

The Interviews (Turn Down The Heat) by ธนยูจัต์น์ วกัปวันฉัก้อจ้งไ บังเส็ง

With Eva Edsbacker, Niranjan Devkota and Allan Lowson; mine is included for reference

How would you say climate change is currently affecting your life and that of your community?

On the surface of it all, it doesn't concern my life and my community all that much. Granted, since I live in the northern hemisphere, and pretty high up toward the north pole (at 59°), it has been clearly noticeable that for example the snow cover in my home town has diminished over the years. As a child, I recall that going skiing was something you could do in wintertime, every year, without exception. Nowadays, it is exceptional, and you have to go to the mountain ranges in order to ski (people do that). The mere fact that skiing can be done every odd year is in itself perhaps a sign of climate change, since the overall warming up of the globe might have the effect of providing Europe with the odd cold year. But I think people in general think that it is not so much a sign of climate change as a sign that can (wrongfully) be taken that things are back at "normal". Anyway, for most people, affluent as we generally are, things seem to revolve more about doing fun stuff over the weekend or watching some entertainment on television. Also, whenever climate change is discussed, it is often discussed in terms of booming American documentaries (or those from the BBC) and in a way it's as hard to relate to as a documentary over, say, life during the Jurassic era or an expedition to Mars. It is interesting, but you don't feel it is looming on your very doorstep, at least not this year and not the one following that year either. Which means more short-sighted agendas will take over. However, last summer was exceptionally warm. Temperatures in the mountain range, where we have a log cabin, rose to +34 C, which is exceptionally hot for our climate, and it was even warmer along the coastline and further south. We're now thinking about installing a tropical fan in the ceiling of our log cabin, and have already installed both a fan and a (portable) air conditioning system in the city apartment, although their rarely in use, just there for the odd heatwave when temperatures rise over, say, +31 C. which is when at least I find it's starting to be too hot for comfort. Both an electrical ceiling fan and especially an air conditioner would have seemed like ludicrous things to have when I grew up, it was just unheard of in our climate to have those things. But here we are now!

Nepal is a small agrarian country lies between India and China in South Asia. The bitter truth is that being the member of club of poor, Nepal ranks almost last position sharing economic status with worse African countries. ADB reported that Nepal may loss 10% of its GDP by 21000 due to climate driven events like melting glaciers. In Nepal, 95% GHGs emission occurs on agriculture and forestry sectors (i.e. 77% from forestry sectors and 18% from agriculture). However, Nepal shares only 0.027% of global emission and ranked 4th in the vulnerable list of climate change impact. Climate change evidences on almost all the sector like forest, water resources, agriculture, human health and bio-diversity in Nepal. In recent days climate change in Nepal encourages: High intensity rainfall during rainy season and resulted heavy floods, land slide and soil erosion. Similarly, drought is common in many parts of Nepal resulting food shortage. As Nepal, our community is facing all short of climatic hazards.

Climate change has recently affected my community through flooding of the southern plains of England in early 2014. This caused the loss of agricultural output and the potential for the farmers to produce a crop during the summer of 2014. Paradoxically the UK has also been suffering drought conditions in summer months which has affected the agricultural output and the availability of drinking water for the population.

Right now, I have noticed that climate change isn't just making the planet warmer, it's also triggering a spate of more extreme weather. Being a Californian resident, I find that the latest drought has taken its toll on me and everyone else around me. The landscape is gradually browning around me and it is spoiling the beauty of the place. Rivers and lakes are constantly running dry as we have to draw more water from them; indeed, many of them have been significantly below capacity for a long time. The weather has also been warmer than usual (in fact this latest winter in Salinas was by far the warmest!), which means whatever precipitation does fall at the Sierra Nevada would be in the form of rain rather than snow, affecting the water supply in the coming summer as that season is drier and the main source of water would be the snowmelt from there. As my favourite sports are skiing and kayaking, the changes in climate have essentially prevented me from enjoying them. Farmers' livelihood have also been affected, since they need to drill deeper to gain access to groundwater to sustain their crops, making their profits smaller.

How do you think climate change might affect your life and that of your community in the future?

In Scandinavia we are fortunate enough to live in a spot where things might not deteriorate as fast as in other places. We're not, for example, dependant on glaciers for drinking water, and the previous cold winters will be less so. In fact, some people narrowly even look forward to the idea of growing wine grapes in the south of our country, and increased rainfall (as is expected) will not be detrimental to farming. On the other hand, this is pretty limited, I find, in that this outlook is sort of a combination of taking in some parts of the trends of global warming, but on another way pretending it'll be status quo. What is more likely to happen is an enormous pressure from people in other lands to try to get here in order to carve out a living. We're already seeing some small signs of this with refugees from Africa trying to cross the Mediterranean in leaky small and unsafe boats. Many of these people are surely climate refugees even though the term is not yet much in use, it's still called economic refugees, people who can't carve out a living in their place of birth. What will happen is we will naturally have to open up for more migration from other places of the world. What will otherwise happen to, say, people of countries about to get submerged from the expanding oceans (due to heat expansion). Just the other day our prime minister opened up for starting to discuss the need for being able to grant 'humanitarian refugee status' in people's contries of origin, that it is not just for political reasons that people choose to flee their birthplaces. But discussions died down in the noise of other and more spectacular news. It seems as hard to discuss the climate issues as it is to discuss pensions savings, it is not spectacular, people don't find it thrilling or amusing. It doesn't get to the top of the agenda even though if one is to believe what is happening, it should be.

Nepal is already facing food crisis, water shortage is common and land and air are being polluted day by day. In this scenario, IPCC and many other national and international organizations on their report claims that there will be rise in temperature and decreases in precipitation in this region, it is sure to causes water shortages which leads to drying up lakes and rivers it heavily affects in agriculture and led further food shortage. In our community, poverty is common and if there is further climate change, the rate of poverty will accelerate high and more problems caused by the poverty will increase.

(Allan didn't respond directly to this question.)

Right now, California has only about a year's worth of water supplies left and prospects do not look good as the drought is expected to prolong even further. It is possible to find substitutes for many things that we are dependent on (e.g. drinking, cooking, growing

crops, cleaning etc.), but water is not among them. As we utilize non-renewable sources of water, we will eventually run out of it. This will trigger water wars, as people fight for whatever water is available (demand greatly exceeding supply). When there is no more water, the cotton and almond crops in California will fail. These form a significant proportion of California's economic revenue, which means that California (and USA as a whole) will also suffer financially. In the worst case, it is possible that California could be a series of 'ghost cities', unable to support their original populations from lack of water. As for the warmer temperatures, it means more usage of air conditioners and hence more energy usage, contributing to the climate change which caused the drought to crop up (or exacerbate) in the first place. It is a vicious cycle which, if left alone, can lead to serious undesirable effects.

What changes have you noticed in your behavior or that of others in relation to climate change?

I believe among the things I've noticed is, on one hand, a general acceptance that this is happening. We're no longer arguing whether the world is flat, or round as a ball, so to speak. This is good. On the other hand, I've noticed a strong tendency to do like the ostrich are said to be doing: putting their heads into the sand. People are aware that this is happening, but waves it off much like a smoker knowing that smoking is bad for their health. People are saying, if the subject matter is discussed at all, that it's nice that the winter won't be so cold and that it is possible to sit outside on a warm summers evening without having to put an extra sweater on. (Summer in Scandinavia could in the past, which is to say 1970's, be as cold as hovering around +13 to +16 C). Sometimes you hear about people arguing that one should eat vegetarian food one day a week, or something like that. Generally speaking I believe many people are luring themselves into believing that it's enough to recycle metallic bottles. General knowledge about climate change, I believe, is superficial and low. Most people have seen Al Gore's film, probably, but by and large I find that the material about climate change is too scientific and technical to be of interest to anybody else than the real nerds. It is also too statistical, in the sense we speak of likelihoods. It's a 95% chance that this is from human intervention, is of antropogen origin. Which means people can jump at the 5% and pretend it is not... and, anyway, isn't it so much more fun to watch a good entertainment show on the television, just for tonight? So, that's where I believe we are standing right now. Another issue is that I think people underestimate the time scale of change (the 2nd derivative so to speak). They relate to their own experience in the past, linearly, and that of their parents and grandparents. But, given that developments took off in the 1950's or even accelerated in the 1980's, our (humans) tendency to relate to their own experience in their own life span, or that of their parents and grandparents, won't help us here, rather to the contrary. The short-sightedness of financial industry

(and of people trying to make money out of it) might also work against the possibilities to adapt to change. In the short-sighted perspective, development is linear, one day looks like the one before, and nothing needs to be done or indeed will have any impact on anything. Besides, I think people feel sort of helpless and clueless when they read about, say, pollution in China or the US, knowing fully well we're in a small country in the outskirts of the world, with just 9 million people in it (and about 1.6 million born in other countries than Sweden). This is what many Swedes might look like nowadays, this is an interview of a bandy team started up in the north-mid Sweden:

<https://youtu.be/Y0Kw8UafGLA>

As for my own behaviour I've mainly noticed an increased interest in learning about these things. Also, that geothermal warming (drilling holes into the ground and pumping up water for heating purposes) is becoming more predominant, insulating houses with things like extra isolation and triple glazing (three panes of glass in the window, instead of just two, as in the past).

Farmers are changing their farming practice. Among them, crop shifting is common due to shift in monsoon. They are applying the short maturity periods seeds. More on it, farmers are concerned about the cash investment and feel more costly. For them seeds, fertilizer, pesticides and insecticides and purchased water during plantation are more costly and higher in terms of the benefit received from the production. Besides, labor migration is another problem in Nepal and one of the causes too. Most of the studies now state that it could be due to low production on agricultural land than the earlier days. Regarding myself, I am so far not using vehicle, don't have car and bike, not use huge amount of LP Gas for cooking and abstaining from all sort of alcoholic consumption and neither burning coal or firewood for cooking that are one of the cause that increases climate foot print.

Nationally we need to significantly reduce the carbon footprint of power generation and also reduce the energy demands of industrial and domestic heat generation. The carbon footprint of agriculture and food production also needs to be improved. impacts of climate change from increased winter rains and summer droughts, it is inevitable that impacts elsewhere in the globe will impact the UK through food and material supply shortages. The effect of political instability as result of food shortages in Africa is already contributing to the refugee crisis round the Mediterranean Sea. Another major impact on the UK is the need to radically reduce the carbon footprint of power generation through further investment in renewable generation and power distribution infrastructure.

Some farmers have been selling their land which was used to grow cotton and almond as it is more profitable for them. It seems that the changes in behaviour is more to tackle the consequences of climate change, rather than to tackle the root cause of it. While I try to cut back on using my car and sacrifice my green lawns, many of my neighbours are not really acting on it if it means larger expenditure or less comfort, though...

What do you think needs to be done about climate change on a local, national or global scale?

The fourth question is the trickiest one. Some sort of supra-national initiative will be needed, I believe, or we'll see a lot more so-called failed states. Mass migration must be handled. Adaptation of growing crops in different places. Raising people's awareness, but not so much through showing (boring) scientific reports. Maybe a lot can be learned from advertising (c.f. adverts for things like Coca-Cola). I don't really see how this can be achieved through voluntary activities alone, maybe some sort of taxing is needed. A lot of thought will have to go into both finding ways for alternative ways to look at economy (I don't think necessarily that the Keynesian and neo-classical national economy has the answer to these tricky questions, just look at the Swedish central banks trying to run things by changing the interest rate, it doesn't seem to work as intended). I hope strong and big countries such as the US and China, and others, will take the lead on these issues. Other important people who could take a lead on these topics, are people like the Pope and Dalai Lama, people who has a function of leading people. In Sweden we have functions such as the kingdom of Sweden, a non-political role that could help with these things. Small steps are already taken such as e.g. the link to a speech below.

<http://www.kungahuset.se/kungafamiljen/hmkonungcarlxvigustaf/tal/hmktal2014/hmkonungenstalvidinvigningenavinternationelltolkollokviumomklimatochenergiiparisden3december2014.5.524ff71f149ce803a48415.html>

In my opinion, what we can do is very straight forward. There should be active of both top-down and bottom-up approach for the climatic change agenda and programs on development process. All the government bodies, civil societies, private organizations and citizen should act together to reduce threat induced by climate change via mitigation and adaptation as far as possible. For that there should be sound government policy for national level, regional level and local level as well as strong willpower of the civil societies. By now, Nepal has prepared many climate change plan and policies and

programmes such as NAPA (2010); LAPA (2011); Climate Change Policy (2011); Environmental Friendly Local Government Framework (2013) and incorporates the climate change issue in National Planning Paper since 10th Plan (July, 2002). More on it, annexed countries should be bias free and provides the assistantship (so far 0.7%) as per their commitment to the non annexed countries. There should not be any kind of self greed and political game during providing assistantship.

I am using a car with a smaller emissions footprint for business travel to clients. I provide energy and carbon efficiency advice and support to industrial and institutional clients. Most of my clients are investigating actively reducing their carbon footprints by increasing the energy efficiency of their operations and investing in low carbon technologies for heat and power generation.

Aside from believing more in Silvermist and Periwinkle, the problem lies in the political situation. Effects like global warming are only apparent on timescales longer than that of election periods (3-5 years); however, politicians focus mainly on decisions that would benefit them within the election periods so that they can get voted again. But decisions that are more 'green' tend to be more expensive and less popular, especially since that opportunity cost involves our convenience and can cut back on our standards of living. For instance, to produce the equivalent amount of energy from solar, wind, nuclear or other environmentally friendly resource would be more expensive than to use oil or coal to do so. The immediate monetary cost is what most people would look at, but the effects like the pollution caused by its burning is far more insidious. This only gets worse with an expanding middle class of people who wish to live the same style of living as us. There should be some education of both us and this rising middle class to become environmentally friendly. There may be a need to implement rules such that it becomes more cost effective to go for these 'green' technologies instead; for instance heavier carbon tax which translate into subsidies for the 'green' technologies which can then be passed on to the less developed countries. This is one global problem which we can't tackle by keeping our technologies to ourselves and only look at what monetary benefits we could gain from its sale, as wealth won't matter if we are wiped out by climate change. Of course, that isn't to say that we can't cut back on our resource usage itself. We do not need to have strong airconditioning or strong heating; reducing the energy consumption while clothing oneself appropriately can achieve the same effect without utilizing more energy. Likewise, taking public transport instead of cars, or using cars with better gas mileage instead of SUVs and the like, can help reduce climate change. All these actions have to be carried out as soon as possible for delaying such actions can bring us past that tipping point.

Eva Edsbacker is from Sweden.
Niranjan Devkota is from Nepal.
Allan Lawson is from England.
I am from California.

Aside from the interview questions, Eva and Allan shared various resources too.



“I agree that it's difficult to handle the election effect, as you say election periods (not to mention the quarterly reports of companies) is too brief to accommodate changes in connection to climate change. In the really short run (say one quarter, a year, or - perhaps - four years) the effects of climate change are so incremental so it's easier to just stick to business as usual for three more months... as for strong heating, it's possible to - at least where I am - use geothermal heating which doesn't add to fossil fuel usage. Just the other day, on the news, they talked about electrical bicycles which people might want to use instead of a car for commuting to work.”

<http://www.aftonbladet.se/nyheter/feature/article19411109.ab>

“Here's another link, telling us that 2/3 of ALL people will have SEVER water shortages in 2025 (which is just 10 years ahead!)” <https://www.worldwildlife.org/threats/water-scarcity>

“(Eva) Are you (your community, that is) planning anything to compensate for, or mitigate, these effects? I have no idea what this could be, because I'm not so familiar with your community, but it could perhaps be working together in an association and set up water reservoirs, maybe financed by micro financing? As you can tell, I know next to nothing about farming, and buy my groceries in the supermarket (supermarkets that look exactly the same as those I see on the telly from places in Africa actually. The world is getting more alike). Tell us more!

(Anderson) Thanks for your response, among the strategy that we are suggesting in order to reduce the impacts is to emphasize on Rainwater harvesting whereby water can be accumulated and deposited for reuse on-site, rather than allowing it to run off. This will be useful for irrigation during the dry period and also can be applicable in garden, livestock and also for domestic use. Therefore once this strategy will be achieved, the impacts can be minimized.

(Eva) This is very interesting. By chance I watched a documentary yesterday about the moche people (in what is now Peru), they did construct a particularly extensive system of irrigation channels in particularly dry climate. I searched a little on the internet and found e.g. this paper, maybe you can find something useful there if you plan to use this

idea for the inal project, things such as variables or factors that have to be present in a society to make the irrigation idea work out properly, it is after all something that was tested out for hundreds of years in harsh conditions due to niño/niña:

[http://www.academia.edu/4604345/IRRIGATION AND THE ORIGINS OF THE SOUTHERN MOCHE STATE ON THE NORTH COAST OF PERU](http://www.academia.edu/4604345/IRRIGATION_AND_THE_ORIGINS_OF_THE_SOUTHERN_MOCHE_STATE_ON_THE_NORTH_COAST_OF_PERU)The Formation of Centralized Politiesillustrations. The Spanish abstract was translated by Julio”

“If you are any sort of MOOC addict, the following may be of interest should you not have already heard of them. Jeffrey Sachs' courses are very well presented and chock full of links to background source data.

Climate Change Science and Negotiations (Jeffrey Sachs) This has been running for 3 weeks but all course quizzes are due at the end in June. The exam is due at the end of May. <https://www.sdsnedu.org/courses/1454/learn>

The Age of Sustainable Development (Jeffrey Sachs) currently not running - there is a "taster" anytime set of three talks based on this course: <https://www.coursera.org/course/susdev>”

“(Eva) I remember that drought period, or maybe even a similar period an earlier year. A colleague went to the UK for a boating trip (on Napton marina's narrowboats as it were) but certain canals/channels were closed off for passage, because opening and closing the locks would have made the water gush out and there was simply not enough rainfall to fill up the canals again. So they remained closed. A luxury-oriented problem with the canal boats, but still a reminder of what is coming, and when it affects drinking water it's more severe. On a totally different and unrelated side-note my colleage was nicknamed "the mariner" for a good part of the rest of the year because of the narrowboat experience. (A narrowboat is what it says, a very long and narrow boat that fits into narrow waterways).

(Allan) I have dug out a few more links to comments about the climate impacts in the UK. Basically we get very mild weather most of the time, and the immediate impacts of climate change will therefore be less significant than those which will be experienced in the tropics, small island states and near the poles. However they will still have potentially serious on agriculture in the UK and also for folk who live in flood plains and in coastal regions.

http://www.bradford.gov.uk/bmdc/the_environment/climate_change/about_climate_change/how_will_climate_change_affect_UK<http://www.ukcip.org.uk/climate-just-online-resource>

<http://www.metoffice.gov.uk/media/pdf/t/r/UK.pdf><http://www.metoffice.gov.uk/climate-guide/science/uk/obs-projections-impacts>

http://legacy.london.gov.uk/gla/publications/environment/londons_warming02.pdf<http://www.carbonbrief.org/blog/2014/11/climate-change-set-to-increase-extreme-weather-risk-to-uk-population>”

“Thanks for sharing the information about California. I was triggered to look up an event I knew of prior, but haven't really learned all that much about it before. Found this video: <https://www.youtube.com/watch?v=CM3ZHMBhP2k>

Reminds me of a song I came to listen to when I was in the US in the 1990's, Trouble in the Fields by Nancy Griffith, here in a cover version: <https://www.youtube.com/watch?v=TTVXCfrVpTg>

Found this really good overview about the California water problems, and remember I read about it some time ago in the National Geographic Magazine; <http://www.nationalgeographic.com/west-snow-fail>”

“Adding a link from TED talks about algae blooming in the Baltic, the lake is really at risk. (As a matter of fact I've stopped going out on a sailing boat - previously a popular pastime along the Swedish coastline - in July because it's not enjoyable with the algae, it looks like a yellowish lens soup in certain spots and smells as bad). <https://www.youtube.com/watch?v=20y2NvIEB7E>”

“We had a huge forest fire last summer, and perhaps it was climate related. It is hard to say. But it is also an example of what one might expect to see more of in the future. http://en.wikipedia.org/wiki/2014_V%C3%A4stmanland_wildfire European cooperation was necessary to fight this forest fire, we did not have the necessary equipment in our country or even in the neighbouring countries, as forest fires of this size have - so far - not been very common to the point of authorities investing in forest fire fighting equipment such as those air-planes borrowed from France.”

Past peer feedback:

peer 1 → I think this presenter has missed the assignment with another. the presentation has no relevance to the questions asked.

peer 2 → What is this? You are completely out of topic!!!!

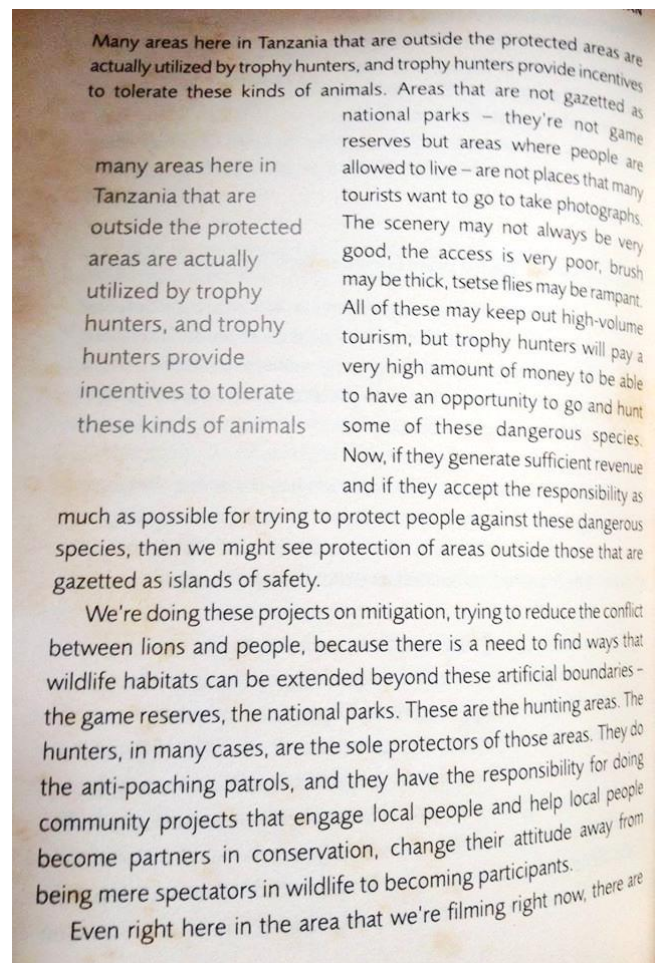
peer 3 → i think you submitted the wrong essay. this was something about climate and although it was an interesting read, it had nothing to do with the topics that we had to cover. sorry.

The report will be based off Eva's interview responses, but will take Niranjan's and Allan's responses into account.

In this course, I have learned just how vulnerable Earth is. Being familiar with cosmology, I know that the habitable zone around the Sun is rather wide, from just outside Venus' orbit to somewhere beyond Mars' orbit. But when there is human intervention, we can affect our planet to the point of becoming uninhabitable, at least for us. Long ago, I thought that this would not have been a serious problem; now, the problem is imminent and with the positive feedback cycle from global warming, we can reach various tipping points (or have already reached them!) really soon. Once passed, we will feel the worst of the effects regardless of what we try to do. I was seriously hoping we may become a class 3 civilization in the future. But to do that will require our intense cooperation, both towards prevention of further damage and alleviation of existing damage. It was somewhat of a challenge to find people willing to do (typed) interviews with me...

Global warming isn't all bad for localized regions, even if it is bad for the world as a whole. As Eva put it, people are discussing how winters in Sweden are no longer as extreme and how summers have become more pleasant; how they can grow grapes for their own wine, how increased rainfall can help them in their farming, among other advantages. It is true that these can help Sweden boost its economy and hence be a localized advantage.

However, not all is pleasant. Within Sweden itself, there is a loss of skiing on lower ground. But perhaps more worryingly is how Sweden and other European countries have people escaping from Africa through boats due to climate change making them have difficulty growing enough crops for themselves; as such, they need to eke out their living in Europe instead. Likewise, more extreme weather such as floods and droughts will force an influx of refugees out of affected regions into other more habitable places. The world is already experiencing overcrowding in some urban areas; mass migration of populations into smaller areas of land will only make this worse and bring a plethora of problems along with it, most notably the depletion of resources.



The problem is exacerbated by how poorer countries are the first to feel the negative effects of this global warming when they typically had the least contribution to it. Nepal, a poor agrarian country, is ranked 4th in the vulnerable list of climate change impact, yet it contributes negligibly to the world emissions (even when measured by per capita). Likewise, there are coastal plains in some poor countries where they are able to protect the coast better if left alone rather than being chopped down and turned into resorts. (Planet Earth, The Future) We, as the developed countries, must not exploit the rest of the world for our advantage while leaving them to bear the full brunt of climate change effects. Instead, we need to share green technology while doing our best to protect them.

Then there are people who still try to deny that climate change is taking place. Even if they are just 95% sure that climate change is man-made, they would rather speculate on the other 5% that it is not, instead of trying to rectify their problem. Another problem is relating to the time scale of change, which is on a scale longer than that of politics but shorter than that of generations (relating to own experience in the past). Even the effects of climate change are portrayed such that it isn't a bad thing. And any actions taken to cut back on emissions is generally just a token attempt e.g. recycling metallic bottles. It is the proverbial saying of an ostrich putting its head in the sand. It is important that these people are educated about the dangers of climate change and how to contribute significantly to cutting back on emissions.

As such, I feel that the two main ways of getting around this are to tackle the problem at the root and its consequences. Both of these, however, require the cooperation on all levels. Individual countries' interests can only be safeguarded to a point; where climate change is concerned, it is all or nothing. It is going to have negligible effect if just a couple of small carbon dioxide emitting countries cut down on their emissions significantly. This is necessary and imminent if we want our civilization to survive longer, let alone reach that class 3 status as mentioned earlier.

California has a good example when a rule was mandated in only allowing water to be served in restaurants if requested, but this only aims to solve the problem somewhat. A better way of doing this would be to give subsidies for those in California to install solar panels and reduce fossil fuel demand, while also reducing the investment into digging deep into the underground aquifers. It is eventually hoped that buildings may even be zero net carbon i.e. carbon emissions should be zero or negative for the lifetime of the building.