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he coal industry is racing to ensure a place for itself in our world's future before safer, healthier, and cheaper clean energy can take hold. Ill-equipped to compete and survive in the emerging clean-energy economy, the coal industry must rely on political clout, misleading public relations campaigns and the externalization of devastating human health, social, and environmental costs to succeed. In community after community around the world, the result has been a toxic brew of deadly pollution, lost livelihoods, intimidation, and corruption.

This report gives voice to the brave activists around the world whose daily struggle bears witness to this ongoing tragedy as they counter this dirty, dangerous, and outdated industry. Rather than be bowed by the industry's onslaught, these activists are helping communities across the world band together and fight back. These battles come at a time when clean energy is being rapidly deployed without sacrificing communities or ecosystems — an inconvenient truth the coal industry is fighting to suppress as it attempts to claw its way into the 21st century.

From the aquamarine waters off Cirebon, Indonesia, to the historic Appalachian mountains of the United States, to the lush biodiversity of the Konkan coast of India, communities around the world have issued a call to end the coal industry's wanton destruction and to seize the opportunity that clean energy presents. These are their stories.

Appalachia, United States

West Virginia, United States
Content provided by Nick Sifuentes, Sierra Club
Photos courtesy of the Ohio Valley Environmental Coalition

Context

he United States is the world's second-largest consumer of coal—burning an estimated 856 million tons annually. It also is home to one of the most destructive of all mining practices—mountaintop-removal mining. Mountaintop removal has decimated entire communities and ecosystems in Appalachia, where the practice is concentrated. The corruption, intimidation, and environmental degradation that result from mountaintop-removal mining hardly seem possible in a country like the United States, but for residents of Appalachia, it is their daily reality.

A Land of Natural Beauty

Although the exact borders of Appalachia are loosely defined, the mountainous region is usually considered to run from Pennsylvania to northern Alabama, encompassing parts of Ohio, Kentucky, Tennessee, Virginia, South Carolina, Georgia, and Mississippi as well as the entire state of West Virginia. Although its geographic boundaries may be loosely defined, one consistent thing about Appalachia is its natural beauty and ecological diversity.

Another constant—and far more disconcerting feature of Appalachia—is the poverty of many of its communities. Coal mining has long been a primary industry in the region, but even during coal's peak years, much of Appalachia still suffered high unemployment and poverty. By the middle of the 20th century, machines began replacing the coal industry's workforce, and today it employs only a small fraction of what it once did. Still, despite its abundant natural resources, the region continues to struggle: Out of 420 counties in the Appalachian Regional Commission's boundaries, 186 are considered economically distressed or at risk.

Now, the Appalachian environment is as threatened as its people. Just a few decades ago, the mountains of Appalachia remained largely as they had been for millions of years: pristine, untouched wildernesses that fed healthy waterways and served as the primary source of water for hundreds of thousands of residents downstream. That all began to change when the coal industry began using new methods of coal extraction.

Health and Environmental Impacts: Mountaintop Removal

The 1960s saw the beginning of mountaintop-removal mining, a process that uses explosives to remove the tops of mountains and expose coal seams underneath. After mountains are leveled and the coal is mined, the leftover dirt and rock—full of toxins from the mining process—is either put back atop the mountain in a gross approximation of its original topography or dumped into local valleys—a process known as "valley fill." Already, more than 1.4 million acres of mountaintops and forests—an amount of land roughly equal to the state of Delaware—have been, or are slated for, destruction by

mountaintop removal. To date, over 1,200 miles of streams have been buried or polluted by mountaintop removal. Heavy metals like cadmium, selenium, and arsenic, all byproducts of the mining process, leach into the local water supply the same water that Appalachia's citizens rely on. This process exposes people to dangerous levels of toxic waste. Mountaintop removal also pollutes local air with hazardous particles and affects communities for miles around. The risk is real: Several studies have found that cancer rates are twice as high for people who live near mountaintop removal sites as for those who don't.



As the use of mountaintop removal and other mechanized methods of coal extraction have increased, the percentage of Appalachian residents employed by the coal industry has declined. According to a University of Kentucky study, mining accounts for only 2 percent of employment in Appalachia. Coal mining has ceased to be a way of life for most residents of Appalachia, and yet those same residents

atherine and John Hoffman moved to Fayette County, West Virginia in 1979 in an effort to escape the pollution of Charleston. Their home, set on a few acres in a picturesque mountain hollow, was where they intended to retire peacefully. "We thought we had moved to paradise," Catherine says. They had no idea what was in store.

In 1991, the Hoffmans returned from a vacation to find the bright lights of a construction site on the mountains behind their home. To their shock, they learned that the mountains were slated to be part of a mountaintop-removal site that would potentially bury their local stream and flood their hollow with toxic waste. A long fight followed: The Hoffmans organized their neighbors, attended hearings and protested until they were able to persuade local officials to end the mountaintop removal. Their home was saved—but in the back of their mind, they always feared that the coal companies would return someday.

In the mid 2000s, the coal companies did come back. They proposed two new plans: one that would threaten the local Gauley River and another that would run a coal-truck route next to a preschool facility. The Hoffmans were particularly concerned about the effect polluting the river would have on a county that depends on rafting and tourism for much of its local income. Again, the Hoffmans fought to protect their community, but this time discovered that the damage had already been done: Samples from their water well were found to contain unsafe levels of lead and manganese. On a neighbor's property, similar tests revealed cadmium and arsenic. "Now we get our water from the New River in North Carolina," says Catherine. "There's water everywhere here—we just can't drink any of it anymore."

With Fayette County's water and air polluted by decades of mining, the health effects of coal mining in are everywhere, says Catherine. "There are autoimmune diseases, multiple sclerosis, kidney and gallbladder problems, and cancer. Everyone knows someone with cancer around here. Not too long ago, I was diagnosed with an autoimmune disorder myself."

The Hoffmans won the fight against the truck route and stopped the plans that threatened the Gauley River, but recently the coal companies returned with yet more mountaintop-removal plans. "We've been fighting for twenty years, and I just hope we can win this thing soon," says Catherine, who is seventy-three. "I'd like to see us stop mountaintop removal before I go."



are exposed every single day to the harmful toxins that are the byproducts of destructive mining practices.

Fighting Back

Despite the many challenges they have faced throughout the decades, Appalachian residents have a proud history of standing up for their rights. In 1921, coal miners went on strike for the right to unionize. They were attacked by local law enforcement and the U.S. Army, in what became known as the Battle of Blair Mountain. Today, Blair Mountain is the site of a new fight between local activists and mining companies that want to declare the historic area a mountaintop-removal site. The 2011 March on Blair Mountain, undertaken to call for the region's protection, was the largest march on the mountain since the historic battle almost a hundred years before.

Local environmental groups have called on the U.S. Environmental Protection Agency to protect West Virginia's wild lands and West Virginians' health. They have asked the EPA to stop granting new mountaintop-removal permits at least until the human health consequences are fully understood and to ensure that coal companies properly restore mountaintop-removal sites rather than dump toxic waste into local streams. As the evidence of harmful effects on human health mounts, local residents are pushing for an end to the practice altogether. At Blair Mountain and elsewhere, Appalachians are fighting for stronger safeguards against the dangers of mountaintop removal.



rainforests, the Indonesian coal-mining industry is one of the least regulated in the world.

Though it does lead the world in thermal coal exports, Indonesia also meets 60 percent of its own electricity needs by burning coal. This demand is expected to increase in coming years as Jakarta rolls out a national energy plan that will substantially increase the number of coal-fired power plants over the next two decades. Despite these plans, the vast majority of coal will still be shipped overseas while traditional Indonesian communities are left to pay the price.

Cirebon

Each morning, as the blazing Cirebon sun rises over the Java Sea, Indonesian shrimpers and fishermen unfurl their sails and cast their nets to catch the tiny *rebon* shrimp used to make *terasi*, a traditional Indonesian shrimp dish. The waters teem with life, as villagers continue a way of life that has existed for centuries. One such *terasi* maker, 48-year-old Kasneri, used to catch and cook *rebon* shrimp to earn her living with her husband, Dalim.

Lost Livelihoods

When the Cirebon Coal Powered Energy Generating Plant began development in early 2008, the effects of coal pollution were felt immediately. Fish populations plummeted and the irreplaceable *rebon* shrimp all but disappeared from coastal waters. When the *rebon* shrimp vanished, so did Kasneri's livelihood. Today, Kasneri no longer has a steady job and spends most of her day in her small, rundown home in Kanci Kulon, a rural village in the Astanajapura District. Occasionally, Kasneri's neighbors will offer her work in their rice field, but for six hours toiling under the searing sun, Kasneri earns only 10,000 rupiah (approximately \$1), not nearly enough to feed herself or her husband.

As if that weren't enough, after losing his family's source of income, Dalim fell alarmingly ill. When asked why she didn't take her husband to get medical treatment, Kasneri replied, "We don't have enough money even for a meal, let alone a doctor."

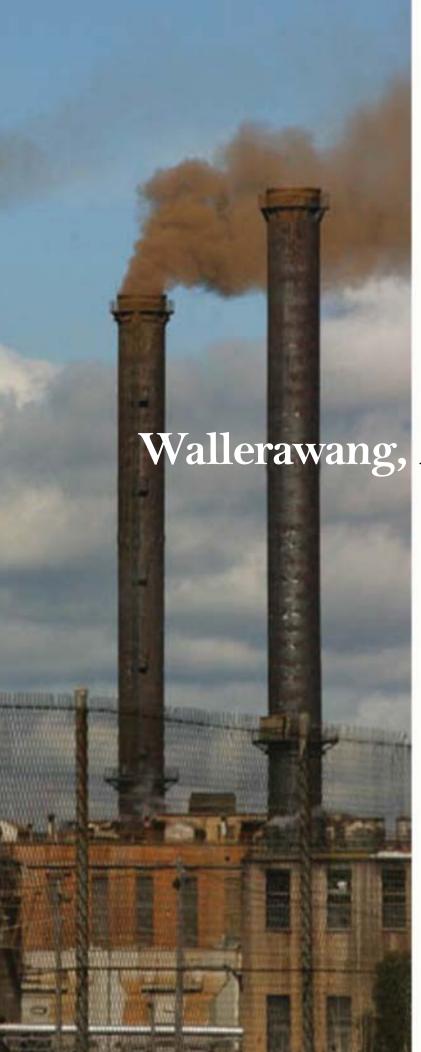
Corruption and Intimidation

Kasneri and Dalim are not alone in their suffering. Entire traditional Indonesian communities have been impoverished and displaced under the guise of "economic growth"—a euphemism for ensuring coal industry profits. Coal companies have bullied and intimidated many local villagers into selling their land at outrageously undervalued prices to make way for strip mining and development. If villagers refuse to sell, corrupt bureaucrats—their pockets lined with coal industry bribes—look the other way as power plants seize villagers' property, encroach on public lands, and divert precious water sources.

Fighting Back

After hearing the stories of fellow villagers like Kasneri and Dalim, Aan Anwarudin mobilized a powerful movement against coal in Astanajapura. His group "Rapel" (Environment Saves People) has helped unite local villages in rejection of the Cirebon plant. Pointing out the absence of outreach to local communities before the project started, as well as the failure to do a thorough environmental impact analysis, Rapel has organized several demonstrations against the plant developers and demanded the local Cirebon government halt plant construction. "The coal plant will not bring anything positive to the people of Astanajapura," says Aan. "Since its initial development, it has systematically impoverished us—salt-makers, terasi-makers, and green mussel catchers alike."





Australia

Wallerawang, New South Wales
Content and photos by Chris and Julie Jonkers and
John Hepburn, Greenpeace Australia Pacific.

Context

oal's impact has been felt in Australia since the early 18th century. Today, the industry is worth over \$50 billion, which has given it the political muscle to influence the Australian Parliament's environmental policymaking agenda. It is not difficult to see the industry's hand on the levers of power: Despite progress on climate legislation, Australia remains the planet's largest exporter of coal. As of 2010, Australia led the world in coal exports, shipping 77 percent of its 335 million tons abroad, where the toxic effects of its combustion are borne by local communities.

The painful irony for Australians, though, is that their country's export plans are increasingly dominated by foreign corporations, which seek to exploit the whopping 43.8 billion tons of coal located in New South Wales and Queensland. Today, the province of New South Wales has become a battleground, as individuals and families, sick of losing ground to corporate mining and toxic pollution, begin to fight back.

Wallerawang Resistance

In the Australian aboriginal dialect, *Wallerawang* means, "place near wood or water," and that's exactly what Wallerawang was: a beautiful Australian town surrounded by trees and winding streams that teemed with life. Now, a war rages in the foothills of Wallerawang, where mining projects are wreaking havoc on local communities—leaving polluted rivers, ravaged landscapes, and uprooted families in their wake.

Two local activists, Chris and Julie Jonkers, have watched their environment slowly deteriorate under the looming shadow of the Wallerawang Coal-Fired Power Plant and Mount Piper Coal-Fired Power Station, both owned by the New South Wales government's Delta Electricity energy company.

Environmental Degradation

The Jonkers know beyond a doubt that the Coxs River is sick. Straddled by the Wallerawang power plant, the waters of the Coxs are poisoned every day with high levels of salinity and heavy metals like arsenic, zinc, boron, and copper from unchecked leaching. Nearby, another coal-fired power plant at Mt. Piper draws cooling water from Lyell and Thompson's Creek Dams and drains the contaminated water back into the Coxs River. Toxic water has resulted in a devastating loss of wildlife, including the already endangered platypus, and now threatens the water supply of four million Sydney residents. While the blatant pollution of the Coxs has landed Delta Electricity in court, as long as the coal-fired power plants still operate, communities will continue to face the threat of a contaminated water supply.

We have lost all our hopes and dreams



Intimidation

The coal industry's political clout and overflowing coffers have kept local activists like the Jonkers from having their voices heard in Community Consultative
Committee Hearings. The industry has threatened villagers with legal action, and has pitted neighbor against neighbor by offering particularly vulnerable citizens exorbitant bribes to remain silent. Many Wallerawang residents don't even have the option of moving. Encroaching mines make homes in the area impossible to sell and, as the Jonkers describe it, leave impoverished homeowners with worthless real estate that seals their fate as "prisoners in their own town."

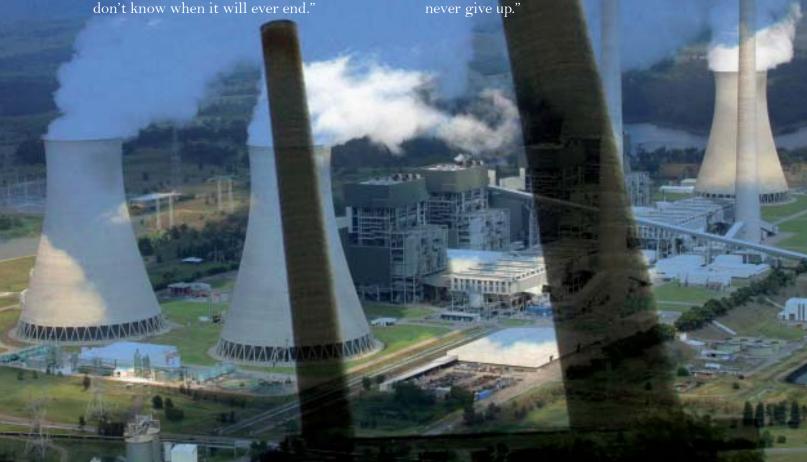
"We have lost all our hopes and dreams," says Chris Jonker. "Our mayor and town council have publicly and privately pilloried us for daring to criticize the God-almighty coal industry. We have cracks in our walls, tiles, and chimney from the blasting and dust through every square millimeter of our house. We can't escape the noise from coal trucks, dawn till dusk. Our property is worthless and unsellable, and we don't know when it will ever end."

Fighting Back

Forced to watch their homes and communities sacrificed for industrial development, the Jonkers have done anything but remain silent. Mobilizing a coalition of environmental groups and water-monitoring teams, the Jonkers have spearheaded a movement to counter the power company's industrial assault. They've submitted reports to state and federal officials, signed letters, held rallies, attended hearings, formed environmental and streamwatch groups with support from organizations like the Blue Mountains Conservation Society and educated local communities about the toxic dangers of coal-fired power plants.

Over the past decade, the Jonkers have made it their personal crusade to stand up to the coal industry and return Wallerawang to the state of natural beauty that gave it its name.

When asked what advice they would give to other coal activists around the world, the Jonkers reply: "Think locally, act globally, and never give up."





Hou Shier Quan Village, Inner Mongolia Photos provided by Greenpeace/Liu Feiyue

Context

Thile coal has fueled China's rapid development, its costs are reaching intolerable levels. China consumes a world-leading 3 billion tons of coal every year. The World Bank estimates that coal costs China \$100 billion in respiratory illnesses alone. Coal's toll also includes vast swaths of China's once-fruitful farmland, and air so choked with pollution in cities like Chongqing that their skylines disappear almost entirely into the smoke. Meanwhile, more than 4,000 workers die in China's coal mines each year.

The reality is that coal can't sustain China's future growth. Rising demand, combined with domestic bottlenecks, have turned China from a net exporter of coal to a net importer in less than a year. Now, China faces dramatically rising coal costs that are contributing to rolling blackouts. As clean-energy prices continue to fall, it has become clear why China is also leading the world in clean energy investment: Without safe and reliable power, the country's rapid economic development will grind to a halt.

Hou Shier Quan Village

Mr. Liu, a farmer from Hou Shier Quan village in Inner Mongolia, knows the cost of coal all too well: His mother recently passed away from respiratory disease, an ailment he fights himself. The

culprit is the Fengzhen coal-fired power plant and its associated coal ash dump, which covers more than 130 acres.

Environmental Degradation

The toxic ash from Fengzhen leaches into the groundwater supply and pollutes the air as it blows off the open-pit waste site. The same pollution that is killing villagers is also killing the crops and livestock that sustain them. Mr. Liu and the residents of Hou Shier Quan report that some farmland only produces half of what it used to. Village farmers who used to grow maize have been forced to switch to beets on some degraded land due to toxic pollution, but even with this switch, the yield is still barely able to sustain them. In addition, the cows that once thrived on the land developed acalcerosis (calcium deficiency) and were no longer able to stand, which forced villagers to give up raising cattle altogether.

Health Impacts

The ever-expanding pits of coal ash from projects like Fengzhen are rapidly becoming a major crisis across China. The country produces over 375 million tons of coal ash each year—more than twice as much as the amount of solid waste from its major and minor cities. While regulations stipulate that impoundments must be at least 500 meters from nearby villages, coal plants are already breaking these rules and allowing waste sites to encroach on this meager safety zone.

Because of their poverty, few villagers can afford treatment for the illnesses caused by the coal ash—a situation exacerbated by large amounts of ash blown onto fields, which increases the salinity and alkalinity of local water supplies.

It's not just rural residents who suffer from the lead, arsenic, selenium, sulfur, and other toxic pollutants found in coal ash. The massive dust storms that sweep across the country, which affect

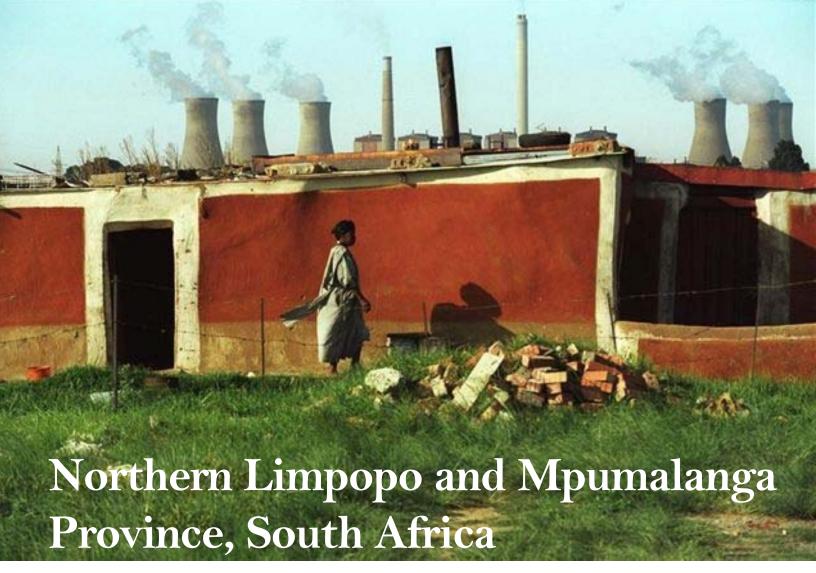
hundreds of millions of people, carry coal ash from the coal regions of Shanxi, Shaanxi, and Inner Mongolia all the way to Beijing, Shanghai, and other major cities. A particularly strong storm in Hexi Corridor in Gansu province carried 166,000 cubic meters of coal ash far from the Yongchang Power Plant, polluting everything in the storm's path. If that much coal ash were dumped on Tiananmen Square, it would create a blanket 38 centimeters thick. With no long-term plan for dealing with the pollution from these impoundments in sight, the crisis grows.

Fighting Back

Usually, farmers don't have an opportunity to object to the construction of a new power plant and coal-ash waste site. Yet Hou Shier Quan's villagers did fight back and, due to their complaints, were able to convince the local government to negotiate increased reparations from the company that owns the power plant. Now they get an additional 50 yuan per year for each farmer (roughly \$7, or the cost of an average meal in Beijing). While these reparations do not even begin to compensate the villagers for the terrible health consequences they endure, this first victory has given them hope.

That hope sustains the people of Hou Shier Quan as they continue to appeal to higher levels of the government. However, for people like Mr. Liu, the future looks bleak. With farming on the toxic soil not viable and the health effects from the coal ash impossible to avoid, his village is dying. He hopes his two sons will be able to leave Hou Shier Quan and go to college—their home is no longer suited for any kind of life.





Northern Limpopo & Mpumalanga Provinces

Content provided by Sierra Club Photos by groundWork South Africa

Context

The South African economy relies on coal for 93 percent of its electricity generation. Despite the increasing affordability of renewable energy, the coal industry here continues to develop two of the world's largest new coal-fired power plants, Kusile and Medupi, which will spew unregulated coal ash and toxic levels of sulfur dioxide, nitrogen oxide, and particulate matter into the surrounding environment. The burden on local communities doesn't end there: water from an increasingly drought-stricken supply will be diverted to feed these water-hungry power plants. On top of the environmental costs, local residents are being forced into astronomical tax increases to fund development of these plants. Unsurprisingly, urban and rural poor—mostly black South Africans—will bear the brunt of these new toxic emissions and cost increases, as their neighborhoods lie on the outskirts of cities that are divided along racial and socioeconomic lines.

Northern Limpopo and Mpumalanga

Northern Limpopo lies on the border of South Africa and Botswana and is world-renowned for its rich farmland, eco-tourism, and big game hunting. Susan Goosen, a local farmer from the Limpopo

province, is intimately familiar with land that has been in her family for generations. In 2010, the South African government approved the World Bank-funded 4,800-megawatt Medupi and Kusile coal-fired power plants. These coal plants will be two of the world's largestroughly the size of 18 average coal plants in the United States. Eskom's own consultants estimate that 35 new coal mines will be required to support Medupi and Kusile. Since the approval of these plants, Susan has witnessed the eruption of an industrial war, as Big Coal strips farmers of their property, leaves oncearable land unfertile and diverts rivers and streams to support dirty coal-fired power plants in a country where water was already painfully scarce.

Corruption

Industrial expansion and regional development have trumped fundamental South African rights. With unprecedented financial resources to bribe government officials, the coal industry has overrun small communities—promising jobs and a steady power supply. Instead, communities are left broken, unable to sustain the thousands of poor South Africans who flock to the area for employment opportunities that never materialize.



Local Resistance

Unwilling to stand by and watch her land crumble beneath her, Susan has become a fierce local voice in confronting mining and power plant development in Limpopo. After seeing the damage done to a local river from unchecked sand mining for Eskom's Medupi plant, Susan, together with other local farmers, brought in an environmental expert to analyze impacts of the sand mining on the Limpopo River and to identify alternatives. Not only did the expert determine that the damage being done to the river was possibly irreversible, it was also discovered that Eskom, Chobe, and Murray and Roberts were sand mining without adequate permits from the Ministry of Mining.

Susan's fight against Medupi has been reinforced by a chorus of South African and international voices seeking a halt to international funding for the disastrous Medupi and Kusile projects. Their struggle has helped galvanize international efforts to halt lending for new coal projects whose benefits are promised to the poor, but inevitably flow to the rich.



Intro

frenzied rush to build coal plants is sweeping across India. Last year alone, it led to somewhere between 150 and 173 coal-fired power plants being approved. These plants are overwhelmingly concentrated in a handful of districts. All told, India has enough plants in the pipeline to expand its coal-fired capacity a jaw dropping 600 percent over the next two decades. The sheer scale and concentration of this expansion has left local communities to bear the brunt of an increasingly violent onslaught of land acquisition, displacement, corruption, and intimidation. The result is a toxic legacy of pollution across major regions of the Indian subcontinent.



Many people outside of coal-affected communities accept the myth that coalfired power is to India's poor. Ground realities paint a very different picture: Local

Who is this development for? Who benefits? Who profits? Who loses their bringing development livelihoods?

communities and ecosystems pay the steep price of coal's impacts but rarely receive the power, let alone the profits, that are generated. All across India, people living near the highest concentrations of coal-fired power plants have the least access to electricity. Instead, power lines carry electricity literally over their heads and into industrial and urban areas, doing little to alleviate energy poverty in rural communities. Now, from the Konkan coast to Kutch Gujarat, communities are standing up for their land and their livelihoods.

Reclaiming Konkan

Vaishali Patil hails from the Konkan Coast of Maharashtra, a tiny strip of world-class biodiverse land that is home to thriving agricultural communities. Coal expansion plans for Konkan include 35 to 50 Gigawatts of new coal-based power—roughly equivalent to the output of 70 to 100 averagesized U.S. coal plants.

"Who is this development for?" Vaishali Patil asks. "Who benefits? Who profits? Who loses their livelihoods?"

Recognizing the threat these plans pose, Vaishali organized local youth and community groups as a part of a vibrant "people's movement" consisting of grassroots volunteers and activists to oppose new coal development. Together they rely on scarce funding and motivated individuals to organize mass protests, engage the media, lobby the government, and create reports to expose the damage that coal development will cause to the biodiversity that sustains local communities.

Kutch, Gujarat

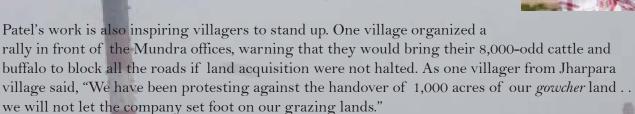
The Kutch coast is a rarity—it borders the legendary Rann of Kutch salt flats, yet is incredibly biodiverse—home to rich mangroves, coral reefs, and abundant fisheries. In fact, the Kutch mangroves are the second largest in India. Now two of the world's largest coal plants, Tata Mundra and Adani Mundra, which combined are roughly the size of 26 average-sized U.S. coal plants, threaten this ecosystem and the locals who rely on it.

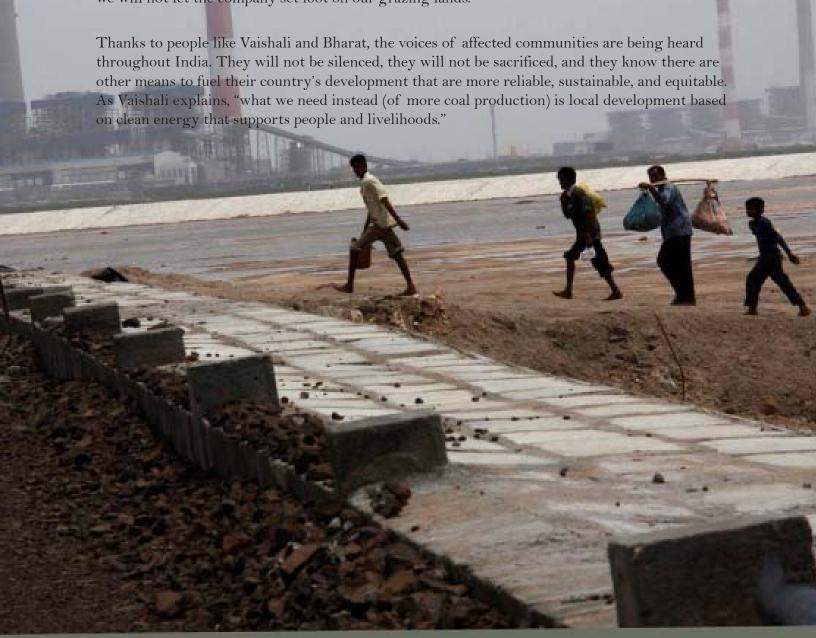
Bharat Patel helps locals affected by the development of these coal plants fight back by participating in environmental impact hearings. He works with fishermen who migrate from the main villages to the banders (fishing settlements) nine months out of the year to practice traditional fishing. He also works with *Rabaris*, a traditional cattle- and buffalo-rearing community that relies entirely on animal husbandry. These communities now face the immediate threat of displacement and the longer-term threats of fishery decline and shrinking grazing grounds as severe industrial pollution and land encroachment increase.

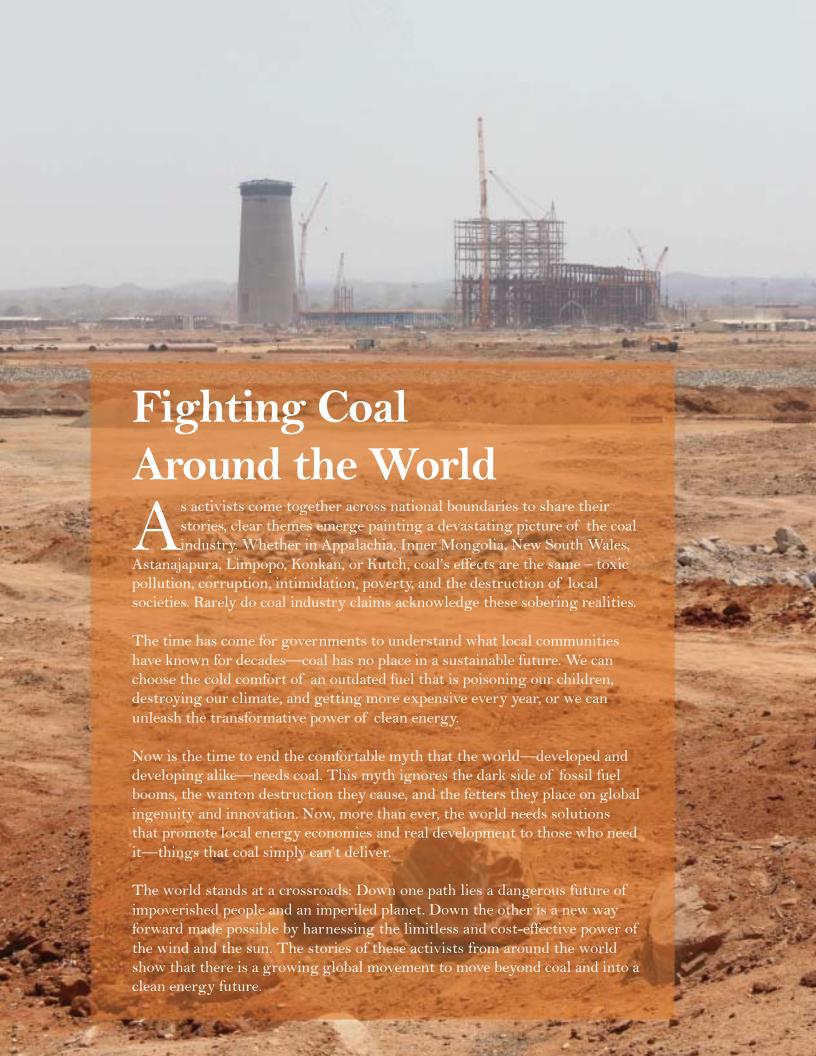
Fighting Back

The Konkan and Kutch movements are having an effect. As a result of Vaishali's work, villages have formed committees—with women making up a sizable portion of their membership—and have halted mining expansion in its tracks. "Because of our continuous protest, the [Maharashtra] government has put coal and mining leases on hold," says Vaishali.

In fact, the people of Konkan successfully pressured the Minister of Environment and Forests to order a moratorium on 49 mining projects and over a dozen coal-fired power plant projects, including one of the Indian Government's 4,000-megawatt Ultra Mega Power Projects (roughly the size of nine average-sized U.S. coal-fired power plants).







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