

HEALTHY CREATION = HEALTHY CHILDREN

A BIBLE STUDY FOR MOMS



Five lessons with activities and resources
for the passionate and busy mom

CREATION CARE. IT'S A MATTER OF *life.*

Brought to you by Evangelical Environmental Network and Moms Clean Air Force

In the beginning, God created a pristine planet designed for providing abundant physical life and...

The Lord God took the man and put him in the Garden of Eden to work it and take care of it.

Genesis 2:15 (NIV)

We failed as good stewards by failing to listen to God's commands, and we suffer the consequences...

The people of the earth have ruined it, because they do not follow God's teachings or obey God's laws or keep their agreement with God that was to last forever.

Isaiah 24:5 (NCV)

But thanks be to Jesus that through Him there is hope. By following our Risen Lord in faithfulness and love, His Kingdom will one day come on earth as it is in heaven...

He told them another parable: "The kingdom of heaven is like a mustard seed, which a man took and planted in his field. Though it is the smallest of all seeds, yet when it grows, it is the largest of garden plants and becomes a tree, so that the birds come and perch in its branches."

Matthew 13:31-32 (NIV)



DEDICATION

This Bible Study and Guide is dedicated to Philip J Landrigan, M.D.

Dr. Landrigan, a dedicated Christian, is a pediatrician and epidemiologist. He has been a member of the faculty of Mount Sinai School of Medicine in New York City since 1985, and he served as Chair of the Department of Preventive Medicine from 1995 to 2015. He was named Dean for Global Health in 2010. Dr. Landrigan is known for his many decades of work in protecting children against environmental health threats. His research combines the tools of epidemiology with biological markers derived from clinical and laboratory medicine. Dr. Landrigan is deeply committed to translating research into strategies for health protection and disease prevention.

Dr. Landrigan has been instrumental in deepening the Evangelical Environmental Network's understanding of the impacts and threats posed by environmental pollution. He continues to be a beacon of hope for all God's children.

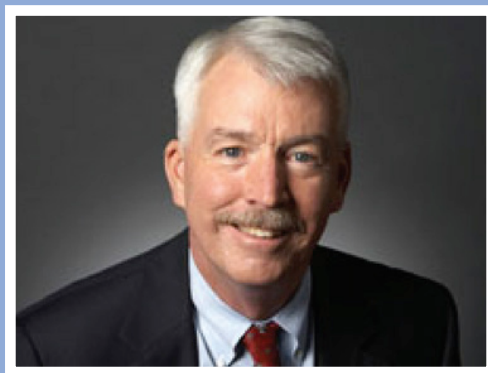




TABLE OF CONTENTS

Introduction	6
<hr/>	
Session 1 Experiencing God – The Wonder of Creation	9
<hr/>	
Session 2 Whose Creation Is It?	16
<hr/>	
Session 3 Healthy Home, Healthy Kids	22
<hr/>	
Session 4 The Air We Breathe	28
<hr/>	
Session 5 Hope Requires Action	34
<hr/>	
Resources	40
<hr/>	
Advocacy Guide	42
<hr/>	
References	50
<hr/>	

Note to participants: Please take time to care for each other before the start of each session by beginning in prayer. One simple prayer that may be used is:

*Dear Jesus,
Help me to receive what you want me to receive during this time together.
Amen!*

Copyright: The Evangelical Environmental Network



Please be considerate if you choose to print, and recycle the pages once finished.

INTRODUCTION

If you're like most moms, you probably thought something like the quote at right when you first heard about this group study. We hope, however, that through this study, you will come to see why creation care should be a priority for every busy mom, dad, grandma, or grandpa.

Each of us has a hectic lifestyle, and there often doesn't seem to be room for anything else. We live our lives as a see-saw, trying to balance work, family, values, and faith.

Most of us only act when our everyday life balance and values are impacted in such a way as to upset that tipping point. We're often only willing to listen, learn, and take action when an issue touches the center of our being—who we are and whom we care about.

When issues like creation care arise, it's very easy for us to dismiss them or ignore them because it just puts one additional stress into our everyday lives.

But what if creation care wasn't simply one more item to add to the basket, but was the basket itself? What if everything and everyone you care about—your family, your friends, your work, your hobbies—depended on a healthy environment to thrive?

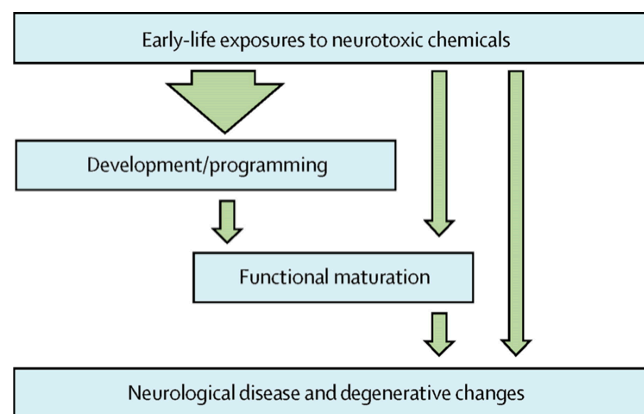
What if creation care was more than simply pro-trees, pro-polar bears, or pro-recycling? What if creation care was pro-family, pro-children, pro-flourishing? What if creation care was pro-life?

Pro-life means caring for all of life.

"This week I have three soccer games, two doctors' appointments, a major project due at my work (outside the home), shopping, meals, laundry, and you want to start a small group study on creation care? You've got to be kidding! What does this have to do with me?"

As [Focus on The Family](#) put it, pro-life is not a political statement; it's a way of life. In a recent National Association of Evangelicals (NAE) statement on end-of-life issues, the [NAE states](#) "we are pro-life from womb to the tomb." That sentiment expresses the conviction of millions of evangelical Christians across the country.

We are concerned about life from conception until natural death. The unborn child is very important to us, and so is each child of God at every stage of life.



Neurobehavioural effects of developmental toxicity
Grandjean, Philippe et al.
The Lancet Neurology , Volume 13 , Issue 3 , 330 - 338



It's an easy guess that one of your children or one of their close friends is afflicted with asthma, severe allergies, ADHD, or autism. According to the Center for Disease Control, one in three children suffer these conditions in the United States. More and more, research is linking these conditions with ever more certainty to our use of petrochemicals and fossil fuels.^{i ii}

These four medical conditions have reached almost epidemic levels in our country. How can we not be concerned with the quality of life of our children?

All of us pray for our kids to have an "abundant life." We have dreams of good health, following the career God is calling them to, and finding the wonderful fruit of life given by the Holy Spirit. That's pro-life being more than a political statement. Without doubt, pro-life should be about not ending pregnancy, and it should also be about assuring abundant life for all. We must have a whole or entire-life theology that cares for the unborn and born child alike.

As pro-life evangelicals, we want children to be born healthy, unhindered by the ravages of pollution even before they take their first breath.

The medical community has long known the environmental impacts on our unborn children. The medical community once thought that a mother gives her developing child protection from chemicals and other pollutants. This is not the case. One of the body's protective shields against brain damage, called "the blood-brain barrier," is not fully developed until after the first three years of life.

Thus, in the unborn child, toxins can cross this incomplete barrier and accumulate in the brain, causing developmental disabilities and brain damage, resulting in lowered intelligence and learning problems. One study found that "the resulting loss of intelligence causes diminished economic productivity that persists over the entire lifetime of these children."^{iv}

In economic terms, the poisoning of our unborn children's brains costs between 60 and 106 billion dollars in the United States alone per year.^v

As just one example, recent studies have shown that smog; volatile organic compounds (VOC's) like hydrocarbons, benzene, and formaldehyde; and air toxins have a disproportionate impact upon life in the womb. A medical paper by Stacy et. al. at the University of Pittsburgh found evidence of low birthweight babies associated with proximity to unconventional natural gas wells in Butler County, PA.^{vi} In another peer-reviewed study, Dr. Lisa McKenzie of the Colorado School of Public Health found that birth defects are linked to methane production.^{vii}

Harvard professor Philippe Grandjean put it succinctly: "We only get one chance to develop a brain. The damage that occurs to the brain of an unborn or newly born child will likely remain for the rest of his or her life."^{viii}

However, this study is not about doom and gloom. It's about hope. It's about action. It's about following Jesus to care for His creation and His children.

All of us care for our kids, and caring for our kids means caring for the creation in which they live, move, and have their being.

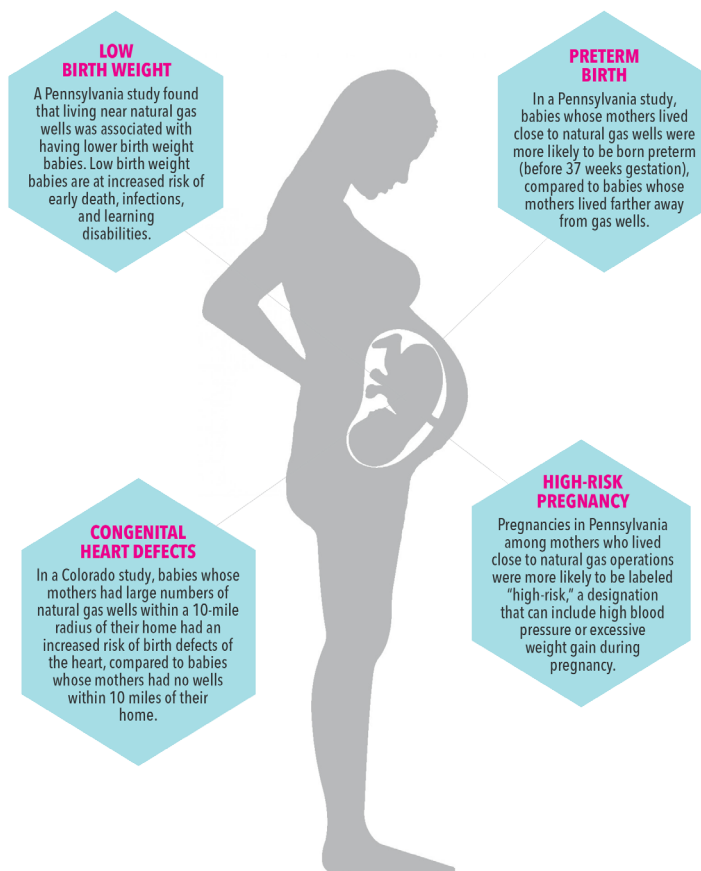
We hope you will experience God in a fresh way as you and your friends gather to understand creation care as a matter of life and an integral expression of our practice of following Jesus into ever more abundant life.

HOW OIL AND GAS OPERATIONS IMPACT YOUR BABY'S HEALTH

Air pollutants associated with oil and gas operations are known to cause serious health impacts in pregnant women, babies, and children – as well as other adults.

DID YOU KNOW?

- Children's lungs continue to develop after birth.
- Children breathe faster and spend more time outside than adults.
- Other organs like their brains and reproductive systems are also still developing after birth.
- That makes children particularly vulnerable to air pollution.
- Pregnant women also need clean air.
- If the air you breathe is polluted, that can lead to health problems for your baby.
- Companies are not required to monitor or disclose dangerous air pollution, and government air monitors may not be sited close to natural gas activity.
- As a result, it's hard to find out whether you are breathing these pollutants in your community.



SESSION 1: EXPERIENCING GOD - THE WONDER OF CREATION

For since the creation of the world God's invisible qualities—his eternal power and divine nature—have been clearly seen, being understood from what has been made, so that people are without excuse.

Romans 1:20 (NIV)

Theme: Experiencing the majesty of God in creation

TEACHING

The Rev. Mitch Hescox, EEN's President

God blessed them and said to them, "Be fruitful and increase in number; fill the earth and subdue it. Rule over the fish of the sea and the birds of the air and over every living creature that moves on the ground." Then God said, "I give you every seed-bearing plant on the face of the whole earth and every tree that has fruit with seed in it. They will be yours for food. And to all the beasts of the earth and all the birds of the air and all the creatures that move on the ground—everything that has the breath of life in it—I give every green plant for food." And it was so. God saw all that he had made, and it was very good. And there was evening, and there was morning—the sixth day.

Genesis 1:28-30 (NIV)

God's creation, as originally intended, was indeed very good. In the Genesis narrative, the Hebrew word for "good" (tov) is used seven times to describe God's work of creating. As seven was understood as the number of wholeness and completion in the Hebrew mind, the author of Genesis is signaling to the reader that God's work at the beginning of creation was maximally good—it was as good as it could possibly be!

And one look at Genesis clearly reveals this good design cast by the ruach (Hebrew for "wind" or "spirit") hovering above the primeval earth: sustainable life for all creation in relationship with the Creator.

The spoken word of God provided holistic life for each member of creation. Order existed where there was once chaos. Life thrived, and all was good. God provided, as an outpouring of His Triune love, everything that was necessary for abundant life simply for the pure joy of it.



The patristic (early) Church leaders understood well this divine orientation toward a good creation:

Yet it was not because of its utility to him that he produced anything that exists, since being self-sufficient he is in need of nothing. It was rather out of his loving kindness and goodness, that he created everything; accordingly he created things in sequence and provided us with a clear instruction about created things through the tongue of the blessed author, so that we might learn about them precisely and not fall into the error of those led by purely human reasoning.^{ix}

In other words, God created the perfect place. Sometimes one catches brief glimpses of Eden in the world today. Perhaps in a beautiful sunset, a mountain stream, or a baby's cry. I did.

Over forty years ago in the Sonoran Desert, I gave my life back to Jesus. I was 18 and far from God. In what I call my Jonah experience, I had run away from God, my family, and my Pennsylvania home to attend the University of Arizona—as far away from God and from my old life as possible. God, however, had different plans. In November 1975, during my first Thanksgiving in Arizona and in the middle of the Sonoran Desert, Jesus found me.

The sun was setting on the horizon and appeared as a great red ball directly framing a giant saguaro cactus with a central trunk and two symmetrical branches.

In my heart, the red sun became The Son and the saguaro became the Cross; I fell on my knees and once again gave my life to Jesus. In that moment, the Bible became alive and real for the first time, and the words of Romans 1:20 (NIV) came flooding back to me:

For since the creation of the world God's invisible qualities—his eternal power and divine nature—have been clearly seen, being understood from what has been made, so that people are without excuse.

When I travel across our beautiful country speaking at Christian conferences or in local churches I ask, “How many of you have had a ‘mountain-top’ God moment?” A moment, in other words, like mine—where God’s presence in creation is impossible to resist. Consistently, over 90% raise their hands. Have you?

Many American evangelicals have experienced God in nature in this way, and it is sometime even a central component of their conversion experience. Whether at Christian camp or on a hike in the wild, they have had a “mountaintop” encounter.

The Evangelical Sisterhood of Mary in Phoenix, AZ were so moved by the majesty of the Grand Canyon that they placed three bronze plaques along the Canyon’s South Rim in the late 1960s.

Although the tablets were the subject of some controversy a decade ago, I challenge anyone to witness the Great Canyon and not resonate with the words of John Muir about the similar grandeur of Yosemite:

The glory of the Lord is upon all his works; it is written plainly this place of surpassing glory the Lord has written in capitals.

Some of my most cherished memories are the times sitting around a campfire after a church camp commitment service and repeatedly singing “Pass It On.”

*I wish for you my friend
This happiness that I've found
You can depend on Him
It matters not where you're bound
I'll shout it from the mountain top
I want the world to know
The Lord of Love
Has come to me
I want to pass it on*

In these simple lyrics by Kurt Kaiser, several generations have come to faith—and perhaps you have as well.

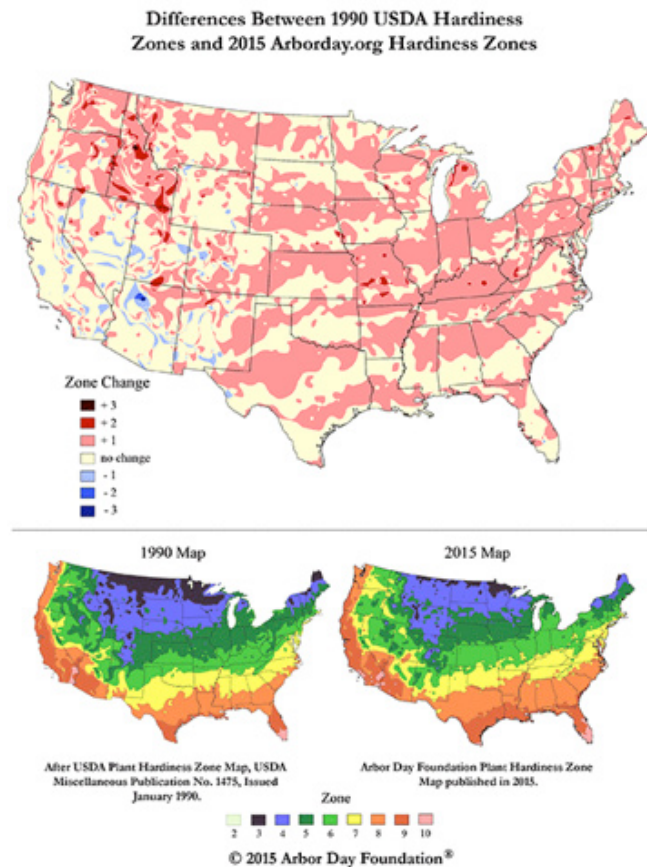
REFLECTION

Spend the next several minutes either in your journal or in your group sharing your most memorable experiences where you encountered God in creation.

After sharing your experiences, re-read both the Genesis and Romans Scriptures and discuss:

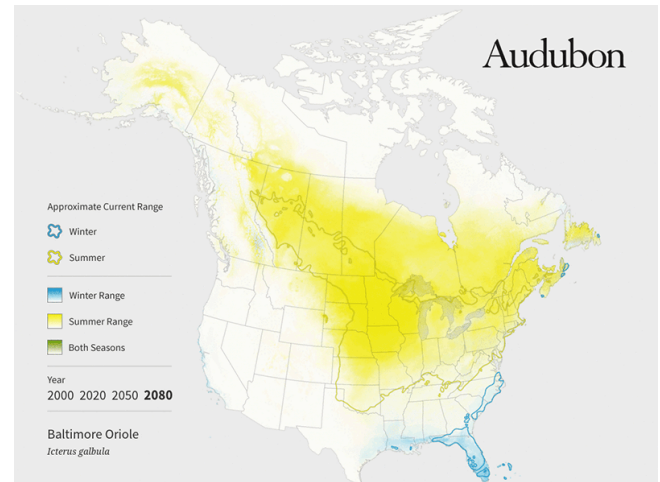
- *God created the earth as very good – what does that say about God? How does it relate to the abundant life in Jesus promised in John 10:10 (NRSV): “The thief comes only to steal and kill and destroy. I came that they may have life, and have it abundantly”?*
- *Is the creation still very good? What changes have you personally witnessed that influence your thoughts?*

“We just don’t have the winters we used to have.” That’s what my ninety-year-old dad said recently at his kitchen table. “Snow used to stay around all winter, and we had a lot more of it. I think it’s time to do something about this climate change stuff before it’s too late.” My former coal miner father gets it, just by taking the time to look and experience the wonder of God’s creation. And trust me, if my dad can see it, you can see the changes as well.



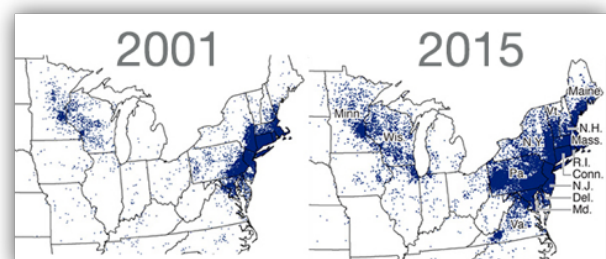
God’s creation is changing. Of course, it has changed before, but not like this. For one, the rate of change that we are currently observing is unprecedented in history. Just look at the plant hardiness zone changes in the last 25 years alone from [The Arbor Day Foundation \(above\)](#). These zones are what inform good gardeners like my wife what to plant and when to do it. Today, where I live in South Central Pennsylvania has the same growing zone as Richmond, VA did 25 years ago; Sioux Falls, SD in 2017 has the same climate that Omaha, NE had in 1992.

One of the most iconic examples is the Holland, MI Tulip Festival. They recently moved the festival to an [earlier May date](#) as the tulip peak was arriving ahead of the traditional start dates for the decades-old celebration.



Plants aren’t the only thing on the move. Migratory birds are changing their patterns as well. An animation of the image above [can be found online](#). Watch the animation and notice the differences in the range of the Baltimore orioles as just one example. According to [The National Audubon Society](#), 341 bird species are threatened by our changing world, and over half of United States’ birds are endangered.

The most concerning movement in the animal kingdom is a tiny little insect most commonly called the deer tick. Chances are you work hard to keep your kids well clear of these tiny creatures, as they are carriers of one of the most frightening diseases on our continent, which is quickly becoming an epidemic: Lyme disease. According to the Centers for Disease Control and Prevention (CDC), Lyme has spread 320% in the past 14 years (map below).^x



As spring and autumn get warmer and winters become milder, both the ticks themselves and one of their favorite transports, the white-footed mouse, are thriving. Between 2000 and 2015, confirmed cases of Lyme disease have more than doubled, soaring from 17,730 to 38,069. However, the CDC believes the true number of infections is much higher, estimating over [300,000 cases each year](#).

Lyme disease is highly treatable if diagnosed quickly. ([For more on Lyme disease please follow this link.](#)) However, many cases are not caught in time, leading to years of suffering and even more years of costly treatments. Several of my friends have children who have contracted the disease. I have seen their suffering up-close—a suffering that, in some cases, has continued for over a decade now.

REFLECTION

After reading the three change cases please discuss:

- *Have you witnessed these (shifting growing seasons, changing migratory patterns, increased risk of Lyme disease) or any similar examples?*
- *Do these specific realities cause you concern? Why or why not?*
- *What might you and your family be able to do in response to these concerns?*

ACTION

Get outside for some time to enjoy creation. As you begin your journey, please find a quiet place and read/sing one of the following selections (pages 14-15).

After reading/singing one of the selections, take a meditative walk. Your walk might be through a park, a forest, or in the middle of a city. As you walk, purposely look to experience God in the midst of His Creation, and note some of the ways in which humanity has spoiled God's gift for an abundant life.

Journal your thoughts, and share them with your group during your next gathering or via email.

Psalm 8 (NIV)

Lord, our Lord,
how majestic is your name in all the earth!
You have set your glory
in the heavens.
Through the praise of children and infants
you have established a stronghold against your
enemies, to silence the foe and the avenger.
When I consider your heavens,
the work of your fingers,
the moon and the stars, which you have set in
place,
what is mankind that you are mindful of them,
human beings that you care for them?
You have made them a little lower than the
angels and crowned them with glory and honor.
You made them rulers over the works of your
hands; you put everything under their feet:
all flocks and herds,
and the animals of the wild,
the birds in the sky,
and the fish in the sea,
all that swim the paths of the seas.
Lord, our Lord,
how majestic is your name in all the earth!

How Great Thou Great^{xi}

O Lord my God, When I in awesome wonder,
Consider all the worlds Thy Hands have made;
I see the stars, I hear the rolling thunder,
Thy power throughout the universe displayed.

Refrain:
Then sings my soul, My Savior God, to Thee,
How great Thou art, How great Thou art.
Then sings my soul, My Savior God, to Thee,
How great Thou art, How great Thou art!

When through the woods, and forest glades I
wander,
And hear the birds sing sweetly in the trees.
When I look down, from lofty mountain grandeur
And see the brook, and feel the gentle breeze.

Refrain:
Then sings my soul, My Savior God, to Thee,
How great Thou art, How great Thou art.
Then sings my soul, My Savior God, to Thee,
How great Thou art, How great Thou art!

This Is My Father's World^{xii}

*This is my Father's world,
and to my listening ears
all nature sings, and round me rings
the music of the spheres.
This is my Father's world:
I rest me in the thought
of rocks and trees, of skies and seas;
his hand the wonders wrought.*

*This is my Father's world,
the birds their carols raise,
the morning light, the lily white,
declare their maker's praise.
This is my Father's world:
he shines in all that's fair;
in the rustling grass I hear him pass;
he speaks to me everywhere.*



SESSION 2: WHOSE CREATION IS IT?

In the beginning was the Word, and the Word was with God, and the Word was God. He was in the beginning with God. All things came into being through him, and without him not one thing came into being. What has come into being in him was life, and the life was the light of all people. The light shines in the darkness, and the darkness did not overcome it.

John 1:1-5 (NRSV)

Theme: Our identity as stewards of creation shapes our relationship with God

(Note: This session will use two online videos. Please have a computer or an online-accessible television available to stream, or download the videos ahead of time.)

TEACHING

REFLECTION

1. Read – or if in a small group, ask someone to read – the John 1 passage above, and share with each other, in just a few minutes, how the Scripture refers to creation care.
2. Watch this YouTube video by Jesse Bayles – “Stewardship Of God’s Creation” – set to the music of Chris Tomlin’s “Indescribable.”

<https://www.youtube.com/watch?v=Pn5tLCOmc08>

3. Read the Billy Graham quote below:

In fact, of all people, Christians should be the most concerned for the environment.

Why is this? The reason is because Christians know God created the world, and we are only its stewards or trustees. The very first verse of the Bible says, “In the beginning, God created the heavens and the earth” (Genesis 1:1). When we see the world as a gift from God, we will do our best to take care of it and use it wisely, instead of poisoning or destroying it.

We don’t worship the earth; instead, we realize that God gave it to us, and we are accountable to Him for how we use it. After creating Adam, the first man, the Bible says, “The Lord God took the man and put him in the Garden of Eden to work it and take care of it” (Genesis 2:15). God didn’t tell him to exploit the world or treat it recklessly, but to watch over it and use it wisely. Like a good ruler, we should seek the welfare of everything God entrusts to us—including the creation. The Bible says, “A righteous man cares for the needs of his animal” (Proverbs 12:10).^{xiii}

4. Take a few minutes to share your thoughts on creation care by journaling or discussing with your group. Has your understanding of earth stewardship been changed, strengthened, or altered since becoming part of this study?

With the Bible and revered pastors both sharing the imperative for creation care, why do so many in our evangelical community dismiss the call to be stewards? Perhaps we're too wrapped in our busy lives and our own self-interests and fail to understand that caring for creation is both an act of discipleship in following Jesus and foundational to having a firm relationship with God.

To understand the connection between caring for creation and our relationship with God, consider the following thought experiment:

Suppose you ask to borrow a friend's smart phone. You then ask them what they would think if you decided to throw the phone on the ground and stomped on it. Do they think you would remain friends? Simultaneously, with a bit of sleight of hand, you pull out an old cell phone from your pocket to replace the friend's cell phone, throw it on the ground, and jump on it. Understandably, your friend is outraged. You repeat the question, "Would you be friends with me or with anyone who destroyed something that belonged to you?" Perhaps your friend may attempt to provide a churchy answer like, "if you are sorry or if you buy me a new phone." However, if your friend is honest with you, the relationship has clearly been broken or at least deeply damaged by the destruction. Without some type of reconciliation and forgiveness, the brokenness continues.

So it is with the world that we have been called to steward. Our relationship with God is influenced by how each of us cares for God's creation.

Christianity, above all else, is a faith built on relationship. The relationship of other-centered, sacrificial love existing within the Trinity (Father, Son, & Holy Spirit) is the ideal model. It's the relationship held out to us by the God who walked among His creation in the garden; the God who heard, saw, and felt the cruelties heaped upon the Israelites in ancient Egypt and came down to do something about it; the God

who, in Jesus, became human to walk with us and then bore the consequences of our sin to restore our relationship with God.

The Bible's central message remains God's love for us and God's work to restore relationship that we have broken. It is simply impossible to follow Christ, to be a disciple, and have a complete relationship with God while simultaneously destroying that which God loves, calls "good," and asks us to protect. Restored relationship with God through Christ means participating in the other-centered, self-sacrificial love of the Trinity through the power of the Holy Spirit.

Yet far too many Christians are not living fully into this restored relationship by loving what God loves and caring for what God values.

REFLECTION

What are some ways you live more fully into your restored relationship with God through Christ by caring for His creation?

After some discussion,

[watch this short video](#)

by Eugene Peterson (author of *The Message*) and discuss our calling as stewards in the context of restored relationship.



Being a faithful steward starts at home, and one of the best ways to begin (and to save money at the same time) is to reduce our food waste.

In 2012, 34.5 million tons of food waste were generated and thrown into landfills or incinerators in the United States. When excess food, leftover food, and food scraps are disposed of in a landfill, they decompose and become a significant source of methane—a potent greenhouse gas with 25 times the global warming potential of carbon pollution.

Much of the food that is discarded in landfills is safe, wholesome food that can be used to feed vulnerable populations or composted to create rich, fruitful soil without releasing harmful greenhouse gases into the atmosphere.

Americans spend around \$165 billion a year on food they're not eating. For the average American family, that can be up to \$2,200 per household.

In the United States, wasted food is the largest component of municipal solid waste; that's a lot of food and money being thrown away.

Small changes in food management practices can result in significant reductions in wasted food, thereby strengthening our relationship with our God while also making limited household dollars go much further.

Reducing, donating, and composting excess food is the right thing to do—both to protect the environment and to care for our neighbors.

These actions divert wholesome food from landfills and incinerators, which reduces greenhouse gas emissions from landfills and waste combustion. They also help provide good, wholesome food to food pantries and kitchens and to ministries delivering food directly to the world's most vulnerable populations.

ACTION

[The Greatist website](#) offers a complete list of starters. Here are a few to consider:

1. Plan your meals for the week before you go shopping, then go to the store with a list in hand for each of the meals you've planned for the week. This will reduce food purchases and wasted food.
2. Take a week to record every scrap of wasted food you toss in the trash. Make a note to reduce purchases of those foods in the future.
3. Find out what food local shelters or food banks accept and give them usable food that you were ready to toss out. (Leftovers from church socials are a great bonus to most shelters). According to the U.S. Department of Agriculture, one in seven households in the U.S. is food insecure, meaning access to adequate food is limited by a lack of money and other resources. In 2010, 14.5 percent of households in the United States did not have regular access to enough food for an active, healthy lifestyle. At least 805 million people worldwide go hungry every day.
4. Understand that most food expiration dates refer to quality and not safety, and that many are "sell by" dates for the store's reference and not "eat by" dates for your reference. In other words, don't toss away food before it's time.
5. Love leftovers, and find creative ways to use them for other meals.
6. Start composting. It's a great way to give your garden powerful nutrients, to keep it from taking up space in the landfill, and to prevent harmful methane gas from entering the atmosphere. Even people living in apartments or condos can start a small composting drum. If you don't want to process your own compost, find a local community garden or Community Sponsored Agriculture program to take your food scraps for you. Some municipalities also offer curbside compost pick-up. A simple Google search should tell you if your city offers this service.
7. Don't be afraid to take home a "doggy bag" from your next restaurant date. Bring your own take-home containers to be extra creation-conscious!
8. Use smaller plates for all your meals, and trick your stomach and brain into believing that you have eaten a full plate. Over time, you will find that your appetite will adjust to these smaller portions.

Decide on two actions that you will take in the next month to reduce your food waste and save money. Share these commitments with the group if you are studying together.

TAKE THE EXTRA STEP

Below is an article by Evangelical Environmental Network Board Member, Ann Alexander. The post offers a great way to consider Biblical Stewardship in a situation that most of us have experienced.

Sometime ago a member of Congress made some comments on denying climate change based on a couple of verses from chapter 8 of the Book of Genesis about God's promise to Noah after the flood:

Never again will I curse the ground because of man, even though all inclinations of his heart are evil from childhood. And never again will I destroy all living creatures as I have done. As long as the earth endures, seed time and harvest, cold and heat, summer and winter, day and night, will never cease. (Genesis 8:21b-22 NIV)

According to the Congressman, this promise means we don't ever have to worry about climate change because, "I believe that is the infallible word of God, and that's the way it is going to be for his creation... The earth will end only when God declares it's time to be over. Man will not destroy this earth. This earth will not be destroyed by a flood."

That statement made me think about the little Manhattan apartment I lived in when I was going to law school. When I rented the apartment, as I was then learning in law school, the landlord made certain promises to me. The most important of these is the implied warranty of habitability. This means that the landlord effectively agreed, in renting to me, not to do anything that would make the apartment functionally impossible to live in, such as shutting off the heat or letting toxic mold run rampant in the building. If those sorts of things happened, I was entitled to a rent abatement.

God's promise to Noah is very much in this vein. He is promising that, as long as humans inhabit the Earth, he will not cause destruction that would make the earth functionally uninhabitable. However, when I signed the lease, I also made some promises of my own about how I was going to treat the apartment. And my landlord, in agreeing not to render the apartment uninhabitable, was not promising to come in and fix everything if it were my actions, not his, that rendered the place unlivable. The landlord's warranty of habitability was not a guarantee that the premises would remain habitable if I decided to

punch holes through the walls, raise poultry in the living room, or rip out the floorboards for firewood. Not only would I be on my own, but I would probably be cruising for an eviction notice.

In the same way, God's promise to Noah not to destroy the Earth is accompanied by stern warnings that human actions could still nonetheless render the land uninhabitable. The books of Moses and the Hebrew prophets both contain strong admonitions about the impact of human wrongdoing on the Earth and its ability to sustain us. In Leviticus 26, God warns the Israelites that obedience to His commands would result in "rain in its season" and a sufficient harvest, while lack of obedience would mean that "your soil will not yield its crops." In this same vein, the prophet Hosea warns that, because of actions stemming from human greed and selfishness, "the land mourns, and all who live in it waste away; the beasts of the field and the birds of the air and the fish of the sea are dying." Similarly, from the prophet Isaiah:

Woe to you who add house to house and join field to field till no space is left and you live alone in the land. The Lord Almighty has declared in my hearing: "Surely the great houses will become desolate, the fine mansions left without occupants. A ten-acre vineyard will produce only a bath of wine, a homer of seed only an ephah of grain."

We cannot, in other words, expect to trash our planetary apartment and have our heavenly Landlord bail us out.

This metaphor of God as our landlord is not my own invention. The books of Moses have God telling the Israelites rather unambiguously, "The land must not be sold permanently, because the land is mine, and you are but aliens and my tenants" (this command, by the way, is given in support of the biblical law that all land must be returned to its original owners every 50 years). According to Scripture we are not owners of the Earth, but renters: protected by our Landlord's promises but subject to tenants' obligations.

So, if the aforementioned Congressman really intends to use the Bible as a guide to setting climate change policy, I hope he'll take another look at the terms of humankind's lease on the planet. Which if you ask me, probably should have included a damage deposit.



SESSION 3: HEALTHY HOME = HEALTHY KIDS

Modern man [sic] has been upsetting the balance of nature and the problem is drastic and urgent. It is not just a matter of aesthetics, nor is the problem only future; the quality of life has already diminished for many modern men.

Francis Schaeffer^{vix}

Theme: Protecting our kids at home

(Note: This session includes a small group exercise that requires a kitchen or work space.)

TEACHING

Before I formed you in the womb I knew you...

Jeremiah 1:5 (NIV)

Our session today begins with a personal story from a devout Catholic and good friend of the Evangelical Environmental Network, Kristen Hayes-Yearick. This story was originally published on the Safer Chemicals, Healthy Families [online blog](#) and is reprinted here with permission. For more on the ministries that Kristen influenced please check out [Toxins and Human Life](#) by Bill Patenaude.

In the summer of 2005, our lives were irreversibly changed when our neighbors misused an Organo Phosphate Pesticide, Dimethoate 4EC. We live in a development where the unsold adjoining lots were being leased to a farmer without our knowledge. Our dogs and kids were playing outside when our neighbor sprayed the land with toxic pesticides only 5 feet away from where my children and dog were playing on our lawn—and near our well.

Our dog, Tanner, died only a few days later.

Our veterinarian told us this toxic substance killed our dog, and our doctors said that it has caused profound health problems for our entire family.

Knowledge is power! Our story is your story. What happened to us is not unique except that, through Tanner's death, we were made aware of what is going on. We were made aware that pesticides and toxic chemicals are in everything we do. We eat them, drink them, breathe them, they are everywhere in our daily lives. The problem isn't in what we knowingly expose ourselves to.

There is a difference between making poor choices in our lives that only we can be held accountable for and those choices being made for us. The problem lies within what we don't know we are being exposed to. It is time for us to come together and demand that our health, our safety, our environment comes first.

Kristen's terrible experience transformed her into a lifelong advocate for children's health and safety.

REFLECTION

Take a few minutes to reflect, on your own or with your small group, on Kristen's story and what your reaction would be if this happened to your family.



*For you created my inmost being;
you knit me together in my mother's womb.
I praise you because I am fearfully and
wonderfully made;
your works are wonderful,
I know that full well.
My frame was not hidden from you
when I was made in the secret place,
when I was woven together in the depths of
the earth.
Your eyes saw my unformed body;
all the days ordained for me were written in
your book before one of them came to be.
How precious to me are your thoughts, God!
How vast is the sum of them!
Were I to count them,
they would outnumber the grains of sand—
when I awake, I am still with you.*

Psalms 139:13-18 (NIV)

Psalms 139 says that each of us was knitted together in our mother's wombs by God's precious hands. Jeremiah 1 says God knew us even before the womb. Both Scriptures share the intimate nature of God's involvement in the creation of a child and of each baby's importance in the eyes of its Creator.

REFLECTION

Discuss the following:

- *As a mom (or woman, man, dad, grandparent), how does God's precious love in the creation of a child make you feel?*
- *God's special preference for the most vulnerable, including children, is a consistent biblical theme. Why might Scripture place such an emphasis on care for the "least of these?"*
- *There are over 80,000 chemicals in use in the United States, with an estimated 2,000 additional chemicals placed into use each year. Many of them have never been tested for safety.^{xv} Even with the 2016 [Frank R. Lautenberg Chemical Safety for the 21st Century Act](#), EPA can test only 20 chemicals at a time. Each chemical could face seven years of testing, after which industry has five years to address any concerns raised through the testing process. With this schedule, it could literally take centuries for each chemical in use today to be properly tested and for its effects on our families to be fully understood. Did you know about this process, and does this testing timeframe concern you?*

It's very clear that what we put into God's creation returns to us in very alarming ways. Back in the 1960s, a woman had a 1 in 20 chance of developing breast cancer in her lifetime; now the frequency is 1 in 8. According to Dr. Philip Rosenberg of the National Cancer Institute, breast cancer rates in the U.S. are expected to increase by 30% by 2030.^{xvi} The number of women diagnosed with breast cancer will jump from 283,000 in 2011 to 441,000 in 2030. The research shows that the mortality rate will be lower, but this is still far too many mothers, daughters, and grandmothers experiencing the unnecessary trauma and trial of serious illness.

While the modern medical field understands a great deal about breast cancer, much is still unknown. Doctors know that breast cancer rates are higher in the developed world than in the Majority World. They also know that only 30% of women with breast cancer have the added known risk factors of genetics, late menopause, or late childbearing. This means that the cause of 70% of breast cancer diagnoses in the U.S. today is, of yet, unclear. Nevertheless, a growing body of research points to the environment, and especially to chemicals and plastics that act like hormones in the human body. A large body of plastics such as bisphenol-A (BPA); High Density Polyethylene (HDPE); and a host of other resins

used in packaging, plastic bags (including bottles labeled BHP-free), other plastics, and common fertilizers and pesticides all mimic estrogen.^{xvii} These same chemicals have also been linked to potential male reproductive issues including low sperm counts, malformed genitalia, and increased frequency of non-descending testicles.^{xviii}

And if these chemicals can so severely alter the physiology of fully-grown adults, imagine what they can do to young children and the unborn.

All of us want babies to be born as healthy as possible. No one wants to see a child born with his or her opportunities limited due to brain damage or other developmental problems caused by human-made toxic chemicals. Nor do we wish to see our wives, sisters, daughters, and granddaughters face the plague of breast cancer. The good news is there are lots of steps we can take to protect ourselves and our children from these harmful chemicals, beginning with what we allow into our homes.

Parents magazine has a great article, "[10 Harmful Chemicals to Avoid](#)" and the following table from [Women's Voices for the Earth](#) is a resource for defending our kids from toxins.



15 Toxic Trespassers

Harmful Chemicals to Avoid in Everyday Products

Did you know that there are toxic trespassers lurking in some of the products we use every day? Some of these chemicals are getting into our bodies and may be causing health problems. The following chemicals are of concern, particularly to women's health. You can learn more about these chemicals through the WVE reports and fact sheets in italics under the chemical name. Access these online at www.womensvoices.org.

Chemical	Where It's Found	Potential Health Problems	Avoiding It
1,4-dioxane <i>No More Toxic Tub</i>	Products that create suds, like shampoo, liquid soap, bubble bath, hair relaxers	<ul style="list-style-type: none"> cancer birth defects 	Read labels to avoid chemicals that may signal the presence of 1,4-dioxane, like sodium laureth sulfate, PEG, "cetareth", and "oleth".
2-butoxyethanol <i>Household Hazards</i>	Glass cleaners, all-purpose spray cleaners	<ul style="list-style-type: none"> reduced fertility low birth weight 	Make your own non-toxic cleaners with WVE's recipes, or buy from the few companies that disclose all ingredients on the label and look to avoid it.
Alkyl phenol ethoxylates (APEs) <i>Household Hazards</i>	Laundry detergents, stain removers, and all-purpose cleaners	<ul style="list-style-type: none"> reproductive harm 	Make your own non-toxic cleaners with WVE's recipes, or buy from the few companies that disclose all ingredients on the label and look to avoid it.
Ammonium quaternary compounds <i>Disinfectant Overkill</i>	Some disinfectant sprays, toilet cleaners, alcohol-free hand sanitizers	<ul style="list-style-type: none"> occupational asthma decreased fertility and birth defects 	Reduce your use of disinfectant products; download WVE's Reduce Your Use of Disinfectants fact sheet for ideas.
Bisphenol-A (BPA) <i>No Silver Lining</i>	Plastics like baby bottles, sippy cups, water bottles, and children's toys; can linings	<ul style="list-style-type: none"> breast cancer early puberty hormone disruption 	Opt for fresh or frozen foods instead of canned, look for plastics labeled "BPA-free" and never microwave plastic.
Formaldehyde <i>Glossed Over</i> <i>The Blowup on Blowouts</i>	Some nail products, shampoos, body washes, chemical hair straighteners	<ul style="list-style-type: none"> cancer skin and respiratory irritation 	Look for nail polishes and hardeners labeled "three-free" or "formaldehyde-free" and avoid chemical hair straighteners.
Hydroquinone <i>Toxic Products Marketed to Black Women</i>	Skin lighteners	<ul style="list-style-type: none"> cancer immune system damage reproductive/developmental harm 	Avoid skin lighteners with hydroquinone listed on the label.
Lead <i>A Poison Kiss & Pretty Scary</i>	Some lipsticks and other cosmetics, sunscreens, whitening toothpastes, children's face paint	<ul style="list-style-type: none"> reproductive /developmental harm nerve, joint, and muscle disorders heart, bone, and kidney problems 	Contact the company and ask if lead is a contaminant in the product.
Monoethanolamine (MEA) <i>Household Hazards</i>	Some laundry detergents, all-purpose cleaners and floor cleaners	<ul style="list-style-type: none"> occupational asthma 	Make your own cleaners with WVE's recipes or buy from the few companies that disclose all ingredients on the label and look to avoid it.
PBDEs (Flame retardants) <i>Flame Retardants in Baby Products</i>	Polyurethane foam padding in furniture, children's products	<ul style="list-style-type: none"> reproductive /developmental harm thyroid hormone disruption 	Avoid products containing polyurethane foam which indicate "TB117 compliant" on the label. Look for products stuffed with cotton, polyester or wool instead of foam.
Phthalates <i>Glossed Over</i> <i>What's That Smell?</i> <i>Not So Sexy</i>	Fragrances in cleaning products, personal care products, cosmetics & nail polish	<ul style="list-style-type: none"> reduced fertility increased risk of breast cancer genital malformations in baby boys increased allergic symptoms and asthma in children 	Avoid products with synthetic fragrance; look for fragrance with essential oils or products labeled "fragrance-free." Look for nail polishes labeled "three-free" or "phthalate-free."
Sodium laureth sulfate <i>No More Toxic Tub</i>	Soaps, shampoos, toothpaste, and products that create suds	<ul style="list-style-type: none"> products containing these chemicals may contain 1,4-dioxane (see above) 	Read labels to avoid products containing sodium laureth sulfate.
Synthetic musks: galaxolide and tonalide <i>What's That Smell?</i>	Fragrances, such as in cleaning products and personal care products	<ul style="list-style-type: none"> hormone disruption breakdown of the body's defenses against other toxic exposures increased risk of breast cancer 	Avoid products with synthetic fragrance; look for fragrance with essential oils or products labeled "fragrance-free."
Toluene <i>Glossed Over</i>	Nail salon products	<ul style="list-style-type: none"> headache, dizziness, fatigue eyes, nose & throat irritation reproductive/developmental harm 	Look for nail polishes labeled "three-free" or "toluene-free."
Triclosan <i>Disinfectant Overkill</i>	Antibacterial hand & dish soaps, some disinfectant products, tartar-control toothpastes, fragrance	<ul style="list-style-type: none"> hormone disruption potential increased risk of breast cancer 	Avoid antibacterial hand soap, and read labels to avoid products containing triclosan as an active ingredient.

(406) 543-3747 • WOMENSVICES@WOMENSVICES.ORG • WWW.WOMENSVICES.ORG

ACTION AND GROUP BUILDING

One of the simplest ways to start to reduce toxins, save money, and have fun at the same time, is by making your own laundry detergent. It only takes a few minutes and costs roughly 25% of the leading name brands. There are many recipes on the web. This one comes from [The Happy Money Saver website](#).

Materials and Ingredients:

- Cheese grater or food processor
- A large metal or plastic mixing container
- Reusable and sealable plastic container for everyone to take home
- 1 Box of Super Washing Soda (3 lb. 7 oz.)
- 1 Box of Borax (4 lbs 12 oz.)
- 1 Box of pure baking soda (4 lb.)
- 3 bars of Fels-Naptha (5.5 oz.) or Ivory soap
- 1 container of Oxy-Clean (1.3 lb.)

Instructions:

1. Grate the Fels-Naptha or Ivory soap bars. You can use a cheese grater or a food processor (much quicker).
2. Add the grated Fels-Naptha or Ivory soap to a plastic storage bin and add the remaining items. Mix thoroughly.
3. Evenly share the mixture among all group members. One to two tablespoons are all that is needed per load.

NEXT STEPS

Using the websites listed in this study, on the resource page, or others you find, make a list of things you can do to reduce toxins in your home, at church, or in your children's schools. Share these steps with your group, and consider sharing them more broadly. (For example, you could write an article for your church newsletter or website or write a letter to the principal of your children's school and copy the custodial staff.)



SESSION 4: THE AIR WE BREATHE

“Most Americans understand that climate change is real and are concerned about it. But most still see climate change as a faraway threat, in both time and place, and as something that threatens the future of polar bears but not necessarily people. The reality, however, is starkly different: climate change is already causing problems in communities in every region of our nation, and from a doctor’s perspective, it’s harming our health.”

The Medical Society Consortium on Climate and Health^{xix}

Theme: Air pollution and children’s health

(Note: This session requires a computer with internet capabilities.)

TEACHING

“Breathe”

Michael W. Smith

This is the air I breathe
This is the air I breathe
Your holy presence living in me

This is my daily bread
This is my daily bread
Your very word spoken to me

And I I’m desperate for you
And I I’m lost without you

This is the air I breathe
This is the air I breathe
Your holy presence living in me

This is my daily bread
this is my daily bread
your very word spoken to me

And I’m, I’m desperate for you
And I’m, I’m lost without you
And I’m desperate for you
And I’m, I’m lost without you.
I’m lost without you.

I’m lost without you.
I’m desperate for you.
(Cry out to live)
I’m desperate for you..
I’m lost, I’m lost, I’m lost without you..
I’m lost without you
I’m desperate for you
(How many of you are hungry for God?)
(I want more of Him. Who wants the flood
gates to open up?)

REFLECTION

Together, watch

[the official online video “Breathe”](#)

by Michael W. Smith.^{xx}

After watching the video and reading the Genesis Scripture, discuss the following:

What do you think of God’s intimate kiss of life-giving breath to humankind in the Garden? How does the life-giving breath of God in Genesis compare to the air your child or grandchild currently breathes in everyday life?

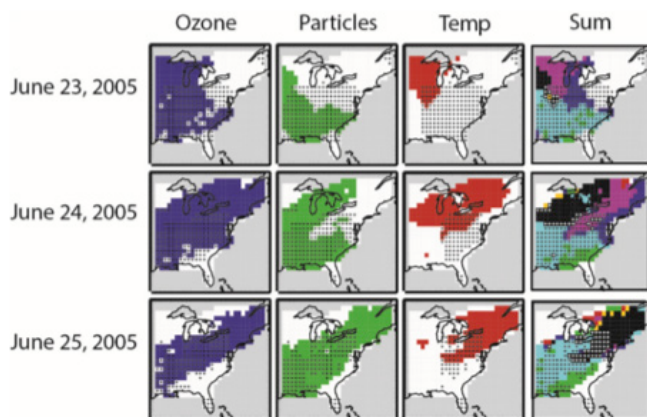
Then the Lord God formed a man from the dust of the ground and breathed into his nostrils the breath of life, and the man became a living being.

Genesis 2:7 (NIV)



Scripture plainly teaches that life is sacred and that Christians are called to protect it at every stage. For most of us evangelicals that includes the unborn. We take very seriously the biblical belief that life begins at conception.

The unborn are some of the weakest members of our society. We must protect them and ensure their right to an abundant life. Although the numbers continue to decline, we still lose far too many unborn children in the United States to the painful choice to end a pregnancy. However, few realize that each year we also jeopardize the health and well-being of millions more children through toxic air pollution.

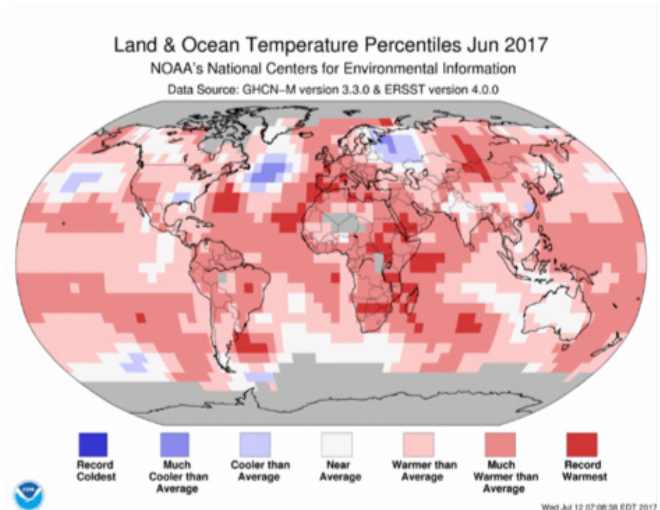


A heat wave and pollution episode struck the eastern portion of the United States and Canada in late June of 2005. Observations show the concurrence of high surface ozone, an abundance of fine particulate matter and scorching temperatures. Jordan Schnell / Princeton University

According to the [American Lung Association's State of the Air Report 2017](#), 29.5 million children under 18 years old live in counties that received an F for at least one air pollutant. What's more, 4 in 10 Americans live in areas of unhealthy air. While our air has become cleaner since the advent of the Environmental Protection Agency and the passage of the Clean Air Act, among other important policies, our kids are still at significant risk of serious health effects due to dirty air. Sadly, the risk of polluted air will only continue to get worse as our world continues to warm.

A recent medical study demonstrates that levels of ozone (smog) and soot (particles) increase during heat waves.^{xxi} And make no mistake: God's creation is getting warmer. 2016 was the warmest year on record according to NASA, breaking 2015's short-lived record as the hottest year. 2017 is on pace to be the second-hottest year on record ([check out this animation to watch how the planet has warmed over the last century](#)). In fact, 15 of the 16 hottest years on record have occurred since the year 2000. June 2017 was the 390th consecutive month with temperatures above the 20th-century average and the 41st June above average.^{xxii} If you are younger than 32 ½ years old, you have never lived in a "normal temperature world." In other words, the only world you've ever known is a warming one.

Most of us know that more asthma attacks happen to our kids during hot temperatures and high ozone days. Unfortunately, these will only increase as temperatures continue to rise. As bad as asthma threats are, though, our unborn children suffer as well. Significant research has shown that the worse the ambient air pollution is, the greater the risk to our unborn kids—including premature birth and lower birth weight, to name just a few.^{xxiii} These realities place our newborns at extreme risk. Other medical research indicates that high levels of soot (small particles, PM2.5) result in 15,808 preterm births in the United States, with the average morality of these early births reaching a staggering 35%.





Fossil fuels are a fundamental component of our society's energy generation, and they have been for centuries. Without doubt, they have brought great benefit to our nation and the world, but they are not without cost, and we are just beginning to understand the true extent of the dangers that they pose. As was shared in the introduction to this Group Study, one in three children in the U.S. have asthma, autism, ADHD, or severe allergies linked to fossil fuels and petrochemicals—but why?

The burning of fossil fuels—of coal and natural gas for electricity, heating, and cooking and of gasoline and diesel for vehicles—releases many harmful chemicals into the air we all breathe. Over 100 toxic chemicals that pose a direct threat to human health are emitted as a result of fossil fuel combustion. Many of these are part of the family of complex chemicals that we call “air pollution.”

These include PAHs (polyaromatic hydrocarbons)^{xxv}; metals like arsenic, lead and mercury; carcinogens like benzene; and fine particles that are inhaled and that harm vital organs including the heart, lungs, and brain. In addition to the burning of fossil fuels, fossil fuel production has other harmful effects. One such effect occurs through the process of extracting natural gas (methane). When natural

gas is extracted, a significant amount of it escapes from the well head and in the process of transportation from the site of extraction. This fugitive methane, and other natural gas leaks, spew out smog precursors and other toxic pollutants and cancer-causing agents like benzene. Children living near production sites risk birth defects, and pregnant women risk pre-term births.^{xxvi} And as air doesn't stop at state boundaries, fugitive methane causes thousands of additional asthma attacks hundreds of miles away from production sites.^{xxvii} 84% percent of published medical studies recently surveyed describe health impacts from natural gas infrastructure.^{xxviii}

What's more, methane is a powerful greenhouse gas. It is 25 times more powerful than carbon dioxide over the course of its lifetime in the atmosphere and 84 times more powerful than carbon dioxide for the first 20 years after it is emitted. The fugitive methane released through production and transportation contributes unnecessarily to the warming of the planet and to worsening health impacts for our families.

Now they were bringing even infants to him that he might touch them. And when the disciples saw it, they rebuked them. But Jesus called them to him, saying, “Let the children come to me, and do not hinder them, for to such belongs the kingdom of God.”

Luke 18:15-16 (ESV)

REFLECTION

Discuss the following in light of the passage above:

- *As you have shared the materials in this session together, do you believe our country's practices around fossil fuel production and combustion are helping or hindering our children's right to abundant life?*
- *The Evangelical Environment Network's tag line, "Creation Care: It's A Matter Of Life," highlights our ministry's call to care for God's children and to fight against the harm inflicted upon them from our nation's failure to effectively address pollution. Do "pro-life" and "pollution" naturally coexist in your mind or in the minds of your family and friends? How might you help your community begin to understand the connection between protecting life and combating pollution?*
- *We are not asking people to return to the dark ages or even to live lives without air conditioning, cars, or grocery stores. We're asking families to live smarter, healthier, and more energy-efficient lives. In other words, to be transformed by the Holy Spirit to live lives closer to the values of Genesis than the values of the Kardashians. What's one way that you can make a change in the life of your family that will help it conform more closely to the Biblical values of stewardship and simplicity?*
- *Transformation is the hope of the gospel, and it's our hope for a clean energy future – a future that will provide clean air and pure water for our kids. A future that can bring about an economy that is the envy of the world. An economy that exports its technologies to transform the lives of the 1.2 billion people around the world living in energy poverty into lives benefiting from clean energy prosperity. A future that will save the lives of millions of children and will provide hope for all God's children. Are you ready to follow Jesus into this kind of transformed living?*

ACTION AND GROUP BUILDING

On the next page is a list of things you and your family can do to build a healthier creation and defend your family's health. Use the items to create your own lists of things you can do:

- 1) right now
- 2) in one month
- 3) in six months
- 4) in more than one year.

Share your plans with the group.

TRANSFORMATION PLANS	NOW	1 MONTH	6 MONTHS	> 1 YEAR
Unplug all unused electronics and electrical devices.				
Insulate windows and doors.				
Insulate attic and/or walls.				
Turn up your thermostat in the summer and down in the winter.				
Plan trips where you can walk, bicycle, or take public transportation rather than your car when possible.				
Buy local foods, and start your own garden.				
Start composting.				
Reduce or stop using non-organic fertilizers or other lawn products.				
Plant shade trees in your yard, and encourage your neighbors and church to do the same.				
Purchase beauty products and soaps with the fewest chemicals possible.				
If allowed by your state, purchase renewable electricity, or install solar panels from your local utility.				
Drive the most energy-efficient car that meets your needs. Consider an all-electric or hybrid vehicle.				
When you replace any appliance in the future, purchase the highest Energy Star rated product possible				
Use reusable cloth napkins, and avoid paper plates and cups.				
Recruit other friends to complete this study.				
Start a Creation Care Group in your church.				
Encourage your church to complete an energy audit.				

The background of the entire page is a close-up, slightly blurred image of the United States flag, showing the blue field with white stars and the red and white stripes. A semi-transparent blue rectangular box is overlaid on the upper half of the image, containing the session title and text.

SESSION 5: HOPE REQUIRES ACTION

This day I call the heavens and the earth as witnesses against you that I have set before you life and death, blessings and curses. Now choose life, so that you and your children may live 20 and that you may love the Lord your God, listen to his voice, and hold fast to him. For the Lord is your life, and he will give you many years in the land he swore to give to your fathers, Abraham, Isaac and Jacob.

Deuteronomy 30:19-20 (NIV)

Theme: Defending our children from environmental threats will require both personal and public action

TEACHING

REFLECTION

Read the Deuteronomy Scripture above and, after an opening prayer, share in your journal or with the group what “choosing life” might look like in the context of what you have learned through this Bible Study.

Throughout this study, we have learned how our children’s health is being threatened. The facts are based on peer-reviewed scientific findings and on the best medical research available. And if we’re honest, it feels scary. How can we possibly study and eradicate the more than 80,000 chemicals currently in commercial use? How can we reverse the momentum of warming global temperatures or make sure that multi-billion-dollar energy companies conduct themselves responsibly? It can all feel so overwhelming, can’t it?

It’s okay sometimes to admit that we are scared, overwhelmed, or discouraged in the face of difficult obstacles. But creation care, discipleship, and community action aren’t all gloom and doom. There’s certainly plenty of gloom, but as Christians we must live into Jesus’ hope.

It’s possible to have healthy kids drinking and playing in pure water and breathing pristine air, while also supporting a thriving economy with great jobs. However, we must work together and follow Jesus to get there.

May the God of hope fill you with all joy and peace as you trust in him, so that you may overflow with hope by the power of the Holy Spirit.

Romans 5:13 (NIV)

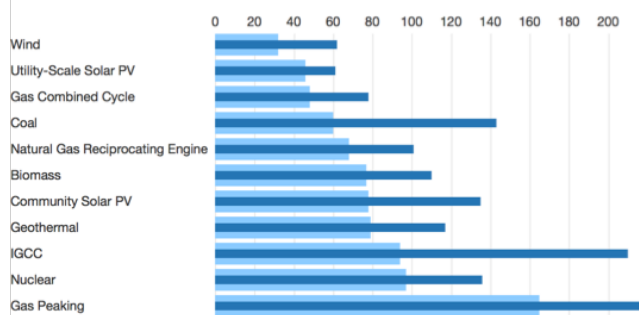


As a start, let's begin telling ourselves the good news. Like the fact that currently in the [United States, renewable energy](#), at a leveled cost (not including subsidies), is now less expensive than both natural gas and coal-generated electricity. Wind is cheapest with utility scale solar second. Some more good news: according to the United States Department of Energy, there are more jobs in solar and wind-generated electricity than in the entire fossil fuel industry (coal, oil, and natural gas combined).^{xxix}

The clean and healthy energy transition isn't coming—it's already here, and it's unstoppable. It's a future that will provide pristine air and pure water for our kids. A future that will build an economy that will be the envy of the world and that will have the ability to export our technologies as well. It's a transformation that will save millions of children's lives and will create hope and well-being for all God's children.

US Unsubsidized Levelized Cost of Energy (Figures by Lazard)

Light blue = low estimate. Dark blue = high estimate. Figure = \$/MWh



This is no pipe-dream—it's happening. Renewable energy jobs are already growing 18 times faster than the rest of the economy. New technologies in electric storage emerge each day, and financial giants like [Bloomberg Energy](#) and [Morgan Stanley](#) are already planning on and investing in a future based on clean, renewable energy. But that's only the beginning.

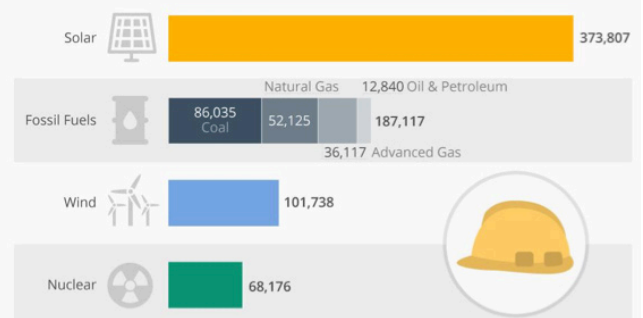
We're in the midst of an economic disruption not seen since the automobile replaced the horse, but it must move faster. Too many lives

have and will be lost due to our inaction. We can't wait around anymore. It's time for each of us to act—not just politicians, but all of us. We all have the power to transform our actions to live more faithfully into the coming energy revolution. We can choose to receive our electricity from renewable sources by taking advantage of programs offered by our utility company or through local energy co-ops. We can take steps to become more energy efficient in our homes and churches. We can choose to use safer cleaning products, free from dangerous chemicals and neuro-disrupters. And we can raise our voices to tell our elected officials that we can't wait any longer and that we want them to take action now. Lives are too precious to be lost to political posturing. Climate solutions and clean energy must not remain within the purview of one political party; healthy lives and a thriving economy are utterly nonpartisan.

Building a clean energy future and acting on climate change is both the greatest moral challenge of our time and the greatest opportunity for hope. It is an opportunity for the church of Jesus Christ to deepen in its discipleship by acting boldly both to care for God's creation and to love our neighbors by ensuring them a healthy and prosperous future. The clean and healthy energy transition is unstoppable, but it will not come quickly enough if we do not act.

More Workers In Solar Than Fossil Fuel Power Generation

Employment in energy generation by source in the U.S. in 2016



Source: U.S. Department of Energy

Forbes statista

While it's true that government isn't the answer for everything—that we as individuals must act and take responsibility for our actions—it is worth remembering that our government is us. Our Constitution begins with the line, “*We the People*.” Our government reflects who we are collectively as a nation. A democratically-elected representative government certainly isn't perfect, but our American system has achieved much and has significantly advanced human rights and opportunity over the centuries. If we the people find the courage to live out our faith and represent our values in public by holding our government (us) accountable in Christ's love, it will continue to grow in justice and righteousness for all.

But here's the cold, hard truth: our government can't do it alone. Businesses can't go alone. And our personal choices alone won't be able to halt the advance of climate change or catalyze the clean energy revolution. But we can do it together. It's time to bring all the pieces together and to trust that God will use our various, imperfect efforts to advance his kingdom's purposes.

Government needs to set the limits (just like the speed on a highway) and enforce existing laws to ensure that people and companies don't take short cuts that put profits before kids. Business needs to invest in promising technology and put the well-being of creation and human life above their shareholders. And each of us needs to raise our voice and ensure that government officials remember that they act on our behalf. We need to remind ourselves and our leaders of the words of our early patriots who wrote:

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness. That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed...

The Declaration of Independence, 1776

We all have rights, but actions that tread on the rights of others stand against who we are as evangelicals and Americans. No industry or individual has the right to interfere with basic, God-given rights. Polluting our kids with toxins and emitting gases that change our climate to the detriment of us all does just that. Our government's responsibility, embedded in the Declaration of Independence and our Constitution, is to preserve the right of all of us to breathe, to have healthy brains, and to pursue our dreams without threats like toxic pollutants and a warming earth affecting our security and our ability to prosper.

It's our government's role to protect our rights, including the right to live a healthy life free of pollution, and it's our role to participate in the processes of government to make sure that they do.

*He has shown you, O mortal, what is good.
And what does the Lord require of you?
To act justly and to love mercy
and to walk humbly with your God.*

Micah 6:8 (NIV)

REFLECTION

Discuss the following about the relationship between individual, community, and civic engagement.

- *Can individuals accomplish systematic change on their own?*
- *Should we always leave it up to “the markets” to provide the answers?*
- *What practical steps can you take to move closer to God by following His commands in the Micah passage above?*

A SUCCESS STORY

REFLECTION

Take a few minutes to watch this

[video on mercury poisoning.](#)

Until recently, one in six babies was born in the United States with harmful levels of mercury in their blood,^{xxx} due to coal-burning power plants—the largest source of domestic mercury pollution.

Mercury is extremely toxic to the brain and nervous system, especially to the rapidly developing brain of the unborn child during early pregnancy. Consuming contaminated fish during pregnancy is enough to expose an unborn child to dangerous levels of the toxin. Eating fish with its high levels of Omega 3s and other healthy nutrients should be encouraged, but most physicians recommend pregnant women eat only one serving per week as mercury can accumulate in the brains of unborn children, causing developmental disabilities resulting in lowered intelligence and learning problems. Prenatal exposure to mercury has lifelong implications. One study found that “the resulting loss of intelligence [due to exposure to mercury] causes diminished economic productivity that persists over the entire lifetime of these children.”^{xxxi}

Several years ago, The Evangelical Environmental Network worked very hard to stop the poisoning of our unborn babies by supporting the Environmental Protection Agency’s (EPA) [Mercury and Air Toxics Standard \(MATS\)](#).



With support from evangelical moms, pastors, dads, and grandparents, we ensured that the MATS standard was put into place across the country.

While many streams and rivers still have high levels of mercury, recent studies have shown that the rule is already working, with mercury reductions occurring throughout the United States. But the impact didn’t stop in our country. With the U.S. leading the way in the fight against mercury exposure, our nation had the moral character to encourage China, India, and most of the rest of the world to sign an international mercury treaty.

Forever embedded within EEN are the words of the Vice President of the American Lung Association immediately after the MATS standard was saved in the U.S. Senate, “EEN just saved the lives of millions of children.”

Very truly I tell you, whoever believes in me will do the works I have been doing, and they will do even greater things than these, because I am going to the Father.

John 14:12 (NIV)

Empowered by the Holy Spirit, we can do greater things than even Jesus accomplished during his ministry on earth. It is time to live into this promise, to claim the power of the Holy Spirit, and to take action together.

Has this study helped you understand the importance of creation care? Do you accept that creation care is a matter of life? Discuss what's next for you as an individual or as a group. Consult the "Action" section below for a list of potential next steps.

ACTION

There are so many ways to get involved in promoting creation care. Discuss the ones that God might be calling you to accomplish. Perhaps you might have a follow-up group celebration where you share decisions and plans for what's next.

Here are just a few that God might be calling you to:

- Read and study additional creation care resources (see the Resources section for ideas).
- Lead and recruit for a new study group for Healthy Creation = Healthy Kids.
- Start a Creation Care Group within your congregation to address some of the concerns you discovered through this study.
- Help your children's school address creation care in its curriculum.
- Using the [American Lung Association State of the Air Report](#), start learning about air pollution threats to your children. Share what you learn with a neighbor or friend.
- Review the local fish-eating advisories from your state government's website.
- Contact support@creationcare.org for more information, a speaker, or help in organizing other Christian moms to take action.
- Join with other moms to stop pollution's threat to our kids and God's creation.
- Call your Congressperson and/or senators to tell them how this study has influenced your thinking about creation care. (See the Advocacy Guide for tips and best practices.)
- Form an advocacy team to write letters to elected officials and to editors of local papers. (See the Advocacy Guide for tips and best practices.)

ADDITIONAL RESOURCES

BOOKS

[Caring For Creation: The Evangelical's Guide To Climate Change and A Healthy Environment](#), Mitch Hescox & Paul Douglas, Bethany House, Bloomington, MN, 2016

[Global Warming and the Risen LORD: Christian Discipleship and Climate Change](#) Jim Ball, The Evangelical Environmental Network, Washington, DC, 2010

[Every Breath We Take: A Book About Air](#), Maya Ajmera and Dominique Browning, Charlesbridge, 2016

[Green Mama: The Guilt-Free Guide to Helping You and Your Kids Save the Planet](#), Tracy Bianchi, Zondervan, Grand Rapids, MI, 2010

[A Climate For Change](#), Katharine Hayhoe & Andrew Farley, Faith Words, New York, NY, 2009

[Doing Good Without Giving Up](#), Ben Lowe, InterVarsity Press, Downers Grove, IL, 2014.

[The Steward Leader](#), R. Scott Rodin, InterVarsity Press, Downers Grove, IL, 2009.

[Green, American Style](#), Anna M. Clark, Baker Books, Grand Rapids, MI, 2010

[It's Easy Being Green](#), Emma Sleeth, Zondervan, Grand Rapids, MI, 2009

[Radical Disciple](#), John Stott, InterVarsity Press, Downers Grove, IL, 2010

[Go Green Save Green](#), Nancy Sleeth, Tyndale, Carol Stream, IL, 2009



WEBSITES

The Evangelical Environmental Network: www.creationcare.org

Moms Clean Air Force: www.momscleanairforce.org

Young Evangelicals For Climate Action: www.yecaction.org

The Center For Green Schools: www.centerforgreenschools.org

Centers For Disease Control & Prevention (CDC):

Children Health Toolkit: https://ephtracking.cdc.gov/docs/ChildrensHealthToolkit_Final.pdf

Energy Star: www.energystar.gov

Energy Star Action Workbook For Congregations:

www.energystar.gov/sites/default/files/tools/ENERGY%20STAR%20Action%20Workbook%20for%20Congregations_12.3.2014.pdf



ADVOCACY GUIDE

If we are going to make a difference for our children and for God's creation, then Christians need to get serious about advocacy (sharing our Biblical convictions in the public square). It's part of our discipleship, and part of responding faithfully to the good news of the gospel.

*Speak up for those who cannot speak for themselves,
for the rights of all who are destitute.
Speak up and judge fairly;
defend the rights of the poor and needy.*

Proverbs 31:8-9 (NIV)



Jesus challenged governments and institutions throughout his ministry on earth. He stood up to the religious authorities and to the Roman government, represented by Herod and Pontius Pilot.

Even his own understanding of his mission on earth, quoted from the prophet Isaiah and proclaimed in the synagogue of his hometown Nazareth, reflects his call to speak truth to power and to advocate for freedom and healing:

He went to Nazareth, where he had been brought up, and on the Sabbath day he went into the synagogue, as was his custom. He stood up to read,

and the scroll of the prophet Isaiah was handed to him. Unrolling it, he found the place where it is written:

“The Spirit of the Lord is on me, because he has anointed me to proclaim good news to the poor. He has sent me to proclaim freedom for the prisoners and recovery of sight for the blind, to set the oppressed free, to proclaim the year of the Lord’s favor.” Then he rolled up the scroll, gave it back to the attendant and sat down. The eyes of everyone in the synagogue were fastened on him. He began by saying to them, “Today this scripture is fulfilled in your hearing.”

Luke 4:16-21 (NIV)

Through the course of our study, we have clearly seen that our children’s lives are under attack from the pollution that fills their bodies from the moment of conception to their final breath. Until they are born and grow to adulthood, they are unable to speak or act for their own well-being.

Governments at all levels (local, state, and federal) have a role in protecting our children. From local land use permits to state renewable energy standards to the federal rules that govern air, water, and chemicals, each part of government—from the legislative to the administrative to the judicial—can choose to either act to protect or endanger our children’s rights.



REFLECTION

Rev. Mitch Hescox, EEN’s President, has a simple practice when advocating with government officials: act like a pastor. (It helps that he was a local church pastor for 18 years.) Mitch has testified before the U.S. Congress and in EPA hearings, and he has held several thousand meetings with elected officials and their staff at every level of government. At every meeting, he offers to pray for members of Congress and their staff to encourage them in their work and to show them the love of Christ in a tangible way. Staffers and members of Congress have come to appreciate it so much that he now regularly meets with many of them for no other reason than to pray and to share Jesus’ love with one another.

HOW TO FOLLOW JESUS THROUGH ADVOCACY

Whether it's your town council, state assembly, or the United States Congress, advocacy looks largely the same. So, for brevity, we will discuss advocacy with Congress below.

You can easily translate the tools below for any other advocacy scenario that might arise.

When communicating with legislators, it is important to recognize that they are very busy, and that they and their staff receive mountains of correspondence every day. Don't be upset if a staff member does not immediately respond. It may seem uncaring, but legislators really do care what you have to say, and they put most of their time and energy into the issues that their constituents consistently raise.

It's our job to help them care about and understand the issues important to us.

They can't be experts on every issue, and many elected officials simply don't know the threats that pollution poses to our children's lives. You, however, are an expert, and can teach your legislator with love and respect.

Given the time demands on elected officials, and the wide variety of issues that come before them, it is critical to be simple, clear, direct, and as brief as possible when communicating.

It is also important to recognize that legislative staff are necessary allies in efforts to influence legislators. Staff can assist in getting access to a member, and legislators often rely on staff to provide guidance on issues.

Finally, and most importantly, it should be recognized that in most cases, legislators will only pay attention to an issue if they are hearing about it from their constituents.

Therefore, it is crucial that legislators at all levels hear from us, their constituents, in sufficient numbers so that they pay close attention to issues threatening our children.

Believe it or not, your voice carries more weight with your elected officials than the most powerful lobbyist, simply by your identity as a constituent.

Always let your legislators know that you are a constituent every time you communicate with them.



LETTER WRITING

The simplest way to get in touch with your legislators is by writing a letter to his or her office, and research has shown that the most effective letter is handwritten. However, please note that due to security measures in Washington D.C. Congressional office buildings, which can delay letters from arriving for 2 to 3 weeks, mailing letters to Congressional district offices in your state is preferable. You can find the name and address of [all your elected officials here](#). Instructions on what to include in your letter and links to helpful facts may be found on the [Moms Clean Air Force website](#).

Here are additional simple guidelines:

- Share that you are writing as an evangelical Christian, a pro-life mom, and a constituent.
- Include a Scripture passage that is meaningful for you.
- Include your name, address and telephone number, so your elected official can respond. Ask for a response in your letter.
- Always address your letter to “The Honorable” (fill in name).
- For the United States House of Representatives, use “Dear Representative (last name of Member).”
- Keep it to less than two pages handwritten or one page typed.
- **MAKE IT PERSONAL.** If you have a family member or neighbor impacted, tell their story. A personal story in your letter that relates to whatever issues you are speaking about is one of the most powerful tools at your disposal.
- Write the letter in Christian love, respect, and hope.
- Consider hosting a small group letter writing time where individuals get together and each write their own letter to their representative or senators. Include pictures or drawings made by your children.



OPINION/EDITORIAL (OP-ED)

Newspapers are always on the look out for new and thoughtful voices to share their thoughts on a newsworthy topic of concern. Op-Eds are usually around 600–800 words and allow the author to express his or her opinions in a more detailed way. The key is to make sure they are well-written, relevant to the local community, and relate to a current event.

Here are some additional tips on writing a good Op-Ed:

- Make a single point—well.
- Put your main point within the first couple of sentences.
- Tell readers why they should care.
- Showing is better than discussing. Use stories and vivid language.
- Embrace your personal voice. Editors want compelling and relatable voices.
- Play up your personal connection to the readers.
- Use short sentences and paragraphs.
- Avoid jargon.
- Use the active voice.
- Acknowledge the other side, but show how your argument is more persuasive.
- Make your ending a winner by summarizing your main point in a concise, final paragraph.
- Don't worry about the headline. The newspaper will write their own.
- Relax, have fun, and let it come through in your piece!

EEN is always willing to assist in both the writing of opinion pieces and in their placement. Many times, we're also looking for evangelicals to co-author a piece with us. Email support@creationcare.org to reach us.

LETTERS TO THE EDITOR (LTE'S)

Writing a letter to a local newspaper is a powerful way to inform both elected officials and the community about important issues. Most letters need to be less than 300 words, but check the requirements for your paper through their website or with a phone call.

The most successful way to get a LTE published is to reference either a news story or opinion that has already appeared in the publication. Read your newspaper and watch for stories that you may comment on. EEN staff is always eager to help you in the writing process and support you throughout your efforts. Email support@creationcare.org to get in touch.

EMAILS TO ELECTED OFFICIALS

Emails are another good way to state your views to your representatives. Given the strict security measures around mail to federal offices, writing an email is a good way to ensure your message is received.

Here are a few suggestions for writing an effective email:

- Write using the same form and context as writing a letter (above).
- Share personal stories.
- Never send attachments. Put all important facts and stories in the body of the email.
- Do not send an email message every day. Once a month is appropriate unless a vote is imminent.
- Remember to proofread your email to make sure it's free of spelling and grammatical errors and that it makes organizational sense.
- Don't carbon copy (cc) other members' offices. Instead, write separate emails. It's fine, however, to copy several staffers from the same office on one email.

TELEPHONE CALLS

Phoning an office is another great way to communicate, but don't expect to talk your elected official. Each office makes a record of who called and why, and in most cases, your call will be considered only if you are a constituent.

Below are the simple steps for a successful call:

- Introduce yourself, and provide your name, address, and phone number.
- Think about what you want to say and consider having a written list of talking points.
- If you refer to a piece of legislation, name the bill and/or the bill number.
- Keep it short, simple, and to the point. State your reason for calling and what actions you would like to see the legislator take.
- Ask your legislator's view on the position. If the staff member doesn't know the member's position, ask for a formal response.
- Always be courteous and kind.
- Phone calls are a very good time to request a meeting with the official. You will probably be referred to the scheduler by phone or email.

IN-PERSON MEETINGS

Face-to-face meetings are the most difficult to schedule but are extremely important. Having multiple constituents present for a meeting offers a better chance for landing a meeting with the member. If you plan to be in D.C., feel free to set up a meeting at your legislators' D.C. offices. Keep in mind, however, that it is often easier to schedule a meeting in a district office than in D.C.—especially for members of the House of Representatives.

Some additional tips:

- Plan early. It takes weeks or even months to schedule a face-to-face meeting.
- Don't be afraid to contact the scheduler multiple times, but usually no more than once a week.
- Know why you want the meeting and be prepared to share a specific request (i.e. vote on a bill, defend children from environmental poisons, etc.).
- Share your faith and why the issue is a key part of your evangelical tradition.
- Be respectful and loving.
- Offer to pray for the member and his or her staff.
- Follow up with a thank you letter and restate what you want the official to do.
- EEN staff is happy to talk through your meeting planning, to role play a meeting, and to answer any questions you may have. Send an email to support@creationcare.org to get in touch.



STAY THE COURSE

- One letter, email, or phone call will not be enough to move a legislator on an issue, and sometimes it can take years to make progress on an issue.
- Consider setting up a schedule and sticking to it. For example, send an email on the first of every month, write a letter every Monday, and make a phone call every Wednesday on your lunch hour.
- Keep building a network of friends and loved ones to join with you.
- Join with Evangelical Environmental Network and Moms Clean Air Force to build a strong coalition of like-minded folks to defend our children.

REFERENCES

Text in blue underline in this print out means that there is an embedded link in our online version. You can download the online version here:

http://www.momscleanairforce.org/wp-content/uploads/2017/09/HealthyCreation_HealthyChildren.pdf

ⁱ Bloom B, Jones LI, Freeman G. Summary health statistics for U.S. children: National Health Interview Survey, 2012. National Center for Health Statistics. Vital Health Stat 10(258).

ⁱⁱ Kenneth Bock, MD, Cameron Stauth, Healing the New Childhood Epidemics: Autism, ADHD, Asthma, and Allergies: The Groundbreaking Program for the 4-A Disorders, Random House, NY, 2007

ⁱⁱⁱ John 10:10 (NIV) The thief comes only to steal and kill and destroy; I have come that they may have life, and have it to the full.

^{iv} Trasande, et al., "Public Health and Economic Consequences of Methyl Mercury Toxicity to the Developing Brain," Environmental Health Perspectives, Vol. 113, No. 5 (May 2005): p. 590.

^v Leonardo Trasande and Yinghua Liu, Reducing The Staggering Costs Of Environmental Disease In Children, Estimated At \$76.6 Billion In 2008, Health Affairs, no. (2011): doi: 10.1377/hlthaff.2010.1239

^{vi} Stacy SL, Brink LL, Larkin JC, Sadovsky Y, Goldstein BD, Pitt BR, et al. (2015) Perinatal Outcomes and Unconventional Natural Gas Operations in Southwest Pennsylvania. PLoS ONE 10(6): e0126425. doi: 10.1371/journal.pone.0126425, downloaded September 28, 2015, <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0126425>

^{vii} Lisa M. McKenzie, Ruixin Guo, Roxana Z. Witter, David A. Savitz, Lee S. Newman, and John L. Adgate, Birth Outcomes and Maternal Residential Proximity to Natural Gas Development in Rural Colorado, Environmental Health Perspectives doi:10.1289/ehp.1306722. downloaded September 28, 2015, <http://ehp.niehs.nih.gov/1306722/#tab3>

^{viii} Philippe Grandjean, Only Once Chance, How Environmental Pollution Impairs Brain Development & How to Protect the Brains of the Next Generation, Oxford University Press, NY, 2013, pg. x.

^{ix} Louth, Andrew, ed., Ancient Christian Commentary on Scripture, Vol. 1, Genesis 1-11, Inter Varsity Press, Downers Grove, IL, 2001. John Chrysostom, Homilies on Genesis 3:12, pg. 45 Page | 3

^x Kugeler, K. J., Farley, G. M., Forrester, J. D., & Mead, P. S. (2015). Geographic Distribution and Expansion of Human Lyme Disease, United States. Emerging Infectious Diseases, 21(8), 1455-1457. <https://dx.doi.org/10.3201/eid2108.141878>.

^{xi} HOW GREAT THOU ART © 1949 and 1953 by the Stuart Hine Trust. All rights in the USA its territories and possessions, except print rights, administered by EMICMG Publishing. USA print rights administered by Hope Publishing Company. All other North, Central and South American rights administered by Manna Music Inc. Rest of the world rights administered by Kingsway Communications Ltd. Used by permission.

^{xii} Text: Maltbie D. Babcock Music: Trad. English melody; adapt. by Franklin L. Sheppard
Tune: TERRA BEATA, Meter: SMD

^{xiii} <https://billygraham.org/answer/does-the-bible-say-anything-about-taking-care-of-the-environment-i-have-some-passionate-friends-who-claim-the-bible-is-anti-environmental-are-they-right/>; Downloaded July 11, 2017.

^{xiv} Schaeffer, Francis, Pollution and the Death of Man, Tyndale House, Wheaton, IL, 1970, reprinted by Crossway, Wheaton, IL, 2011, pg. 21.

^{xv} <https://ntp.niehs.nih.gov/about/index.html>

^{xvi} : Philip S. Rosenberg, Kimberly A. Barker, William F. Anderson, : Estrogen receptor status and the future burden of invasive and in-situ breast cancers in the United States, Presentation, American Association for Cancer Research April 2015 Meeting, Philadelphia, PA. <http://mb.cision.com/Public/3069/9755232/81b414b4ec298479.pdf>

^{xvii} Chun Z. Yang, et.al. Most Plastic Products Release Estrogenic Chemicals: A Potential Health Problem that Can Be Solved, *Environmental Health Perspectives* • volume 119, number 7, July 2011, pg. 989. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3222987/pdf/ehp.1003220.pdf>

^{xviii} Hueiwan Anna Jeng, Exposure to endocrine disrupting chemicals and male reproductive health, *Front Public Health*. 2014; 2: 55. Published online 2014 Jun 5. Prepublished online 2014 Apr 6. doi: 10.3389/fpubh.2014.00055

^{xix} https://medsocietiesforclimatehealth.org/wp-content/uploads/2017/03/medical_alert.pdf

^{xx} [https://www.vevo.com/watch/michael-w-smith/breathe-\(live\)/QM5NE1520080](https://www.vevo.com/watch/michael-w-smith/breathe-(live)/QM5NE1520080), downloaded July 20, 2017, all rights reserved to artist.

^{xxi} Jordan L. Schnell and Michael J. Prather, Co-occurrence of extremes in surface ozone, particulate matter, and temperature over eastern North America, *PNAS* 2017 114 (11) 2854-2859; published ahead of print February 27, 2017, doi:10.1073/pnas.1614453114

^{xxii} <https://www.ncei.noaa.gov/news/global-climate-201706>

^{xxiii} Buka, S Koranteng, AR Osornio-Vargas. The effects of air pollution on the health of children. *Paediatr Child Health* 2006;11(8):513-516.

^{xxiv} Leonardo Trasande, Patrick Malecha, and Teresa M. Attina, “Particulate Matter Exposure and Preterm Birth: Estimates of U.S. Attributable Burden and Economic Costs”, *Environ Health Perspect*; DOI:10.1289/ehp.1510810.

^{xxv} Polyaromatic hydrocarbons (PAHs) comprise a broad category that includes over 100 different chemicals. In addition to their connection to fossil fuel combustion for energy generation and transportation,

^{xxvi} For recent studies on health impacts, including for the unborn, see: Jake Hays and Seth B. C. Shonkoff, “Toward an Understanding of the Environmental and Public Health Impacts of Unconventional Natural Gas Development: A Categorical Assessment of the Peer-Reviewed Scientific Literature, 2009-2015,” *PLoS ONE*, 11 (4), April 20, 2016; Shaina L. Stacy et al., “Perinatal Outcomes and Unconventional Natural Gas Operations in Southwest Pennsylvania,” *PLoS ONE* 10 (6), June 3, 2015; Gregg P. Macey, et al., “Air Concentrations of Volatile Compounds Near Oil and Gas Production: a Community-based Exploratory Study,” *Environmental Health*, 32 (2014).

^{xxvii} S. G. Rasmussen et al., (2016) “Association Between Unconventional Natural Gas Development in the Marcellus Shale and Asthma Exacerbations,” *JAMA Intern. Med.* 176, 1334. doi:10.1001/jamainternmed.2016.2436.

^{xxviii} Hays J, Shonkoff SBC (2016) Toward an Understanding of the Environmental and Public Health Impacts of Unconventional Natural Gas Development: A Categorical Assessment of the Peer- Reviewed Scientific Literature, 2009-2015. *PLoS ONE* 11(4): e0154164. doi:10.1371/journal.pone.0154164

^{xxix} 2017 U.S. Energy and Employment Report, <https://energy.gov/downloads/2017-us-energy-and-employment-report>, downloaded July 21, 2017.

^{xxx} See Mahaffey et al., “Blood Organic Mercury and Dietary Mercury Intake” *Environmental Health Perspectives*, 112, #5 (April 2004).

^{xxxi} Trasande, et al., “Public Health and Economic Consequences of Methyl Mercury Toxicity to the Developing Brain,” *Environmental Health Perspectives*, Vol. 113, No. 5 (May 2005): p. 590.

BROUGHT TO YOU BY



For more information about our organizations, please visit:

WWW.CREATIONCARE.ORG

WWW.MOMSCLEANAIRFORCE.ORG

Join EEN Moms online:



www.creationcare.org/een_moms



@EEN_Moms



EENMoms



Facebook Group: EENMoms