INTRODUCTION

"Looking outward to the blackness of space, sprinkled with a glory of lights, I saw majesty but no welcome. Below was a welcoming planet. There contained in the thin, loving, incredibly fragile shell of the biosphere is everything that is dear to you, all human drama and comedy. That's where life is: that's where all the good stuff is."

This description of Earth, viewed from space by US astronaut Loren Acton, reminds us of the beauty, but also the fragility of our home planet. As far as we know, it is the only planet which can support life, but we do tend to take it for granted and regard the natural world around us as simply a back drop to human activity. Perhaps we need to cultivate an attitude of thankfulness for God's gift of the natural world, including the atmospheric mantle that surrounds the Earth. It is said that gratitude is a form of prayer, living in a state of conscious relationship with God and with all living things.

Experience

Go round the group, eliciting feedback on study and action since the last meeting.

• In what ways have you tried to reconnect with the natural world this week?

Look at the following list:

DOMINATE NATURE
EXPLOIT NATURE
MANAGE NATURE
BE STEWARDS OF NATURE
LET IT BE
BEFRIEND NATURE
BE IN UNITY WITH NATURE
REVERENCE FOR NATURE
(You might like to write them up on a large sheet of paper beforehand)

- What do you think is the right attitude towards nature for us as human beings?
- How far does your faith influence the way you view your relationship with the natural world?
- When has care for creation featured in liturgy at your church?

Feedback on Reading Sheet 5. Discuss the following quote from Australian Aborigine Tom Dystra:

"We cultivated our land, but in a way different from the white man. We endeavoured to live with the land; they seemed to live off it. I was taught to preserve, never to destroy."



Young people from St Laurence's school in Cambridge plant a fruit tree in the school grounds.

Analysis

Look at Appendix 6: Ramil's story How often do you reflect upon where natural resources that you use come from and at what cost?

Look at Appendix 7: Undermining God's creation

How far would you say the provisions God set in place for a healthy environment are being challenged because of:

- Human alienation from creation, and a lack of wonder about the natural world?
- Disconnection between our actions and environmental consequences?

Feedback on Reading Sheet 6.

Look at Appendix 8: Ethical principles for the environment

• Discuss the question at the end of it.

In the 1960s, the British scientist James Lovelock formulated the Gaia hypothesis, suggesting that the living and non-living parts of the earth form a complex interacting system that can be thought of as a single organism. According to the hypothesis, the biosphere has a regulatory effect on the Earth's environment and acts to sustain life.

Discuss.

Look at Appendix 9: Christian action on climate change

How far could you see yourself participating in or helping to organise actions such as these?

Theological Reflection

Look at Reflection and Action Sheet 3.

 Spend 30 minutes reading and reflecting, using the questions given as a guide.

Action

Three members of the group undertake to read and list the main points in reading Sheets 8, 9 and 10 in preparation for the next meeting.

Look at the ideas and resources listed on Reflection and Action Sheet 3.



Large-scale extractive industries are very destructive of the natural environment.

Appendix 6: Ramil's story



At the Columban Fathers' house in London is - left to right - Ramil Baldo, Fr Edwin Gariguez and Fr Frank Nally, a Columban missionary priest who worked in the Philippines.

"I have come to Britain to express the opposition of my people to mining on our land". In 2006, Ramil Baldo, a Mangyan indigenous leader from the small island of Mindoro in the Philippines, travelled to Britain to lobby a UK-based company not to mine for Nickel on Mindoro. His farm is in the middle of the projected mining area. Ramil was accompanied by Fr Edwin Gariguez, a priest who acted as translator and is active himself in the local alliance against what is known as the Mindoro Nickel Project.

The Columban Missionary Society, whose priests work in the Philippines, supports the campaign of the Catholic Bishops' Conference of the Philippines against largescale destructive mining. In March 2008 the Philippine bishops reminded their government that the country's Constitution calls for a nurturing of environmental and human rights in tribal communities. Acid leaching, which is often used to extract the Nickel, contaminates the fresh water

supplies and rivers in the vicinity of Nickel mines. Such mines produce tailings or wastes that are toxic to marine life in the seas. The bishops want the environment protected, particularly in the light of the climate change threat to the Philippines.

Who wants Nickel?

Nickel is important in the entertainment industry. Every CD and DVD is manufactured using a mould, which is electroformed from pure Nickel. Global textile production relies heavily on rotary screen printing

technology, using Nickel and the electroforming process. The airline industry too is very dependent on Nickel alloys as aircraft become larger and engineers strive to reduce airframe and air engine weight.

Source: Columban Faith and Justice (www.columbans.co.uk)

"Indigenous peoples all over the world continue to live a respectful way of relating with the environment. The sacred nature of the whole creation is also reflected in different indigenous world-views. While looking at the impact of global warming and climate change, the indigenous peoples' witness provides inspiration and encouragement."

World Council of Churches Statement on Climate Change, February 2008

Appendix 7: Responses from the South

Seven mechanisms that God provided with creation	Seven ways that creation is being degraded by human activity
Regulation of the earth's energy exchange with the sun – maintains stable climate	Alterations of earth's energy exchange with the sun – greenhouse gases keep in too much heat, resulting in global warming
Biogeochemical cycles and soil-building	Soil erosion and loss of fertility
Ecosystem energy transfer and materials recycling	Deforestation
Water purification systems of the biosphere	Water-quality pollution
Biological and ecological fruitfulness	Species extinction
Global circulations of water and air	Waste generation and global toxification
Human ability to learn from creation and live in accord with its laws	Human and cultural degradation

(Taken from Responding to David Attenborough's 'The State of the Planet', available on the John Ray Initiative website. See http://www.jri.org.uk/brief/stateofplanet.htm)

"I think it would be a grave injustice to speak of the human species as in some sense evil, even though we are destroying the environment so efficiently at the present time. Basically that was not our intention, and it never was. It was very natural and it was necessary for the ancestral human being to throw everything they had against the wilderness in an attempt to conquer it and then utilise it. The nature of humankind is to expand its population, to gain security, to control, to alter. For millions of years that paid off without undue damage. But then what happened was, as we developed a modern industrial capacity, and then the technoscientific capacity to eliminate entire habitats quickly and efficiently, we succeeded too well and at long last we broke nature. And now, almost too late, we are waking up to the fact that we have overdone it and that we are destroying the very foundation of the environment on which humanity was built."

Ed Wilson, Harvard University, United States.

Appendix 8: Ethical principles for the environment

The 1990 World Peace Day Message of Pope John Paul II presented an overview of the spiritual and moral dimensions of environmental problems. From it can be drawn a set of principles for making ethical judgments about environmental issues and these can be applied to the issue of global climate change:

- * The natural world has value in itself and should not be valued merely for its usefulness to humanity.
- Humans are part of the created world and inextricably part of a material existence. Earth belongs to God and is only on loan to humans who are called to care for it.
- * There are limits to world resources and the environmental services that Earth can meet. Global resources are to be managed cooperatively at the local and international levels.
- * Excessive demands are imposed on the Earth by nations with a consumerist economy and lifestyle. Restraint, penance and self-imposed limitations are part of authentic human living and are in the tradition of choosing sacrifice for the greater good.
- * The fascinating beauty and intricacy deep in the natural world have great value for healing the human spirit and body. The right to a safe ecological environment is a universal human right.
- * Models of development, social structure and styles of technology must integrate environmental factors if there is to be authentic development.
- * Warfare has multiple negative environmental impacts and eats up much of the world's financial resources.
- Political leaders at every level have a duty to administer for the good of all. This includes administering prudently a nation's environmental resources. Issues of global significance demand solidarity and cooperation at a formal level of international agreements in order to implement change, especially by sharing technology.
- * The richer nations have an obligation to dismantle structural forms of global poverty and to help poorer nations experiencing social or environmental problems.
- Future generations should not be robbed or left with extra burdens for they have a claim to a just administration of the world's resources by this generation.

Question:

• How do you think we could show that we take these principles seriously?

Appendix 9: Christian action on climate change



Mark Boulton/ConservationImages

The National Board of Catholic Women of England and Wales and the National Justice and Peace Network have made a commitment to raising awareness of climate change through their events and publications.

CAFOD's climate change campaign has urged MPs to strengthen the Climate Change Bill going through Parliament in 2008.

Christian Ecology Link – which celebrated its 25th anniversary in 2007 updates a diary of events on its website, including climate change initiatives. (www.christian-ecology.org.uk)

Christian Aid organised a four month 'Cut the Carbon' march in 2007, taking in Northern Ireland, Scotland, England and Wales, to raise awareness of climate change.

There was Christian involvement in London's Climate service and rally on 8th December 2007, to coincide with climate talks in Bali, Indonesia.



St Oliver Plunkett parish in Belfast has installed solar panels on its roof. Here at the opening in October 2005 is (left to right) Parish Priest Fr Martin Magill, Jenny Boyd from Northern Ireland Electricity and eco-theologian priest Fr Sean McDonagh.

Reflection and Action Sheet 3

Reflection

He is the image of the unseen God, And the first-born of all creation; for in him were created all things in heaven and on earth,

Everything visible and everything invisible, Thrones, Dominations, Sovereignties, Powers - all things were created through him and for him.

Before anything was created, he existed, and he holds all things in unity.

Now the Church is his body, he is its head. As he is the beginning, he was the first to be born from the dead,

So that he should be first in every way; Because God wanted all perfection To be found in him

And all things to be reconciled through him and for him,

Everything in heaven and everything on earth,

When he made peace by his death on the cross.

Colossians 1:15-20

Questions:

- What does this passage tell us about the relationship of Jesus with all of Creation?
- In the Mass we hear the words, "Blessed are you, Lord God of all Creation" What do you feel they mean?

Some theologians refer to Jesus as the 'Cosmic Christ'. The Catechism of the Catholic Church, para 668 says:

"Christ is Lord of the cosmos and of history. In him human history and indeed all creation are 'set forth' and 'transcendently fulfilled."

What do you understand this to mean?

Feedback on Reading Sheet 7.

St. Francis was just one of many Catholic saints who have seen the natural world as a revelation of God's beauty and diversity.

How comfortable are you with the concept of the Earth, including its atmosphere, being sacred?

The soul is a breath of living spirit, that with excellent sensitivity permeates the entire body to give it life. Just so, the breath of the air makes the earth fruitful. Thus the air is the soul of the earth, moistening it, greening it.

Hildegarde of Bingen, 12th century



Action

Measure your carbon footprint on the web at: http://actonco2.direct.gov.uk/index.html and/or www.safeclimate.net/calculator.
Leaflet at www.quakergreenaction.org.uk.

Lifestyle Tips:

Climate change is contributing to water stress around the world. You could save and cherish water by fixing water butts to down pipes, fixing dripping taps, re-using water and taking a shower instead of a bath. Drink tap water, not bottled and save money as well as helping the planet. The bottled water industry uses around 2.7 million tonnes of plastic in packaging, not to mention the transport cost in fossil fuel.

Call the Energy Efficiency Helpline on 0845 727 7200 for free, impartial advice on how to make your home more energy efficient. Or look at the following websites:

- The Carbon Trust www.thecarbontrust.co.uk
- National Energy Foundation www.nef.org.uk
- Energy Savings Trust www.est.org.uk
- Clear Skies grants www.clear-skies.org

Sign up to green energy. Two suppliers which Operation Noah has recommended are **Good Energy** on 0845 456 1640 and **Green Energy** on 0845 456 9550.

Downloads:

The Christian Challenge of Caring for the Earth by Sir John Houghton on http://www.jri.org.uk/brief/christianchallenge.htm

Look at www.newint.org for back issues of the New Internationalist:

Edible Earth - In Search of Permaculture Co2onned - carbon offsets stripped bare The Big Switch - climate change solutions

Books on Global Warming/ Climate Change:

A Moral Climate: the ethics of global warming by Michael S. Northcott. Darton, Longman and Todd, ISBN 9780232526684 (2007)

Climate Change: The Challenge to all of us by Sean McDonagh. Columba Press,

ISBN: 9781856075626 (2006)

The Death of Life: The Horror of Extinction by Sean McDonagh.
Columba Press,
ISBN 1856074641 (2004)

High Tide - News from a Warming World Six Degrees: Our Future on a Hotter Planet by Mark Lynas. Harpercollins, ISBN 9780007139408 (2005)

Boiling Point. How Politicians, Big Oil and Coal, Journalists, and Activists have fueled the Climate Crisis - and What We Can Do to Avert Disaster by Ross Gelbspan. Basic Books, ISBN 9780465027613 (2004)



Reading Sheet 8: Two approaches to global warming by Larry Lohmann

There are two approaches to the global warming crisis. One approach is to reduce fossil fuel use dramatically and quickly. That means focusing first on reducing the "luxury" emissions of those who have already used up more than their fair share of global carbon sinks and stocks, while promoting energy conservation and energy efficiency. Also, promoting worldwide use of solar and other renewable energy sources, and ecological instead of industrial agriculture. The second approach involves speculative programs to modify earth's biosphere and crust to allow them to absorb more CO₂.

The second approach promises to make it "safer" for richer nations and groups to continue rapid, high-level consumption of fossil fuels for as long as possible. The U.S. Department of Energy, for instance, is currently exploring grandiose schemes for intensively "manipulating" terrestrial and ocean ecosystems and the earth's crust so that they can store three to six times more carbon than at present, in order to make possible "continued large-scale use of fossil fuels". This general approach - and the appeal of biofuel tree plantations in particular - is supported by a wide range of technocrats, brokers, consultants, think tanks, multilateral agencies, forestry companies and even a few non-governmental organisations. The two approaches are sometimes seen as complementary ways of checking the accumulation of CO₂ in the atmosphere. Yet they could not be more different both in their politics and in their probable effectiveness in abating global warming.

Consider the question of politics first. Assume that on average, a citizen of the U.S. produces 20 times the amount of CO₂ that a citizen of India produces. The U.S. citizen thus puts a far greater burden on the ability of the globe's carbon-cycling mechanisms to keep levels of CO₂ stable. How do the two approaches treat this issue? The first approach treats inequality as a power imbalance and as a root of the

ecological problem. It would move toward equalising per capita emissions worldwide while contracting overall emissions. It notes, moreover, that the "carbon debt" that the North owes the South for its historical overuse of the atmosphere is still unpaid. The second approach, on the other hand, takes unequal impact on the carbon cycle as a given. It assumes that because the rich industrialised countries have historically overused the atmosphere, they have a right to continue doing so. Not only does this approach ignore the history of unequal use of carbon stocks and sinks. It would actually worsen world inequalities in access to resources.

The assumption of the second approach is that any carbon-dioxide emissions are acceptable, no matter how extravagant, as long as they can be compensated for, or "offset", by some activity that absorbs the CO₂. The leading example of such an activity is planting trees, which, through photosynthesis, convert CO₂ into wood carbon. Thus a utility company emitting a million tonnes of carbon dioxide a year can be just as "carbon neutral" as a subsistence farmer emitting one tonne a year as long as the company plants thousands of trees. The same goes for individual consumers. An organisation called Future Forests offers a scheme which allows a British family of "two parents, two children with a car" to be able to claim it is "carbon-neutral" at a cost of a mere US\$420 a year by planting 65 trees a year in Mexico or Britain. In this view, U.S. citizens' use of 20 times more of the atmosphere than their Indian counterparts entitles them to use 20 times more other resources too: 20 times more tree plantation land, 20 times more "carbon workers" to plant and maintain them, and so forth. In fact, it obligates them to do so.

Taken from: **The carbon shop: planting new problems** by Larry Lohmann.
Full article available on:
http://www.thecornerhouse.org.uk/item.shtml?x=5

Reading Sheet 9: Grief and gift by Paul Bodenham

As the landscapes in which we live - natural and cultural - are changing with the climate, so is the 'inscape' of the soul. That at least is my experience in six years of trying to make meaning out of global warming.

In fact, climate change is not primarily a crisis of politics or technology or economics at all. Before it is any of these, it is a crisis of spirituality. It is no coincidence that Christians and non-Christians alike testify that spirituality is gaining a new edge, a greater social intrusiveness, in this time of ecological change. It is God's Spirit who brings matter to life. However, with tens of thousands of people already dying every year from climate change, and a quarter of all species threatened with extinction by 2050, the Giver of Life has more to lose than any of us. The Spirit grieves with us in the scandal of climate change.

For Christians, spirituality is the quality of union between this Holy Spirit and our own spirit. In my experience, those who attempt to live in the Spirit today will at some point inevitably encounter God's grief for creation. Christian life is a sometimes painful exodus from the beguilings of denial into the fullness of truth. It takes a steely nerve to expose oneself to the implications of scientists' projections of climate change. If we are to respond to the truth of the climate predicament, we must first understand our complicity in it. Yet we and our governments too easily refuse to acknowledge the gravity of what we are being told.

However, if we are open to resurrection hope in Christ, we can enter into the deepest despair to which the environmental crisis exposes us. That hope is public property. As we begin to reconcile grief and hope, we find ourselves called to live at odds with society, with values which challenge its norms. Even this I have found can too easily become a narcissistic pursuit of imposing my ego on the world. But if we allow the Spirit to cleanse our motives, we may - just - disarm the powers of death at work in our own lives and in our economy. Then we will bring forth the fruits of the Spirit - love, joy, peace, patience, kindness, goodness, trustfulness, gentleness and self-control (Galatians 5:22). These fruits are the ecological virtues par excellence. In the many choices and petty details of life they can dismantle the toxic materialism which currently rules our lives.

Ultimately, will we succeed?

We just do not know whether the increase in global temperatures will be pulled back from the all-important 2 degrees Celsius beyond which climate change may go out of control; or whether technology will deliver on the hopes vested in it to reduce emissions. We do not know whether the poor will gain equal rights to emit carbon without recourse to war, or the emerging global carbon market will lock them out of prosperity for good. We do know, however, that now-inevitable rises in sea level and temperature will cause widespread suffering, perhaps even our own.

But there is something about the Spirit which enables us to entertain a menacing future with honest detachment. There is a conundrum here. Despite the gravity of our predicament, the Spirit calls us to remain faithful to the moment, where God truly dwells. We will live for the future by learning to live today not only by the fruits of creation, but also by the fruits of the Spirit.

Paul Bodenham is a founding member of Operation Noah.

Reading Sheet 10: Ecojustice at the centre of the Church's mission by Rosemary Radford Reuther

It is all ecosystems, not just wild ones, but the ones in which humans must learn to share their lives with a great variety of animals and plants, that have to be protected. We need an ethic that encompasses the sustaining of ecological community, not simply the members of community in isolation from each other. The natural rights tradition is limited because it sees only the right of the individual in relation to the community, but fails to uphold the community as the matrix in which the life of the individual is sustained. What is needed is a new interconnection of the ethic of the individual and the ethic of the community, and the extension of this ethic beyond the human individual and group to the biosphere in which all living things cohere on the planet.

The basic insight of the Biblical covenantal tradition, that we have to translate right relation into an ethic, which finds guarantees in law, is an essential element in building an ecological world order. The World Charter for Nature, signed by all members of the United Nations (except the United States) in 1982, laid out the basic principles of such an ecological ethic. International treaties on climate change, protection of biodiversity and forests, the oceans and lakes, are being negotiated to set limits to human abuse of the environment. A body of international law is beginning to emerge, although all too slowly and without adequate means of enforcement, that affirms the interdependency of the global human community with the earth community of air, water, animals and plants.

The sacramental tradition of Catholic Christianity complements the covenantal tradition that has been emphasised by Reformed Christianity and its secular heirs. It starts with the community as a living whole, not only the human community, but, first of all, the cosmic community. The

human being, not only mirrors cosmic community as micro to macrocosm, but also intercommunes with the whole cosmic body. God is seen not only as over against and 'making' this cosmic body, but also as immanent within it. The visible universe is the emanational manifestation of God, God's sacramental body. God is incarnate in and as the cosmic body of the universe, although not reduced to it.

Hellenistic Judaism developed this vision of divine Wisdom as the secondary manifestation of God and God's agent in creating the cosmos, sustaining it and bringing all things into harmonious unity with God. Strikingly, Hebrew thought always saw this immanent manifestation of God as female. "Wisdompervades and permeates all things. She rises from the power of God, the pure effluence of the glory of the Almighty...She is the brightness that streams from everlasting light, the flawless mirror of the active power of God and the image of his goodness. She is one but can do all things, herself unchanging, she makes all things new; age after age she enters into holy souls and makes them God's friends and prophets....She spans the world in power from end to end and orders all things benignly" (Wisdom of Solomon:8).

In the New Testament this cosmogonic Wisdom of God is identified with Christ. Jesus as the Christ not only embodies, in crucified form, the future king and redeemer, but also incarnates the cosmogonic principle through which the cosmos is created, sustained, redeemed and reconciled with God. In this cosmological Christology, found in the Preface to the Gospel of John, in the first chapter of Hebrews and in some Pauline letters, Christ is the beginning and end of all things.

New Testament and patristic cosmological Christology was a bold effort to overcome the threatened split between the God of Creation and the God of eschatological

redemption. Irenaeus, the second century anti-gnostic churchman, sought to spell out the cosmological Christology of the New Testament in a comprehensive vision of redemptive history. The visible cosmos is itself both the creation and the manifestation of the Word and Spirit of God. The Word and Spirit are the 'two hands', by which God creates the world, and also the ground and principle of being of the cosmos. Human freedom allows this connection to the divine source of being to be forgotten, and human relation to God and to each other is distorted. But God continually sends manifestations of the Word and Spirit that heal this relationship, culminating in Christ, whose work is now carried to fulfilment in the body of Christ, the Church. For Irenaeus, the Christian sacraments are the paradigmatic embodiments of this process of cosmic healing. The body itself, human and cosmic, is thereby regenerated, renewed and filled with the divine presence which is its ground of being. Irenaeus sees the entire cosmos becoming blessed, and eventually immortalised by being ever more fully united with its divine source of being.

This tradition was repressed by the dualists of mind against matter, Descartes and Newton and early modern European science, but the effort to bring mind and matter, God and creation together in one unified vision lived on and was continually rediscovered in traditions of European philosophy, theology, poetry and art. The Anglican Cambridge Platonists expressed this effort to bridge mind and matter, God and cosmos, in the 17th century; Fichte, Schelling and Hegel in the 18th and 19th. In poetry it was expressed in the English romantics, Coleridge and Wordsworth; in theology in Tillich's view of God as ground of being. Ecological theologians of the late 20th century, such as Thomas Berry, or Matthew Fox's rediscovery of the cosmological Christ, represent the new impetus to rediscover and reinterpret this tradition of sacramental cosmology.

Berry sees human-nature relations deeply threatened by Western technological

exploitation. He calls for a deep metanoia that is necessary to bring about a new ecological consciousness. This metanoia must encompass many levels. These include technological, social and cultural. For Berry, Western people are caught between the older stories of classical civilisations and the confident mechanistic scientism of modernity, both of which are under challenge today, and a new spirituality, rooted in the new universe story that is waiting to be born. We need to create a new socio-economic incarnation of the human species into its earth matrix. Although the technological aspects of this are necessary, the most important shift must be a renewed vision of our relation to the whole of the creation, a renewed way of telling the story of who we are.

Reclaiming the covenantal and sacramental traditions are central to a renewed understanding of Christian redemptive hope as encompassing ecojustice. But this needs to be embodied much more deeply in our preaching, worship and Biblical study. We need to learn to reread these great traditions of covenantal ethics and sacramental spirituality in our Biblical studies and teach it in our preaching.

This vision needs to become a visible part of how we design our churches and worship spaces. It needs to flow out in our stewardship of the land and buildings of our church communities, through a praxis of recycling and conservation of energy. It can be expressed in the transformation of our lands from wasteful overwatered lawns to natural grasses and permaculture gardens to help feed the poor. Only by embodying the vision of ecojustice in its own teaching, worship and praxis can the Church make itself a base for an ecojustice ministry to the larger community in which it stands. Ecojustice becomes central to the Church's mission only when it is understood as central to the church's life. Anything less will lack credibility.

This is an extract from a text available on the Sedos website www.sedos.org, under the year 2000.