

52 Climate Actions Session

Tutor-Facilitator Notes

To plan a 2 Hour Climate Action workshop, you can think of this as being able to be broken down into 24 x 5 minute blocks, although you will probably want some sections or activities to be 10, 15 or 20 minutes.

The strongest suggestion for the flow is to move from understanding the general picture of climate action, to understanding the personal picture for individuals in their home-life, work-life and community, and from that point to work to selecting priorities for action, that balance significance with do-ability. Include a strong emphasis on commitments to those actions and next steps, particularly where group action and maintaining social connections and support is concerned.

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A potential framework for timetabling a 2-hour session

Time Block	Topic covered in session block	Activity + Resources
0-5mins 5-10	Intro to workshop – context – intro to each other	Circle / go-round – 30seconds each: 1) who you are + 2) why you are here + 3) 1 thing you want from workshop - with bell / alarm to go to next
10-15 15-20	Intro to Climate Action – principles, practices & motivations – mitigation, adaptation, sequestration	Main Motivations – listed on flipchart or post-its – home-life, work-life, community-life
20-25 25-30	Primary areas of Impact (minority / western developed world) – home-life	Use pie-chart showing typical breakdown of impact areas
30-35 35-40	Estimate your carbon footprint	Individually or in pairs: Use best available online tool e.g. WWF estimator Guestimate compared to average a) food choices; b) house-size; c) car-size(s); d) holiday choices; etc
40-45 45-50	Introduction to Climate Action choices	Introduce use of 52 Climate Action pack of cards, website, resources, tools Option: show some of the Retrosuburbia Case Study pages if you have internet access – those with clear Climate Action relevance, relevant to location you are working in
50-55 55-60 60-65	Select your priority choices for home-life action	In pairs or 3's: discuss and select your personal priority areas for action, from 52 Climate Action pack of cards
65-70	Discussion of making commitments to home-life climate action	Whole group
70-75	Intro to Work-life impacts and choices	use of 52 Climate Action pack of cards, website, resources, tools
75-80	Selection of work-life priorities	In pairs or 3's: select your work-life priority areas for action, from 52 Climate Action pack of cards
80-85	Intro to Community-life impacts and choices	Use of 52 Climate Action pack of cards, website, resources, tools
85-90	Selection of Community-life priorities	In pairs or 3's: select your community-life priority areas for action, from 52 Climate Action pack of cards
90-95	Review of workshop	Most useful or inspiring thing from workshop? Anything to improve? Do we want another in 3 or 6 months to follow?
95-100 100-105 105-110	Review & celebrations of commitments to action: home-life, work-life, community-life	Circle / go-round – 30seconds each, listing / recording commitments on a single flipchart sheet or similar: 1) 2 priority climate actions you commit to + 2) who with, if shared action + 3) when you'll achieve them - with bell / alarm to go to next
110-115 115-120	Close and next steps Leeway – just in case anything runs overtime in the timetable!	Social groups, diary dates etc – Climate Action groups, parties, dinners, etc

Outline / Script Elements for an Introduction to Climate Action workshop

In the introduction section(s), an important aim is to engage participants with inspiration to act, and for them to inspire others in their communities to act.

Inspirations and Motivations to Act - facilitated discussion questions could include:	
<ul style="list-style-type: none">• Why is it important to them?• Does “All for one and one for all” actually work in todays context?• Despite all the bad news, what are methods for keeping motivated? Individual, community, short-term, long-term?	<p>List the answers e.g. on a flipchart / whiteboard</p> <ul style="list-style-type: none">• Focus on what we can do: list the individual and group / community ways to keep motivated• Highlight any that seem most relevant for this group

Make strong links with Retrosuburbia activity if the climate and social/economic context fits for your audience – consider ‘translating’ it if the fit is not obvious.

Opening Context: What is Climate Action?

Four responses to Climate Change are needed:

- Cutting drastically our greenhouse gas emissions (mitigation)
- Binding carbon to return the atmosphere to 350 parts of carbon per million (sequestration)
- Minimising the impacts of a changing climate on human and natural systems (adaptation)
- Supporting communities to respond creatively to these unprecedented challenges (increasing resilience).

It needs to be emphasised that:

- These are all needed in parallel, they are not either / or responses;
- All these responses are part of adaptation because “climate change is now” - we already are suffering adverse and dangerous effects from climate change, and will continue to for generations, even with swift and strong action to halt climate warming triggers within two decades – so adaptation is not in the future, it is now.

Permaculture provides key parts of the solution:

- Mitigation - home insulation; passive heating; reduced consumption; ‘simple living’; reducing energy use; sustainable transport; and local production of food, fibre and energy;
- Sequestration - a wide range of ‘carbon farming’ techniques, such as multi-strata agroforestry, soil restoration and reforestation;
- Adaptation - designing resilient agro-ecological farms, communities and resource sharing systems; diversifying crops; putting water management at the centre of landscape design; introducing erosion control.

Climate Action & Quality of Life

The connection with “quality of life” and how positive climate choices are also positive lifestyle choices.

(For sections 1 and 2) – key understanding (soundbite):

“Climate Action can improve your quality of life.”

Part of a permaculture course and Transition Town approach is the (paradigm) shift in thinking that can arise from knowing that there are many forms of societal and economic systems - we can consciously choose other systems including systems that fit for healthy communities and environment, with low climate impacts, or net climate benefits.

This helps tie permaculture threads to climate action threads and to a whole-systems approach.

It then leads into the *quality of life awareness* that the Transition Town approach uses and promotes. Using our motivations and inspirations to take Climate Action, we can create a local and community focused lifestyle that achieves our climate action goals and which also actually gives us a more enjoyable, rich and rewarding home and community life.

Links between lobbying/working with local councils/govt to enact changes that will make individual changes easier, more practical and more beneficial.

(Introduction in section 2, in-depth detail section 3, inclusion in plans section 4, observation section 5, actions section 6) – key understanding (soundbite):

“Personal and community climate action is really important, but not enough.”

The introductory sections should cover why personal and community climate action is important, but on its own is not enough i.e. individuals cannot directly control investment in large scale transport or energy infrastructure, and therefore may have limited choices to reduce their impacts. This creates the context for working together to create or influence system change, in areas which need action from local, regional/state or national government, or from business.

Examples include:

- Better transport links like bicycle paths and lanes, improved public transport etc
- Subsidies/incentives for community/religious/sporting groups/clubs that switch to renewable energy sources
- Better regulations, incentives and support for community-owned renewable power generation to integrate into existing electricity grids
- Better building regulations/incentives/policies for new buildings to be eco-friendly and Design Guides on good climate friendly design to support policies
- Better access to allotments/community gardens
- More R&D/incentives for organic and regenerative farming and food production
- Local projects or policies for natural eco-system restoration, wildlife and insect corridors
- Local projects or policies water catchment activities to prevent flooding and store more water for mitigating dry periods

Role of permaculture design

(Introduction in section 2, in-depth detail section 3, inclusion in plans section 4, observation section 5, actions section 6) – key understanding (soundbite):

“Climate Action is more than a sum of its parts.”

Permaculture design provides a unique and complete personal and community tool for minimising your footprint and creating positive change.

Whilst practices such as agroecology are essential, they only address the food growing and land management area of climate action – permaculture is a discipline which addresses all aspects of Climate Action, and it does so in a designed, integrated way.

Analogy: A compost is more than just the sum of its parts:

- Nutrients and trace-elements are activated into a ready to use form.
- Trillions upon trillions of beneficial biota and fungi are grown from the composting process and will remediate and improve all soil that compost is applied to.
- Harmful pathogens and weed seeds are removed during the composting process.

Likewise, a permaculture or whole-system design that includes all of the individual elements of positive climate actions, will provide many more benefits than simply implementing all of the same elements individually:

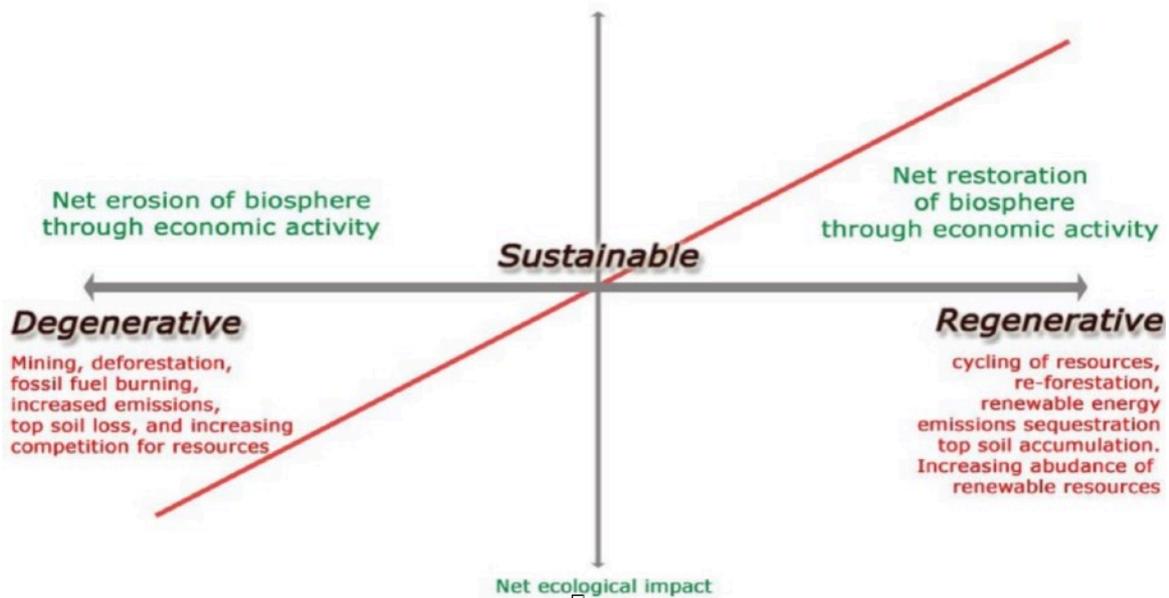
- Easier to get results
- Multi-benefits from individual actions that keep building over time and having flow-on positive impacts on other elements of living and working
- More resilience is created, extreme events have much lower or negligible negative impacts

Putting in place reversing mechanisms that build over time.

When a good permaculture design is implemented in the correct stages it creates a strong and resilient framework. Use Principle 7 'Designing from patterns to detail' to help explain.

Then the detail easily fits into place and the different elements are able to be integrated together. This also creates a multiplier effect - the benefits compound over time to quickly go beyond carbon neutral to carbon positive.

This also fits with the 'degenerative - sustainable - regenerative' table.



Permaculture shows the complete jigsaw

When people understand better how everything is connected and different systems are integrated they are more likely to follow up with 'doing the little things' to reduce their climate footprint, because each action isn't just climate action but also an important part of a functioning design.

Marginal gains for Climate Action

It is likely that one or more person in the group knows of the concept of “marginal gains” (e.g. made popular in cycling and other sports). Get them to explain the concept, or explain yourself if no one can. Because “Climate Action is more than a sum of its parts” we can apply the concept of marginal gains: i.e. tackle the biggest priority areas in a planned way first, then make incremental improvements that add up over time to make a big difference overall.

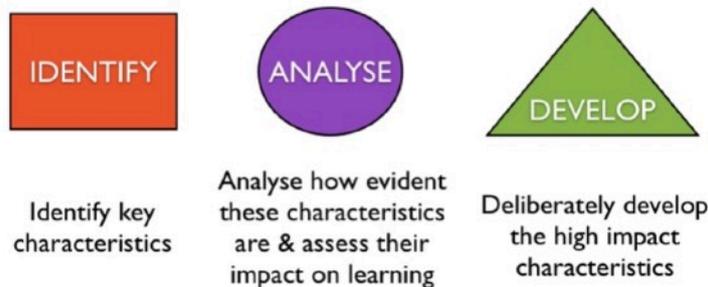
Explore this in the context of home-life and community-life Climate Action.

MARGINAL LEARNING GAINS

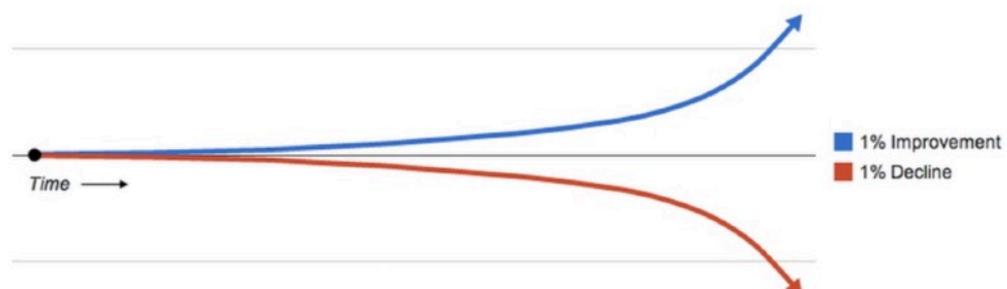
Inspired by the philosophy that underpinned the extraordinary success of Team GB Cycling at the Beijing and London Olympics.

The philosophy is simple and very relevant to apply to learning how to be most effective in your Climate Action: *focus on doing a few small things really well. Once you do this, aggregating the gains you make will become part of a bigger impact on learning.*

Marginal Gains Process IAD

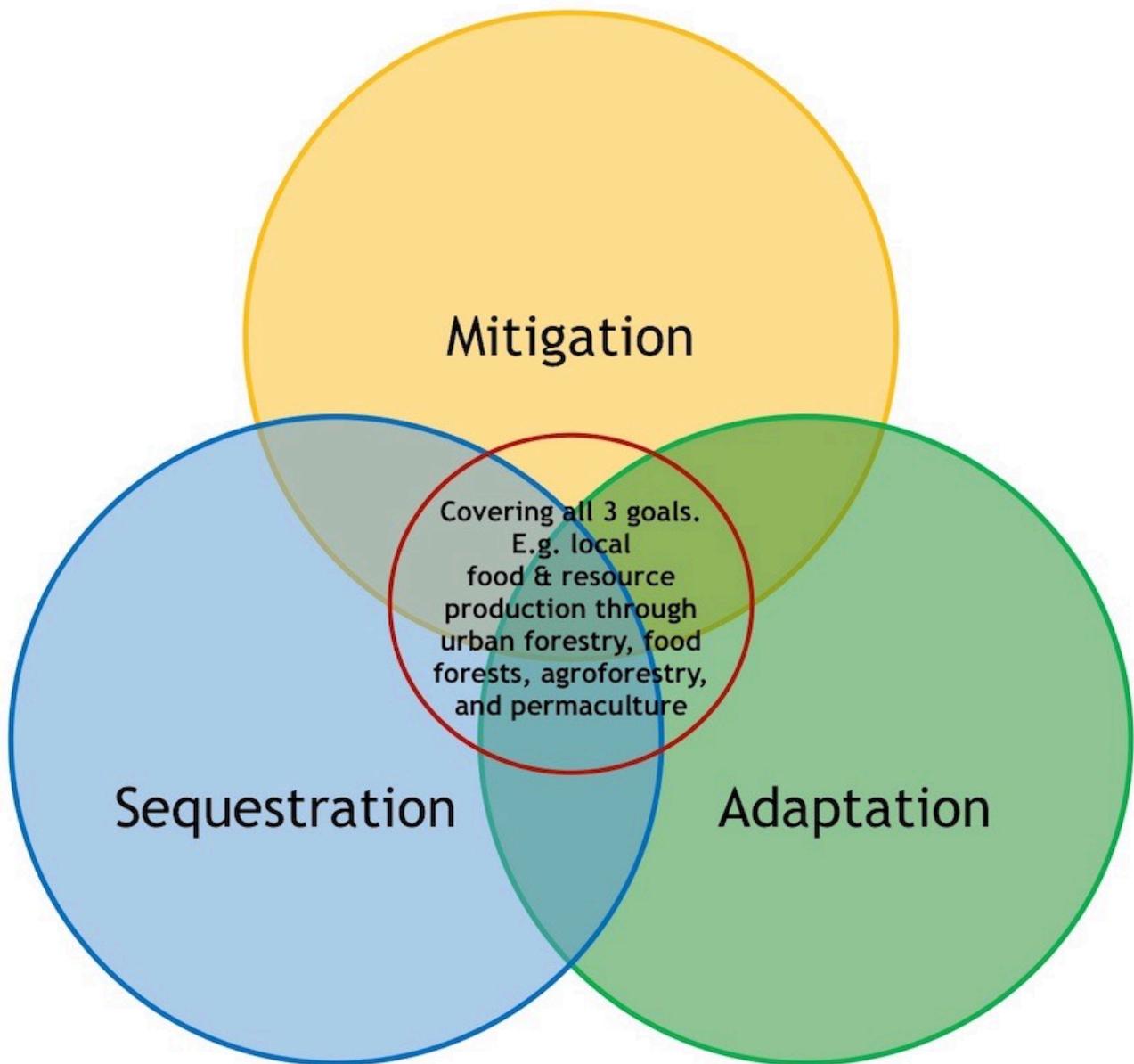


Aggregation of Marginal Gains



In the beginning, there is basically no difference between making a choice that is 1% better or 1% worse. (In other words, it won't impact you very much today.) But as time goes on, these small improvements or declines compound and you suddenly find a very big gap between people who make slightly better decisions on a daily basis and those who don't.

Mitigation, Adaptation and Sequestration



All actions in each field are important. In permaculture we strive for multi-functional integrated solutions. Therefore, we aim towards actions and solutions that deliver positive outcomes in all Mitigation, Adaptation and Sequestration fields simultaneously. This may not happen immediately but should be the goal over time.

Mitigation

Mitigation is reducing the factors that add to climate change. Mitigation is particularly important for high impact lifestyles and activities. The IPCC target of 80% reduction in carbon emissions by 2050 is about mitigation. Be aware that this target may well rise to 90% before we get to 2050.

Mitigation is (mainly) about reducing Carbon Dioxide *and* Methane emissions

- Carbon dioxide – produced mainly by the burning of fossil fuels – accounts for more than 75% (three-quarters) of greenhouse gas emissions.
- Methane accounted for about 16% (one-sixth) of global greenhouse gas emissions in 2015, according to the IPCC. Methane from human activity – approximately two-thirds of total methane emissions – is produced in two ways:
 - o the odourless and colourless gas leaks during the production and transport of coal, oil and especially natural gas;
 - o and, in roughly equal measure, from the flatulence of ruminants such as cattle and sheep, as well as the decay of organic waste, notably in landfills.

See **52 Climate Actions Training Additional notes** for detailed information.

Carbon sequestration

- Perhaps the most important tool for reducing/stabilising climate change
- Naturally a part of permaculture land management practice
- A key part of regenerative farming, soil restoration and environmental restoration

To address carbon sequestration, some new ideas that fit with other content can be loosely termed ‘positive carbon initiatives’, or simply ‘carbon sequestration initiatives’. This balances other parts of the content which mainly relate to ‘carbon emissions reduction initiatives’. ‘Carbon sequestration initiatives’ are a way to show how home/work/community choices involve the different approach of directly working to store carbon.

The three main themes to fit into this are:

- **Carbon sequestration through regenerative food production practices:** small-scale to large land holdings (Producer). Linked with (Consumer) food choices for household, work and community
- **Carbon sequestration through backyard, allotment and/or community food production:** consciously choosing carbon sequestration practices as part of personal food production. Tutor-facilitators can include a few more direct referrals to personal food production through these sections.
- **Carbon sequestration through environmental restoration:** being involved with local/regional/national environmental groups that take part in environmental restoration projects, tree planting etc. Could be private or public land and/or projects

The following are simply suggested options – a tutor-facilitator might have different ideas as to how these themes could fit in, the wording they use, etc.

Consumer

The consumer can make wise choices:

	Where their food comes from:	What their diet consists of:
Organic	Yes	Yes
Grass fed rather than grain fed meat and eggs	Yes	Yes
Shift away from cattle / sheep products		i.e. contributors to methane emissions
Many producers promote their environmental credentials if they do ecosystem restoration etc.	Support such suppliers where possible	
Higher proportion of plant-based foods in diet		Much lower carbon emissions for plant-based diet. However, avoid an imported rice-based diet, for carbon transport and methane production from paddy fields
Higher proportion of tree and perennial plant food sources in diet.		i.e. Carbon is bound in fruit trees

Supporting **proven** carbon neutral or carbon offset programmes that work directly with agro-forestry, ecosystem restoration, sustainable plantations etc is another consumer choice (i.e. care is needed to make sure these are not ‘greenwash’ approaches to ameliorate the image of high impact activities – working through credible advisors or portals may be a good approach).

Producer

For the producer, carbon sequestration fits perfectly together with creating healthy living soil for sustainable food production.

SEQUESTRATION STRATEGIES AND ACTIONS			
Producers			Ecosystem management
Urban/small scale gardener	Market gardener/small land holdings	Large land holdings	
<p>Organic, regenerative soil building practices including:</p> <ul style="list-style-type: none"> • Creating conditions for and building populations of soil micro-organisms and biota • Mulching • Compost and liquid compost production and use • Worm farms • Biochar • Green-manure and cover crops • Using perennial legumes • Small animal/crop rotation systems • Integrating perennial and annual production • Appropriate water catchment practices that will also prevent erosion, improve tree and crop production and help build soil 	<p>Organic, regenerative soil building practices including:</p> <ul style="list-style-type: none"> • Creating conditions for and building populations of soil micro-organisms and biota • Mulching • Compost and liquid compost production and use • Worm farms • Biochar • Green-manure and cover crops • Using perennial legumes • Animal/crop rotation systems • Appropriate water catchment practices that also prevent erosion, improve tree and crop production and help build soil <p>Integration of food forests and small scale agro-forestry, including 'design for climate change' with long-life species capable of surviving climate change</p> <p>Some production of mulch and compost materials on-site</p> <p>Changing burning practices for farmed land, especially tropical regions</p> <ul style="list-style-type: none"> • Stop burning crop stubble • Stop burning to clear land before planting <p>Windbreaks</p> <p>Native habitat creation</p>	<p>Organic, regenerative soil building practices including:</p> <ul style="list-style-type: none"> • Creating conditions for and building populations of soil micro-organisms and biota • Mulching • Compost and liquid compost production and use • Worm farms • Biochar • Green-manure and cover crops • Using perennial legumes • Animal/crop rotation systems • Appropriate water catchment practices that will also prevent erosion, improve tree and crop production and help build soil <p>Integration of food forests and agro-forestry, including 'design for climate change' with long-life species capable of surviving climate change</p> <p>Majority of mulch and compost materials needed produced on-site</p> <p>Windbreaks and Native habitat creation</p> <p>Changing burning practices for farmed land</p> <ul style="list-style-type: none"> • Stop burning crop stubble • Stop using burning to clear land before planting • Stop burning wood piles <p>Creation & management of appropriate Zone 5 areas</p> <p>Intensive rotation patterns for animals that includes transition to perennial grass and plant pastures and animal food from trees</p>	<p>Identifying land to be rehabilitated, such as:</p> <ul style="list-style-type: none"> • Creek, river/water-body edges and water catchment zones • Strategic gov't/private land that used to be forested but is now cleared such as highland moors • Eroded land, poorly managed natural ecosystems etc <p>Planning and implementing rehabilitation work of identified land (this work links directly with flood prevention and climate adaptation strategies)</p> <p>Community tree planting initiatives on common/private land</p> <p>Changing burning practices for natural ecosystems towards cooler lower impact burns, mosaic burning and indigenous based systems</p>

For the producer, carbon sequestration also occurs through other permaculture practices such as:

- Creating food forests
- Integrating perennial and annual production for food and income
- Growing as much mulch material, compost material and animal fodder on site as possible
- Planting windbreaks
- Creating habitats for native birds, animals and insects

Even on a small plot of land some or all of these ideas can be used, for medium to large land holdings even more so.

Climate adaptation

Climate change is happening now, so all other actions are part of adapting to climate change to try to limit its impacts. Even with swift and strong action to halt climate warming triggers within two decades, we already are and will continue to suffer adverse and dangerous effects from climate change for generations.

Permaculture is an appropriate tool for designing and delivering adaptation strategies because the basic integrated framework is the same as that which will provide positive action to reduce climate change.

Design for extremes

Permaculture design was initially developed in Australia, a land of climatic and natural extremes. A good design will see any potential disasters and '1 in 100' year events taken into consideration and planned for. 'Design for climate change' will become an increasingly common term, and will take into account the current scientific consensus which is that with climate change:

- Disasters will become more intense and '1 in 100' year events will become '1 in 50' or even '1 in 20' year events
- Rainfall will increase but fall less often, with extreme rain events becoming more unpredictable and more likely to produce flooding
- Droughts will become more frequent and more intense
- Temperatures will increase overall but extremes and unpredictability of both heat and cold waves will become the 'norm'
- Coastal areas will be particularly under threat with rising sea levels and stronger storm events adding to the potential combinations of crises
- Winds will increase in strength and frequency

Key adaptation strategies

Land and production

- Water management and catchment techniques including on-contour swales, ripped plough lines, living tree terraces, small dams and water bodies as well as off-contour water trenches. All need to be made in conjunction with planting and/or restoring appropriate perennial vegetation. All will offer the ability to slow, spread and store most rainfall and safely move excess water from extreme events. Use appropriate techniques for appropriate climates and soils, ie what works well in Spain or France might not work well in England or Sweden etc etc. Multiple benefits include -
 - Minimising flooding
 - Preventing erosion
 - Reducing pressure on river systems and coastal estuaries
 - Maximising underground water aquifer recharge
 - Reducing impacts of droughts and heatwaves
 - Providing extreme event water sources
- Drawing water from rivers during peak rainfall periods and diverting it to recharge underground water aquifers. (Use Food Forest example..)
- Changing production:
 - Towards more extreme tolerant perennials - heat and drought tolerant, food tolerant, unpredictable weather tolerant

- Towards more salt-tolerant species (High salt content in water will become much more common and problematic due to climate change)
- More diversity of crops and incomes
- Healthy living soil is vital for getting the best results from unpredictable weather and extreme events. Organic and regenerative soil building practices include:
 - Creating conditions for and building populations of soil micro-organisms and biota
 - Mulching
 - Compost and liquid compost production and use
 - Worm farms
 - Biochar
 - Green-manure and cover crops
 - Using perennial legumes
 - Animal/crop rotation systems
- Windbreaks and wind buffers
- Allowing and adapting more land to become naturally managed
- Identifying land to be rehabilitated; planning and implementing rehabilitation work of identified land, such as:
 - Creek, river edges and water catchment zones
 - Strategic govt/private land that used to be forested but is now cleared such as highland moors
 - Eroded land, poorly managed natural ecosystems etc
- Changing burning practices for land management towards zero burning.
- Changing burning practices for natural eco-systems towards cooler lower impact burns, mosaic burning and indigenous based systems

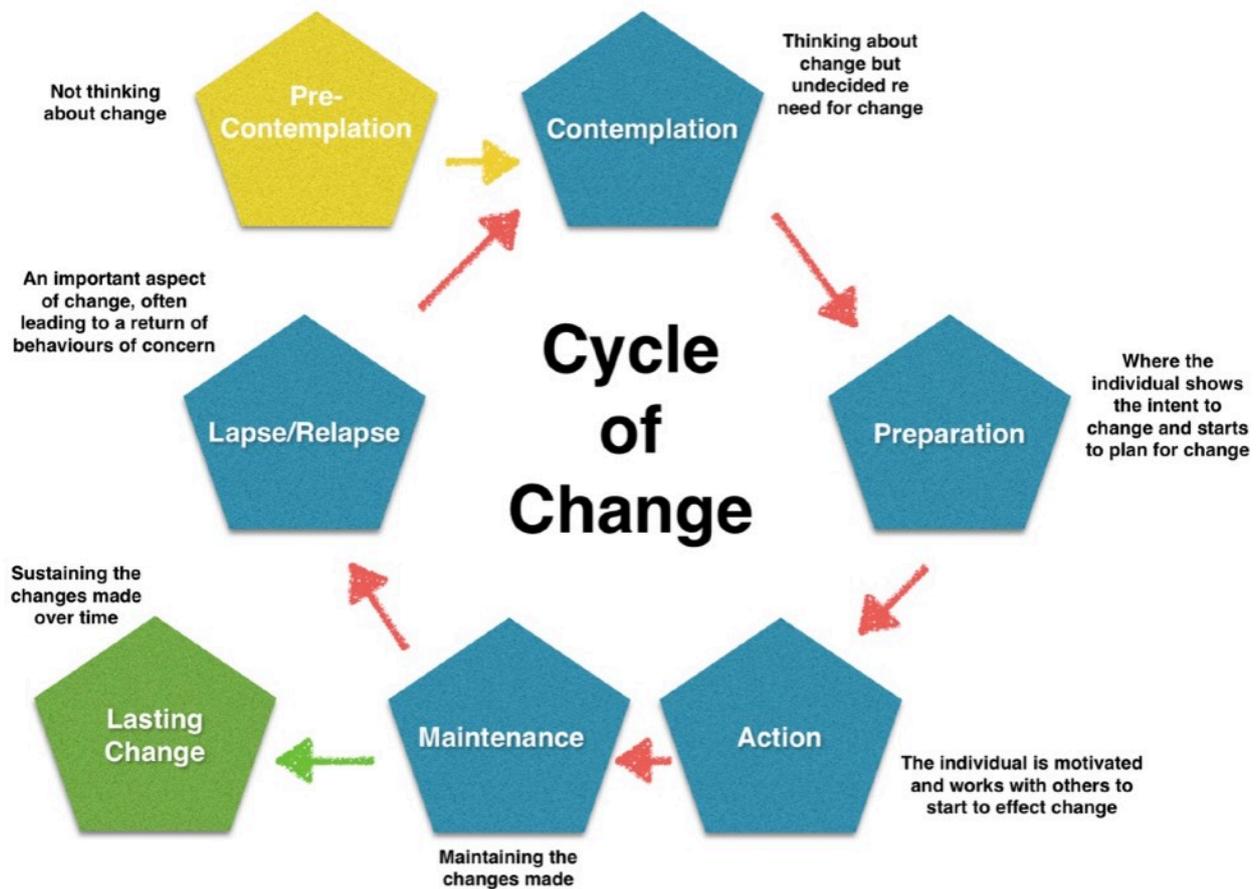
Human settlements

- Urban greening based on 'design for climate change' with long-life species (i.e. trees, shrubs) capable of surviving long-term climate change and short-term increased weather extremes
- Addressing and ameliorating Flood risk i.e. Increased green roofs, swales/SUDS (sustainable urban drainage systems) and green (plant) & blue (water) buffer zones;
- Greening of settlements, for temperature modulation and air quality – community gardens, greenwalls, urban forestry, green-streets, etc;
- Biological regeneration of brownfield sites
- Passive strategies to avoid over-heating in buildings, particularly for vulnerable groups (elderly and children) e.g. shading;
- Improved insulation always alongside improved indoor air quality management;
- Integrated transport strategies, alongside localisation of services to reduce the need to travel;
- Increased storm resilience of buildings e.g. roof specifications;
- Increased urban food production
- Lower impact construction materials and methods: particularly reducing concrete and cement ratios
- Smart houses / buildings that are user-friendly i.e. effective controls / low carbon building management systems (BMS), that are clear and easy to use

Behaviour adaptation

Without behaviour change, nothing will stick.

Many solutions in a climate positive plan will be physical one-off actions, ie from the point of that action being taken it creates the permanent desired effect. However in general most actions require at least a small degree of behaviour adaptation, right through to actions requiring a complete lifestyle changes such as consumer habits, diet and transport.



Key points for leading discussions and creating plans for individuals

- Blockages to behaviour adaptation need to be recognised and worked through. Mostly this is for people taking the first steps. Often this can be tied to deep feelings of guilt and responsibility for being part of creating climate change, especially for older people, and can come out in the form of denial. It can be a very emotional process for some people.
- Behaviour adaptation comes from understanding and accepting, not just knowing.
- Behaviour adaptation can take a while: often seeds are planted but they take time to germinate, and it is the same with people. If changed is forced and the person isn't ready, it will often be resisted or quickly neglected.
- Behaviour adaptation has to be practiced until it becomes habit. People often need small rituals or triggers (even a simple thing like a list or schedule reminder can help) Rewards can be good too. Usually it takes a month or two for habits to form properly.
- It's important to focus on the personal positive effects of changing patterns and behaviour, as well as the positives for the climate. Eg better health, more community and social engagement, more skills for self-reliance, more self-worth and enjoyment from consumption of home or community production, more meaningful connection with nature, etc.
- No-one is perfect, everyone will fall back sometimes or not do everything perfectly. This is ok and shouldn't be shamed or self-punished. It's a grey world not black and white, different people will change at different speeds and most people will have some things they find harder to change. It important to find some easy, enjoyable steps first and build from there.
- Social groups, learning networks, clubs etc are hugely important for shared information, mutual / collaborative learning and social support / resilience and going through more challenging changes together.
- Open-source and easy-to-access information helps individuals and communities to stay on their climate action path.

I used to think the top environmental problems were biodiversity loss, ecosystem collapse, and climate change. I thought that with 30 years of good science, we could address those problems. But I was wrong. The top environmental problems are selfishness, greed and apathy and to deal with those we need a cultural and spiritual transformation. And we scientists don't know how to do that.
- Gus Speth -

Key points for leading discussions and creating plans for communities

- Transition Towns books and information is an important resource for this topic.
- Awareness of critical mass and tipping points in driving societal change is vital for achieving positive climate action on a large scale.
 - 'In social dynamics, critical mass is a sufficient number of adopters of an innovation in a social system so that the rate of adoption becomes self-sustaining and creates further growth. The term is borrowed from nuclear physics and in that field it refers to the amount of a substance needed to sustain a chain reaction.' [Wikipedia 2018](#)
 - 'In sociology, a tipping point is a point in time when a group—or a large number of group members—rapidly and dramatically changes its behaviour by widely adopting a previously rare practice.' [Wikipedia 2018](#)
- Community change on climate action requires buy-in across the board, including people who are not otherwise engaged in environmental and sustainable activities or lifestyles. Engaging with traditional community hubs is an important entry point, including religious, sporting and recreational centres, community groups, libraries, pubs, village greens/halls, schools, universities, adult education, social groups, community gardens and allotment groups and so on.
- Actions that impact highly frequented locations will have greater flow on effects for public awareness and acceptance. E.g. Transport, entertainment and consumer hubs
- Businesses can be and often are leaders for climate action. To achieve this communities can lobby from the outside. More importantly, individuals need to include their work's habitat and practices as part of their own climate action pathway. Then businesses will be enabled to change from the inside out.
- The same as with individual behaviour change social groups, learning networks, clubs etc are hugely important for community level change. They:
 - Are an entry point for other community members to join
 - Provide greater voice for communities when lobbying and working with councils, governments, businesses etc
 - Allow for actions to happen that couldn't on an individual level such as community owned renewable energy supply, local currencies, markets to support local business, cooperative enterprises etc
- Leadership training should be a component of community action, supporting behaviour change and working with individuals and groups to implement and even accelerate their plans.