

Worldwatch Institute

ADDRESSING THE CHALLENGE OF THE 21ST
CENTURY



The great challenge of the 21st century

The 20th century represented a period extraordinary growth for the human race

- Growing population
- All the trappings of modern lifestyles

At the cost of overexploiting and exhausting our natural resources

In the 21st century we must transform society to re-establish a balance with the natural world that supports us.

The 20th Century: Exploding population...

Explosive growth in human population was driving force in the 20th Century

In 1900, the world population was 1.65 billion

Today, it is 7.4 billion

Almost a 500% increase in our population!

And, it's still growing!

..and our modern lifestyles

The industrial age led to a consumer-driven society...

Increasing environmental footprint of every person in the developed world.

We now calculate with need 1.5 planets to support the world today.

But we would need 6 planets if the entire population lived a lifestyle of Europe and North America.

Clearly, something must change.

The world woke up mid-20th century

We recognized we were hitting limitations in the early 1970's

- The first wave of the environmental movement emerged
- Lester Brown founded Worldwatch Institute to study sustainability
- Club of Rome funded 'The Limits of Growth'
- The world celebrated the first Earth Day

...but the world didn't take action!

In the LAST 40 years the world has made little progress.

Movements take time to build momentum to create real change.

Perhaps we have waited too long to act.

The recent Paris agreement is a strong signal for change – finally!

We now recognize that over the NEXT 40 years must act quickly and decisively to transform the way modern society works

Worldwatch's changing role in the world

In 1970's and 1980's, Worldwatch alerted the world to the growing pressures on the limitations of our natural world – in over 35 languages!

In the 1990's, Worldwatch started to talk about solutions in a general way

Today we are describing in detail what our future society must look like and what pathways exists to achieve it.

We focus on the key drivers of consumption

Energy production

- Moving past fossil fuels to renewable energy sources

Food production

- Reforming industrial food production to return to regenerative methods

Urban living

- Cities increasing livability and reducing their GHG emissions by 80% in 2050

Industrial production

- Stopping the one-way path from natural resources to landfill

How do we influence these drivers?

Thousands of professionals are now working to transform these drivers.

They are networked through newly formed professional organizations.

Through these organizations Worldwatch seeks to provide tools that help them accelerate the change they seek.

How do we help professionals?

Our core research and analysis is directed at large scale transformative change:

- Helping leaders and decision makers visualize a sustainable future
- Analysis that demonstrates the feasibility of a sustainable future
- Documenting pathways forward to meet sustainable goals

Our recent work on Energy Systems

Worldwatch has worked in the Caribbean for 5 years developing details plans:

- To convert energy systems from 100% imported oil to renewable sources.
- We have completed plans for Jamaica, Haiti and Dominican Republic
- We remain engaged with many other Caribbean region nations wishing to reach the same goal

The impact of our work on Energy

Our analysis has 'made the case' that a transition is possible, will be a good investment and will help the local economy

As a result, our work has accelerated the discussion among stakeholders:

- Government officials
- International development banks
- Private investors
- Others

Our recent work on Urban Systems

Mayors around the world are working together to reform cities

- They have created peer group organizations to share ideas and experiences

Worldwatch has partnered with some of these organizations

- Worldwatch devoted State of the World 2016 to this topic
 - This book will inspire readers around the world to get engaged in their local cities

Our work with cities will continue

- Between 50 and 100 cities have pledged to reduce GHG by 80% by 2050
- In Europe: London, Berlin, Copenhagen, Oslo, Stockholm
 - Someday Barcelona?
- We plan to develop detailed roadmaps for specific cities to meet their goal

The impact of our work with cities

Each city, each roadmap will be different

What's the same will be the analytical methodology of the roadmap

Developing a roadmap requires

- Data collection from all agencies and corners of the city
- Analysis that is still unfamiliar to cities
- Recommendation will call for cross-department collaboration

As our work is shared, more cities will learn how to develop their own

Worldwatch interest in Food Systems

Industrial food is increasingly destructive to the natural environment

- Food is now produced 'separate from a natural ecosystem'
- Depletes water tables, soil quality, biodiversity, resilience to weather extremes and disease, at NO cost!

We recommend adoption of 'regenerative food systems'

- Food is produced within a healthy ecosystem
- Restores water tables, soil quality, biodiversity and resilience to weather extremes and disease

Worldwatch will map a transition

Worldwatch is developing a report on industrial meat production

- Exposes the environmental toll of current methods
- Shows how to scale regenerative, 'pastured' methods of farming

Spain has a world-class model for regenerative fish farming

- Veta la Palma Seafood, Marshlands of Spain's Guadalquivir River

Can a city be sustainable?

Urban population will double by 2050

Cities already feel overcrowded and stressed

Too many cities are using a centuries old plan

A new urban model is emerging

- Improved quality of life
- More efficient
- Smaller environmental footprint

Can a city reduce GHG by 2050?

Urban population with double by 2050

- The reduction is based on a baseline year already passed.
- So, the per capita reduction must be greater than 80%

Many cities believe this is possible

- Several Scandinavian cities are already close to this goal

How is this possible?

The path to 80% reduction by 2050

Energy systems must convert to be based to renewables

Buildings must become highly energy efficient

- Tighter building codes
- LED lighting
- 'Smart building' technology
- District heating and cooling

Human and food waste must produce biofuel and compost

- Capturing and sequestering carbon
- Creating useful byproducts

The path to 80% reduction by 2050

Urban transportation more efficient for energy and for citizens

- Better mass transit systems
- Widespread integration of bicycles and scooters
- 'Last mile' closed with 'car services' instead of personal automobiles

City planning becomes clusters of service neighborhoods

- Working from home or satellite work centers
- Integrated green space, shopping, entertainment
- From the 'mega-mall' back to the community store

How's Barcelona doing?

Require solar panels on roofs of all large buildings, 60% of hot water is solar heated

80% of the journeys made within Barcelona are by public transport, on foot or by bicycle

Green urban spaces have increased by 150% over the last 30 years
Public zones account for 29% of all green spaces

To date, more than 700 organizations have signed Barcelona's Citizens' Commitment Towards Sustainability