe it is possible to tweak the tax system, among others so that we get this shift without isolating one group in society, leading to inordinate amounts of political backlash and disinformation. If there is phasing in of changes and fairness built into changes into the tax system and how infrastructure is invested in, among other things, then the political backlash we have seen in recent times, made worse by far right leaning conservative forces can be minimised. There are other issues that electors need to think about in regard to the future and even though climate change should be at the top, the reality is that if this matter is not dealt with through the use of a comprehensive set of political initiatives, then it is likely we will continue to hit barriers to responsibly devolving the coal industry and working towards reducing emissions to 1.5% globally over the next years. This is why I have a seven-point national agenda and three-focus areas for Kooyong. I have expertise in a number of organisational economics areas and have been leveraging off this expertise to further develop my policies with the assistance of extremely educated and connected individuals. In March, April and May, I plan to run three online forums to get more policies insights and ideas from more people and identify who may want to be part of two advisory committees I would be forming should I win Kooyong despite this appearing to be statistically impossible.

We also have to think about how to better store energy and regulate it using battery technologies and invest in a range of viable schemes, including the Snowy Hydro Scheme and consider in what ways water can be better moved around different geographies around the country with turbines added to generate electricity while providing greater access to water. The reality is Australia does not have enough water and we do not know yet how climate change will affect rainfall. We need to help farmers diversify and spend a lot of money to ensure the Murray Darling remains viable but that external sources of water can be accessed over the decades. I believe we need to invest in a water infrastructure too since not only do we need to do all we can to achieve at least 1.5% reduction, we need to invest heavily in mitigation and know-how. For instance, we do not have enough research on how weather patterns could change or what technologies could be used together to help us achieve our power, water, transport, digital communications and disaster mitigation objectives, including as they evolve in the future. The emphasis should be understanding how these systems should be integrated.

As part of this process, we need to re-evaluate what sort of sunk costs are acceptable when we invest in major infrastructure projects because, historically, we have developed plants on the basis that they will be around for 50 years even though the technologies that underpin them could become obsolete. Business case methodologies that factor in the need to think about sunk costs and the rate of the return required differently will need to be developed to achieve more sustainable outcomes in the

future, including those that better reflect the externalities associated with gas emitting technologies.

The remaining questions are intended to inform us about the specific climate change policies and actions you are committed to and that you undertake to advocate for and otherwise support as our representative in Federal Parliament if elected. In the following therefore, where the word “support” appears, please consider it to mean “advocate for and support”.

2. Greenhouse Gas Emissions Targets

2.1 What emissions reduction targets will you support?

Reduction by 2030 (% relative to 2005):

Reduction by 2050 (% relative to 2005):

Target year for zero emissions:

Comments/Explanation/Extended Response:

As close to 1.5% reduction over the next decade as is possible and we should strive to exceed this target. As indicated, I believe it is being argued in regard to the New Green Deal in the US currently being touted as a framework for the future that if we all put in as much effort as was put into the war effort in World War II, we could achieve this level of reduction in a decade. I believe one of the problems that have made this difficult is that everyone is now required to invest a lot of their time and effort building retirement wealth but also invest heavily in education and re-education. We also have whole industries where many people have insecure work, etc. This means that even if the population is convinced about climate change, and I believe most are, it is difficult to get behind greenhouse gas emitting elimination initiatives, etc. when there are many day-to-day practicable problems to consider. In my case, I have a mother who has just gone into permanent care and I am paying her fees while she sells her house. The only reason I can run in the election again is because I was a PhD student who lived quite nicely and healthily off basmati rice, vegetables and tuna. Few people are in a position to be relatively selfless.

I believe Australia must commit to contribute to the global reduction of emissions.

I have a full tax policy and I think that GST of 12.5% + carbon tax (that is phased in very gradually and will be used to fund subsidies to develop and implement renewable solutions, etc. and a corresponding reduction in income tax) will in part help to achieve this, as well as begin to solve other structural problems within our tax system. At this point in time, we need to phase out subsidies to individuals, as these are not as efficient as a proportion of the initiatives that could be subsidised in the future, that is, we need to focus on subsidising large-scale initiatives, including a power grid that will ultimately be based on a mix of renewable energy generation methods, hydro pumping methods, etc.

2.2 Will you support excluding international offsets in the measurement of Australia's emissions reductions? Yes No

Comments/Explanation/Extended Response:

No, this is a very difficult form of carbon trading and it would not work. We have no organisation in the world at this stage, that could achieve the level of cooperation that would be required to achieve this. The WTO is an example of an organisation that has achieved some multilateral coordination but, on the whole, a lot of political deadlock. There could be a case for working with at least one other country at this point as an extension of our regional trade agreements, such as with New Zealand.

3. Emissions Reductions

3.1 Will you support the following economy-wide initiatives to reduce emissions? :

- A price on carbon
- New regulations that set emissions limits and penalties

Comments/Explanation/Extended Response:

Yes, as part of a coordinated effort. As indicated, if we reduce income tax and increase GST to 12.5% (make it broad-based, as it should have been all along) and have a very small carbon tax that will increase over time, there will be little disruption because people can change their buying patterns to have the same level of disposable income, etc. This would also solve other problems, such as the way in which franking credits eat into the Australian budget since if income tax for firms marginally reduce and over time then franking credits will also marginally reduce and retirees. A phased in marginal carbon tax as part of the change to GST of 12.5% should be used to fund investment in renewable energy and research on climate change/mitigation of climate change for the future.

I believe the math behind this is correct and the modelling will show that this minor change could make a huge difference and also move us away from being an overly consumer driven society. It would also be politically much easier to achieve than just saying it is time to have a carbon tax. However, we must reduce income tax at the same time. The changes I propose should not impact any one group to make the change politically infeasible.

My view is that we have plenty of limits and penalties already. We should refine existing regulations or augment them as is necessary. It will be far easier to improve on what is there than invest in new initiatives.

3.2 What other economy-wide measures will you support to reduce emissions? (Note that specific measures related to energy generation, transport and specific industries are covered separately below).

I have a Seven Point National Agenda which is designed to ensure everyone in Australia can have a good life, no matter what their age, while responsibly devolving the coal industry. The full agenda should be available for discussion in the next week or so. I have a day job so can only work so fast with others providing me with advice, who also have intellectually demanding day jobs.

3.3 What initiatives will you support to reduce emissions in manufacturing industry?

The manufacturing sector has already responded to the fact that prices are high and could get higher a number of ways. Manufacturers should be incentivised to move towards zero emission targets.

3.4 What initiatives will you support to reduce emissions in agriculture?

I would build on the existing carbon credits (carbon farming initiative) Act 2011 to ensure we encourage carbon emissions reducing initiatives, diversification within agricultural entities as a way mitigate the risks of climate change severely impacting the sector and ensure this legislation complements our legislation as it relates to water usage.

3.5 What initiatives will you support to promote reforestation, afforestation and restoration of biodiverse natural environments to increase greenhouse gas drawdown?

I believe the various natural resources departments across the states are doing a reasonable job. We need to continue to build on initiatives to reduce carbon emissions but also put mitigation measures in place. As indicated, the Carbon Farming Initiative Act and other state-based legislations produced multiple programs to identify different ways to increase efficiency and energy efficiency and, therefore, reduce carbon dioxide output, for example, the retrofitting of buildings, lighting programs across households, local businesses, local government buildings, etc. to reduce large lighting costs and the energy they use, agricultural, reforestation of areas, improvements to the savannah in northern Australia, where low density farming, such as in NT where natural large fire events were controlled by preventative burning measures to ensure higher efficiency within the soil and increases in carbon retention in the soil, better beef cattle management practices so that each kilogram of beef correlates to less methane, that is, stock management and introduction of grass pastures (native grasses) that leads to less methane.

3.6 Will you support strengthening the Climate Change Authority with additional funding and expertise, and elevating its role in providing evidence based policy advice to Government? Yes No

Comments/Explanation/Extended Response:

Yes, in principle but I would be keen to understand how extra funding is expected to correlate with better measurable outcomes. I believe we do need more funding for studies that help us understand the effects of warming at different levels to understand how to better mitigate and respond, etc. For example, in the Murray Darling it could be the case that in the future temperatures decrease water but could lead to more under some circumstances, contrary to the intuition. We just do not know enough. Also, it is possible the northern grasslands of Australia could get more water or that Antarctica gets more rain and so there is more ice rather than melting. There are multiple factors in play and we need to know more about the scenarios that could occur.

3.7 Will you support amendment or replacement of the *Environment Protection and Biodiversity Protection Act* to ensure climate change impacts are a key consideration in all environmental assessments? Yes No

Comments/Explanation/Extended Response:

If it is required. It will be a matter of understanding how this legislation works with other legislation.

3.8 What level of funding will you support to the Green Climate Fund (under the Paris Agreement) to promote climate action in developing countries?

This is project dependent and each project should be assessed on its own merits. If existing funding levels need to be increased then it should be. This is in the context of the infrastructure projects that we should be investing in the future.

What other strategies will you support to assist climate action in developing countries?

In regard to developing countries and the aid we are providing, I believe we should build on the Aid for trade initiatives, which involves helping countries come out of poverty by helping them better participate in global trade. A small percentage increase in the ability of some countries in trade, as low as 1%, would mean many countries would not need Aid at all. We also should encourage the uptake of technologies that are low carbon emitting even if they are (marginally) more expensive than the alternative and avoid the uptake of the sorts of legacy systems that are causing problems, such as the political backlash we have observed in Australia about coal generation plants closing down when power prices continue to go up.

We also expect there to be breakthroughs in other technologies, such as efficient and safe thorium methods. Although I am not a fan of nuclear, this form of power generation could be viable and it will not contribute to the greenhouse effect. Also, countries like India graduate 400,000 engineers a year. It has a huge educated middle class despite being a country with terrible poverty. The country has the know-how to further build on its hydro, renewable and nuclear mix responsibly.

We should continue to invest in the development of new methods that lead to lower emissions, such as the breakthroughs achieved in the production of concrete, which is the second biggest producer of carbon after coal.

4. Clean Energy Targets

4.1 What targets for generation of electricity by renewables will you support?

% renewables by 2025:

% renewables by 2050:

Target year for 100% renewables:

Comments/Explanation/Extended Response:

Subject to modelling but as close to 100%. This is predicated on what is reasonable to spend and what technology is developed over that time. Targets are meaningless if we do not know which technologies will emerge that could solve multiple problems. I do not believe the public has a clue which level would be viable and we need to ensure we provide fact-based evidence about what is reasonable as this information comes to hand.

4.2 What is your target year for 100% renewable energy production by industry across all sectors?

Comments/Explanation/Extended Response:

Targets of this kind are problematic. Target amount of effort and outcome is more meaningful. If people achieve the target then no-one will to go further. We need to ensure sustained effort into the next century.

5. Transitioning to renewables

5.1 Will you support the following steps to help achieve the transition to renewables?

- Ruling out the addition of new coal fired power generation to the grid;
- Ruling out the addition of new gas power generation to the grid;

- ☒ Ruling out government underwriting or public funding in any form to support fossil fuel energy generation;
- ☒ Adding greenhouse emission reductions to the National Energy Objective;
- ☒ Phasing out existing coal fired power stations; by when?

Comments/Explanation/Extended Response:

I think all of this is reasonable within principle. It would be an exceptional set of circumstances that would render these objectives as problematic.

5.2 Please provide details of the funding levels you will support to promote renewables, including grants and tax incentives for industry and consumers, and also including funding levels for ARENA and the CEFC.

I would not be able to give a figure without access to the data, time to analyse and the ability to appropriately model in terms of other funding that could be required. Thus, this would need to be subject to modelling, especially analysis of achievement to date.

5.3 What other strategies will you support to encourage the transition to 100% renewables? Please include details of funding where relevant.

Please see my Seven Point National Agenda and Three Focus Areas for Kooyong, which will continue to be refined over the coming period. Also, please see my answers to the above as I have covered a lot of this question already.

5.4 What measures will you support to assist communities affected by the transition away from fossil fuel energy generation?

There are different varieties of capitalism and I endorse the form that does not expect individuals to fend for themselves after losing jobs, etc. I do not think the idea that it is up to them to make themselves a suitable market participant. I believe individuals should be given financial support while they re-educate themselves to work in other

occupations or industries. I believe they should be given support to re-educate themselves. I am aware of what New Trade Theorists have been saying about economic geographies, such as Nobel Prize winner Krugman who says that one of the reasons there has been a backlash about trade is that industries tend to concentrate in some regions and when these industries are disrupted, then this becomes a political problem even though the people of the region in question are only a small proportion of the overall population. I am also aware of the work of Nobel Prize winner Romer on economic provinces where certain geographic areas have been subject to a different set of rules, which when fully implemented and rendered viable, have been able to support the implementation of new technologies. The benefit of these institutional 'pilots' is that they can then be rolled out to other regions that have been subject to old rules and the use of legacy systems that have become problematic.

5.5 What incentives will you support to promote a clean energy export industry?

The export industry is already well supported but I certainly would encourage a bias towards clean energy export industry. Indeed, Australia should be a leader in this area, otherwise we will be left behind. I would build on the existing mix of incentives.

6. Transport

6.1 Will you support the following initiatives to encourage the increased uptake of electric vehicles?

- Make electric vehicles less expensive by means such as reducing government fees and charges or by subsidies
- Increase the availability of charging stations;
- Reduce the cost of ownership such as registration fees;

Comments/Explanation/Extended Response:

In principle, yes to all of the above. However, it could be cheaper to encourage battery exchange stations. Pilots would need to be run and technical questions answered by technical specialists. There is also the problem of rare minerals and investment needs to be made in understanding how battery and electric car technology will develop over time, also to what extent we will have access to rare metals. It would be better if we encouraged a four day working week and/or people to work from home more. Better

public transport networks and fast and very fast train networks will be important in the future.

Please provide details of any other strategies you will support:

Canberra has a fantastic bike trail network. We should be developing cities and region areas to be much more walker and biker friendly. I think scope exists to develop and encourage hydrogen car usage too. Indeed, there is a lot of work being done around the world to identify technologies that the Australia government in the future may need to encourage in the future.

6.2 Will you support phasing out the following, and if so by what year?

- new diesel vehicles
- new internal combustion vehicles
- diesel tax rebate
- fringe benefit tax concessions on vehicle usage

Comments/Explanation/Extended Response:

These are indicative targets and estimates only of what is possible.

Market forces are pushing this already. Electric and hydrogen and to some extent hybrid technologies are quite good now. The problem is petrol is fairly cheap but it should be noted that the petrol price is largely tax. We also have to understand why the Paris protests have occurred. The diesel subsidy is for remote areas and we need to consider them as a proportion of the overall problem. I believe petrol driven cars, etc. will decline significantly through market forces, including people's desire to buy cars that are more environmentally sound.

6.3 Will you support strengthening existing vehicle emissions standards for new vehicles? Yes No

Which international model would you use and when would you envisage implementation?

International model: Not sure but Europe leaning

Yr: 2022

Comments/Explanation/Extended Response:

Different models in US and Europe. Probably very little difference between the two in the long-term. However, I believe the European standards are higher. The focus initially should be on fleets, freight transport. Passenger vehicles turnover fairly quickly so it is likely that as new technologies for reducing emissions come into play then these will be incorporated into these cars. The upside is that this leads to competitive pricing because passengers and fleet purchase officers look at the overall costs of the car in most situations when making the decision to purchase.

6.4 What measures will you support to encourage growth in public transport provision and usage?

Every measure possible. I am a great fan of public transport. I have only driven a car for around 8 years out of the 37 I could have driven. I think it is possible to build a network that allows most people in the large cities and large regional towns to get most places in under 20 minutes. I think these are important infrastructure initiatives.

6.5 What other initiatives will you support to reduce emissions in the transport sector?

It probably is a good idea to encourage local purchase and try to limit trade in fresh goods that require shipping by air. The airlines should be encouraged to invest in planes that use fuel more efficiently. I think we should move towards a four day week and that means that people will be driving and travelling to work more.

7. Coal and Gas Mining

7.1 Will you support legislation or regulation to achieve the following? Please indicate the proposed timing for the cessation of the activity.

- | | | |
|-------------------------------------|-------------------------------------------------------------|---------|
| <input checked="" type="checkbox"/> | Stop any coal mining developments in the Galilee Basin | Yr 2020 |
| <input checked="" type="checkbox"/> | Stop development of any new thermal coal mines | Yr 2020 |
| <input checked="" type="checkbox"/> | Stop development of any new on-shore conventional gas mines | Yr 2020 |
| <input checked="" type="checkbox"/> | Stop development of any new offshore gas and oil mines | Yr 2030 |
| <input checked="" type="checkbox"/> | Stop development of any new unconventional gas mines | Yr 2020 |
| <input checked="" type="checkbox"/> | Phase out thermal coal mining in Australia | Yr 2020 |
| <input checked="" type="checkbox"/> | Phase out natural gas and oil mining in Australia | Yr 2030 |

Comments/Explanation/Extended Response:

I have provided indicative dates but I have no ideas if these are possible.

Australia should move to no coal in the future. The big problem will be what other countries do and the political pressure this will put on governments to ensure we remain competitive. However, coal is on the decline and those remaining in this industry are trying to get a higher share of a reducing market. In the long-run, this is not a good idea and shareholders will walk. We have already seen how hard it is to get funding from banks, etc.

7.2 Will you support a review of Adani's licence for the Carmichael coal mine under section 145 of the *Environment Protection and Biodiversity Conservation Act*?

- Yes No

Comments/Explanation/Extended Response:

Yes. Business case of Adani is not strong. I am not convinced that because their coal is supposed to be cleaner this will lead to the closing of unclean coal mines. One way or the other, we need a Global Agreement or standard on what mines should be developed and closed across the world and volumes that can be mined over time.

7.3 Will you support ruling out public funding in any form to support fossil fuel mining?

- Yes No

Comments/Explanation/Extended Response:

Many governments encourage foreign investment and other investment by providing incentives. However, no government should be providing incentives for industries with this level of risk and at this stage of their life cycle. The money would be better spent investing in renewables and helping those whose lives have been affected by industry disruption.

7.4 Will you support strengthening of legal and regulatory requirements for mining companies to rehabilitate closed mine sites? How?

Of course. This should be mandatory and carefully monitored.

7.5 What strategies will you support to promote the transition away from coal and gas mining, including assistance for the affected workforce and local communities? Please include details of funding.

The best level of assistance that is possible, on par with the countries that do this well, such as Denmark.

Additional comments

Please use the space below to tell us more about your views on climate change not already covered. Please attach any additional documents you believe are relevant.

If you are to have any chance of winning Kooyong, you cannot just run with climate change as the only platform. You need to have an integrated set of policies. I know for a fact that my policy agenda was carefully looked at by the parties at the last election since they did not have a structured approach to communicating. I got over 200,000 hits on my website during the last election and there was a reason for that. I do not know exactly what it was but I think I did my bit to make people take independents more seriously. Indeed, I believe the structures are beginning to emerge to ensure independents can work together in the future to ensure the parties begin to work better and that the best legislation ends up being implemented.

Dr Angelina Zubac

www.vote4drangelina.com



Thank you!