



DOUBLE JEOPARDY: COAL'S THREAT TO FORESTS

Report by Mark Olden and Dr Jess Neumann

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Executive summary

Coal is the [single](#) biggest [contributor](#) to man-made climate change.

[Deforestation](#) accounts for up to a [sixth](#) of CO2 emissions.

So when forests are torn down to make way for coal mines the danger to the planet intensifies.

This report gives - for the first time - a global picture of where this threat lies, and an estimation of its scale.¹

We have found that at least 11.9 million hectares of forest across the world are at risk from coal mining: an area larger than Portugal.

- In Australia, coal mining threatens more than 1.3 million hectares of forest, or an area the size of more than 2.1 million football fields.²
- In Canada, more than 1.1 million hectares of forest is threatened in the province of British Colombia alone.
- In Indonesia, 850,000 hectares of forest is threatened: almost nine per cent of the nation's total forest cover.
- In India and Colombia, coal mining threatens more than 250,000 hectares of forest, or the equivalent of 400,000 football fields.
- In the United States more than 211 thousand hectares of forest is threatened by mining activity across the Appalachian States.
- In New Zealand, 53,000 hectares of forest are under threat from coal mining.
- In the Democratic Republic of Congo (DRC) coal mining is putting more than 37,000 hectares of forest at risk.

Yet, as alarming as these figures are, the amount of forest facing destruction so that coal can be extracted from beneath its surface, is far greater.

First, there are limits on the information available.

We've sourced coal mining data for four of the world's five biggest coal producing countries³ (among others), and overlaid it with forest cover maps - but there are omissions. [Information](#) on [China](#), for instance - which produces and consumes more coal than any other nation and whose [economic ascendance](#) has been powered by it - is not publicly available.⁴

Second, there are the indirect impacts of coal mining that our calculations don't account for: the forests cleared to make way for the roads, towns and the other developments that follow in the wake of new or expanded mines.

Then, beyond the 'double whammy' that razing forests to burn coal poses to the climate, there is its devastating impact on forest dependent people and indigenous communities.

According to the World Bank [“forests contribute to the livelihoods of more than 1.6 billion people”](#) and an estimated 60 million indigenous people are “highly dependent” on forest resources.⁵

The solution, in part, lies with them.



The expansion of lignite in south east Romania mines is being resisted through various legal challenges.

“Protecting communities’ rights to forests is key to keeping forests standing and coal in the ground.”

Evidence shows [that the world’s legally recognised community forests hold roughly 37 million tonnes of carbon](#), or 29 times the annual carbon emissions of all the passenger vehicles in the world. The evidence also [shows](#) that the best [guardians](#) of forests are the people who live in them.

Protecting customary tenure rights should therefore be a key part of the strategy to keep forests standing - and where coal lies beneath them, keeping it in the ground.⁶

AUSTRALIA



Anglesea opencut coal mine, Victoria. IMAGE Courtesy of Takver (flickr.com)

“Coal is good for humanity, coal is good for prosperity, coal is an essential part of our economic future, here in Australia, and right around the world.”

Australia's then Prime Minister Tony Abbott [speaking](#) at the opening of the new A\$3.9 billion⁷ Caval Ridge coal mine in central Queensland, October 2014.

Australia's [addiction](#) to coal began more than 35 years ago, when Malcolm Fraser's Liberal government [sought](#) to reduce the country's dependence on oil, because of soaring global prices and political instability in the Middle East. On both security and energy grounds, coal was the chosen alternative.

Today, despite [a slump in coal prices](#), the addiction is as chronic as ever.

The legacy of Fraser's 1979 government's decision is evident in Australia's rank as the [world's fifth biggest coal producer and second biggest exporter](#), and in the Australian government's [support](#) for huge new coal mines, including the [A\\$16.5 billion⁸ Carmichael project](#) in Queensland's Galilee Basin, home to one of the [world's biggest untapped thermal coal deposits](#).⁹

But however great Australia's [appetite](#) for coal may be - [and in 2014 production increased by almost five per cent](#) - opposition to it is powerful and growing.

Threatened Forests

Fern has found that more than 1.3 million hectares of forest – an area equal to 2.1 million football fields - is threatened by coal mining across Australia. This [includes some prominent examples](#).

None, however, have attracted the world-wide attention of [Leard State Forest](#), a rugged landscape surrounded by mountains, in Gunnedah Basin, New South Wales.

The development of three open-cut coal mines here will mean that 40 – 50 per cent of the Leard State Forest - [more than 5,000 hectares](#) - is flattened,¹⁰ including some of Australia's [last unbroken remnants](#) of critically endangered [Box-Gum Woodland](#).¹¹ As well as depleting groundwater levels and [threatening rare species](#), if all three mining proposals proceed, according to a [study](#) by [Professor Ian Lowe](#), one of Australia's most [eminent](#) environmental scientists: "the total greenhouse gas impact... would rank above all but 50 entire nations: more than countries such as Sweden, Hungary, Finland, Portugal and Norway... So the proposals really are of global significance."

Rick Laird, a local cattle and wheat farmer whose family have been in the area for five generations, and who the Leard State Forest is named after,¹² has been at the heart of the protests against the mines. Two of Laird's five children attend school four kilometres away from Maules Creek, one of the three developments and Australia's [largest coal mine under construction](#).¹³



Australian rugby star David Pocock and local farmer Rick Laird chained to a coal digger in a direct action protest against the Maules Creek mine. Photo courtesy of Rick Laird.

“People saw that this is one of Australia’s dirtiest ever projects and they started coming here of their own volition.”

“We started a protest camp inside the forest to see what would happen, people saw it on the news and it just snowballed,” he says. Over time, thousands have [been drawn here](#), and local farmers have supported them with food and fuel.¹⁴

“People saw that this is one of Australia’s dirtiest ever projects and they started coming here of their own volition,” he says.

Those who have come have been remarkably diverse, and include: elders from the indigenous [Gomeri people](#), who say that the mine clearing is [destroying](#) their sacred burial and heritage sites; [Professor Colin Butler](#), an Intergovernmental Panel on Climate Change (IPCC) author, who was arrested at Maules Creek in November 2014 during a non-violent direct action, and who says that civil disobedience is now necessary to stop climate change;¹⁵ and [Bill Ryan](#), a 92-year-old World War Two veteran, arrested for trespassing at a protest in Maules Creek in the same year, and who says, “I’ve only got a few years left, but I feel in my conscience that I have to take this stand”.



Interview with Bill Ryan, 92-year-old World War Two veteran arrested during a protest at Maules Creek mine. By Front Line Action on Coal.

When an environmental activist [issued a fake press release](#) saying that the bank making a \$1.2 billion loan facility to [Whitehaven Coal](#),¹⁶ the company behind the mines, had withdrawn its funding on ethical and environmental grounds - thereby causing Whitehaven’s share price to briefly plunge - the campaign against the mines captured international attention.¹⁷ The activist, Jonathan Moylan, was [convicted](#) of disseminating false market information, but avoided going to jail.

A few months on, the involvement of [one of the world’s greatest rugby players](#), former Australian captain [David Pocock](#), sparked even more attention.

In November 2014, Pocock and Rick Laird were [arrested](#) after chaining themselves to a coal digger at Maules Creek for 10 hours, as part of a direct action protest.

“Together we were a pretty potent force in being able to put out the message that this is not just about climate change, or divesting [from coal projects], but about farmers being directly impacted by lack of water and dust pollution,” says Laird.

They both [pleaded guilty](#) to a charge of hindering, although no criminal convictions were recorded.

All the protesting and all the publicity however, has not been enough to stop the mines.

Laird says: “Each month they [Whitehaven] bring in more diggers. They are already putting out about seven or eight million tonnes of coal a year collectively and they want to achieve 23 million tonnes between the three mines. They are clearing and blasting and doing all sorts of things to achieve it, so we’re getting more trucks, more machines, more dust, more noise.”

ROMANIA

“Romanians are brothers to the forest,” old Romanian [saying](#).



Mining threatens 1600 hectares of forest in Gorj County.

For Romanians the forest symbolises “protection and life” says the writer Raluca Besli. This bond is expressed in numerous poems and folk [songs](#), and stretches deep into the country’s past, with [forests providing sanctuary](#) for those fleeing medieval as well as more recent conflicts.¹⁸

Yet since the fall of communism great swathes of the nation’s forests have disappeared, and around [half](#) of all the logging in Romania is said to be illegal,¹⁹ with some of the last expanses of ancient [old-growth](#) forest in Europe [under threat](#).

In spring 2015 [thousands](#) took to the streets the length and breadth of the country to protest against the [corruption](#) that drives much of this. Mass rallies though, are only one way Romanians are resisting the destruction of their precious forests.

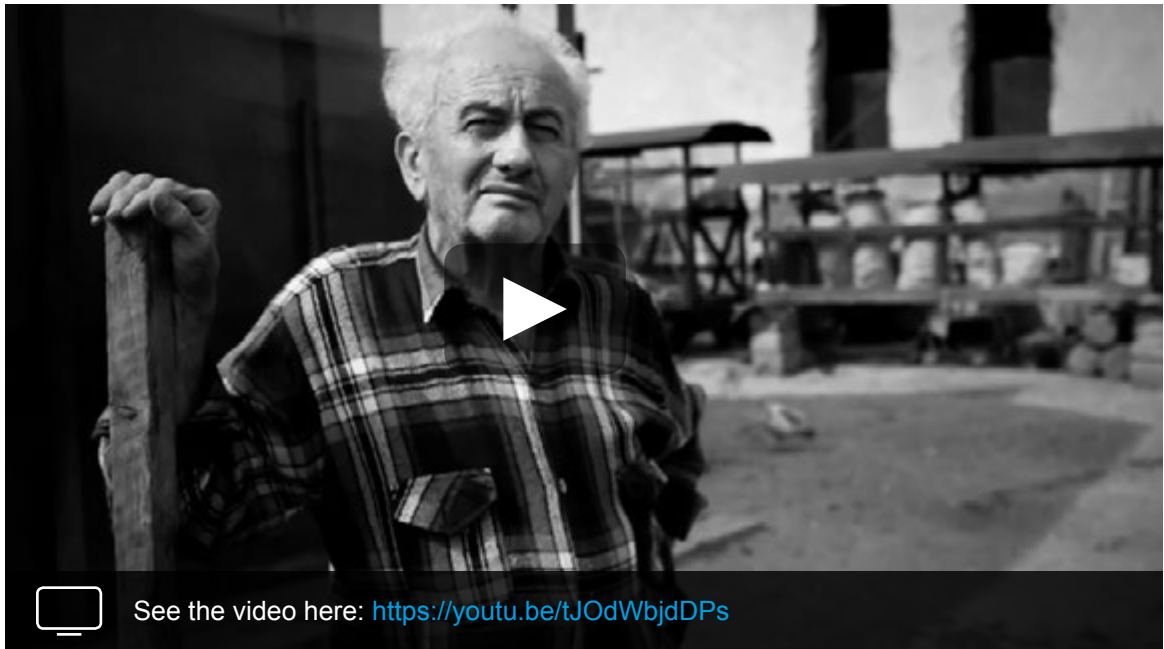
“There used to be forests in this area. We had beautiful forests. Lands were full of trees: apple trees, pear trees, plum trees, cherry trees, vineyards. Now they’ve gone because the mines have come.”

Coal battle

In the Rovinari basin in Gorj County, south east Romania, the proposed [expansion of 10 lignite](#) (or 'brown coal')²⁰ mines will increase [pollution](#), damage the fragile ecosystem, see hundreds of families evicted from their homes, and 1600 hectares of forest - an area the size of 2,560 football pitches - destroyed.²¹

When the photojournalist [Mihai Stoica](#) visited the villages surrounding the mines last year for the NGO [Bankwatch](#) Romania, he found communities - as well as individual families - torn. Some welcomed the expansions because of the promise of more than [700 new jobs](#) by the state company Oltenia Energy Complex (OEC), which runs the mining operations. Others were bitterly opposed, their hostility fuelled by the misery that the existing mines had already brought.

In Runcurelu village local resident Severin Sperlea recalled better days. "There used to be forests in this area. We had beautiful forests. Lands were full of trees: apple trees, pear trees, plum trees, cherry trees, vineyards. You always found some fruit to eat when you went to work in the field. Now they've gone because the mines have come."



When mines expand... Video courtesy of Bankwatch.

He greeted the lure of new jobs sceptically. "If you destroy a man's land and don't hire him, what's he going to live on? What's he going to do for a living? That's the problem."

In nearby Stiuncani, a forgotten village of just a few houses, Olimpia Jilavu had spent much of her meagre pension for the past two years taking OEC to court, arguing that her land is incessantly flooded by water containing waste from the company's mine. "Will it ever get dry here? Water keeps coming in. I don't know what to do. Nobody cares about us. They will find us dead in these hills, in cracks, burning, or taken away by flooding," she despaired.

Jilavu is not the only one using the law to take on the might of the mining company.

[Bankwatch](#) Romania has brought a [series](#) of legal cases against the expansions using the country's [Forest Code](#) and other environmental laws, and has managed to get 27 deforestation and three environmental permits annulled - although the decisions can be appealed. Bankwatch has also lodged an [infringement procedure case](#) with the European Commission, claiming that the mines' expansions violate the European Union's [Environmental Impact Assessment Directive](#) (EIA).

The judgements in these cases will be felt far beyond Gorj County.

INDONESIA: COAL RUSH IN KALIMANTAN



IMAGE © Mokhamad Edliadi for Center for International Forestry Research (CIFOR).



In Indonesia, more than 8.6 million hectares of forest is threatened: almost nine per cent of the nation's total forest cover.

- Indonesia is the [world's biggest coal exporter and fourth coal biggest producer](#).
- It has the [highest](#) or [second highest](#) rates of deforestation in the world – depending on which study you choose.
- It is the world's [sixth highest emitter of greenhouse gasses](#).

In Kalimantan - the Indonesian portion of the island of Borneo - a [coal rush](#) has [led to land grabs, pollution and wholesale forest clearances](#) - with a [devastating effect](#) on indigenous people.



See the video here: <https://youtu.be/Dk6AcoLq9J0>

Top five banks fuelling climate change video.

THE WAY FORWARD: HOW FOREST LAWS CAN STOP COAL

For more than 20 years Fern has strived to protect forests and the rights of those depending on them. In that time, the [evidence](#) that recognising and strengthening local communities' customary land tenure can prevent deforestation has grown. This is true whether forests are being destroyed for timber, [agriculture](#) or coal.

INDIA: AN INSPIRING AND CAUTIONARY TALE

In India [the fight against coal is also a fight to save forests.](#)

Coal is a cornerstone of Prime Minister Narendra Modi's government's development strategy and the country's [biggest source of primary energy](#). In 2014 [coal production in India rose by 6.4 per cent](#), more than anywhere else, and each month, on average, a new coal mine [opens](#): part of a relentless drive to [double](#) coal output by 2020²³ and bring electricity to the [300 million people](#) currently without it.

Yet those behind this push for coal have a problem. Much of the country's coal lies under remote, dense forests.

According to the [Wall Street Journal](#),²⁴ more than half of the country's 285 billion tons of coal reserves are beneath forests, while our study - using GIS coal data from Greenpeace covering 13 coalfields in central India - shows that more than 250,000 hectares of forest in India is threatened by coal mining. Given the limitation of the data, the real figure is vastly higher.²⁵



India's coal rush triggers climate change fears, by AJ+

So far, arguably the greatest single bulwark against wiping out forests for coal has been India's Forest Rights Act (FRA). Its successes have reverberated through India's corridors of power, sparking an unprecedented [crackdown](#) on those seen as "[threatening India's energy security](#)".²⁶

The FRA - or to give it its full name, the Scheduled Tribes and Other Traditional Forest Dwellers Rights Act (Recognition of Forest Rights Act, 2006) - [seeks to redress historic injustices inflicted on India's forest dwellers, in particular so-called 'tribals'](#), by granting them occupation rights in forest land. Its supporters call it "[a weapon of democracy in forests](#)".

This weapon was deployed to great effect in the [struggle](#) between the UK company [Essar](#) and the Indian government on the one hand, and local people on the other, over the former's plans to create an open cast coal mine in the Mahan forest, in Madhya Pradesh.

[Mahan is a contiguous 20,000 hectare forest covering some of India's highest quality coal](#) and the mine block within it, [said Greenpeace](#), would have devastated the forest and the biodiversity it supports, as well as the livelihoods of thousands of people, while having a dire impact on animals, water and air in the region.

Under the FRA, mining could only proceed if a majority of villagers in the area agreed - and the Mahan villagers passed an official resolution blocking it.²⁷

In March 2015, after a protracted [five-year struggle](#), the Indian government confirmed that the Mahan forest mines would not go ahead. But while they conceded the battle, they were not ready to concede the war.

Instead, the government [clamped down](#) ruthlessly on those opposing coal, [harassing Greenpeace](#) activists, freezing its bank accounts and cancelling its status as an environmental NGO. They have also [moved to try to weaken the FRA and other major environmental laws](#).²⁸



Greenpeace film on the battle to preserve the Mahan Forest

Greenpeace is not alone in being attacked for attacking coal.

[Ramesh Agrawal](#), a former social worker from Chhattisgarh, [home to around a fifth of India's coal reserves](#), was shot in the leg by gunmen who broke into his internet café, after he helped villagers use the Right to Information Act to get the [environmental permit](#) for what would have been the state's largest coal mine overturned.²⁹ He had started campaigning after witnessing how [forests and farms around the state](#) were being destroyed for coal.

Nowhere more than India demonstrates how strong forest laws enshrining forest communities' right can stop coal. And nowhere else reveals so vividly the challenges involved.

Fern's touchstone: forest people control their own resources

Global consumption of coal may be [falling](#), its [price](#) plummeting, and major financial institutions [divesting](#) from it - but '[the end of coal](#)' is far from nigh.

A January 2015 [study](#) showed that 88 per cent of the world's known coal reserves need to stay in the ground "to avoid dangerous climate change" and keep global warming below 2°C, the de facto target of global climate policy.³⁰ Stronger forest laws and giving communities greater control over the forests in which they live can help to achieve this.

ABOUT FERN

The world's fast-dwindling forests are being destroyed in a multitude of ways: cleared for mining, invaded for agriculture plantations, degraded by logging, drowned by reservoirs and subdivided by roads and pipelines, among others.

The exact threats vary with time and place. But in each case, the root causes are unjust power structures that promote the short-term interests of elites over the long-term needs of communities that use and live in the forests, and which ignore the ecological limits of the planet. Fern's purpose, as a Europe-based NGO, is to address these root causes from a European perspective. As a major aid donor, investor and importer of commodities derived from forests, the European Union has a significant impact on forests and forest communities. But the EU also has concerned citizens and a well-developed mandate for protecting human rights and the environment. Fern believes its democratic institutions can be harnessed to protect forests and improve the lives of forest communities worldwide. For this reason, Fern's advocacy is based on researching forest governance, on providing information that can generate practical solutions to governance failure, and on holding EU institutions and Member States to account. Fern believes in giving a voice to the people who are best placed to protect the world's disappearing forest resources – those who use, live in and derive their livelihoods from the forests. Through its partnerships and other means, Fern promotes their rights and participation in decisions that affect them. But even the strongest voices cannot succeed alone. Real lasting change most often happens when individuals, communities and civil society groups work together towards a common goal. So Fern focuses on building networks and coalitions, both within and outside the EU, that can work towards a common purpose -- making the EU work for forests and forest communities in the interests of a shared planet.

Disclaimer: The data and information gathered to produce the maps contained within the report have been done so competently, with diligence and care but no explicit warranty is provided as to their accuracy or effectiveness. This is especially true where data or information come from third parties. The data and maps have been prepared for use by the commissioning party. No liability is accepted by GIS and Mapping Services for any inappropriate use of data or map outputs in this report or any other subsequent works.

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Notes

1. In June 2013 Chatham House, the Royal Institute of International Affairs, brought together 40 experts from around the world for a workshop in London to examine [The Impact of Mining on Forests](#) (coal was only one of the commodities discussed). The [summary](#) of the meeting states: "While there is much anecdotal information about the direct and indirect impact of mining on forests, no comprehensive review has been undertaken to date. Given the important role forests play in sustainable development and climate regulation, this lack of information and analysis is worrying. A sound understanding of the impacts of mining on forests is needed to identify policy measures that can mitigate any negative impacts and help ensure that the mining sector makes a positive contribution towards sustainable development."
 2. This calculation is based on the standard international size of football pitches of approximately 64 x 100 metres.
 3. The world's five biggest coal producers are, in descending order: China, the US, India, Indonesia and Australia. See: [Key World Energy Statistics, 2014, International Energy Agency](#).
 4. Many Geographic Information System (GIS) maps of coal mining concession areas - including for China - are available commercially from industry analysts. Fern approached leading companies for data, but their licensing agreements would have precluded us from sharing or republishing the information even if we paid for it - undermining our open data policy and the report's raison d'être. Consequently, our report shows GIS mapping's power to provide compelling evidence of the nexus between coal and forests, as well as the practical challenges of finding and producing this evidence. Our experience, as well as that of [Global Forest Watch](#) (GFW) project, is that publicly available mapping data varies greatly between countries. The Chatham House workshop, [The Impact of Mining on Forests](#), also identified other challenges, stating among its findings: "While very fine-resolution maps are increasingly available, the data require both a significant amount of time to process and ample storage space; Mapping methodologies can vary according to vegetation type, making comparison of data difficult. With the exception of large mine scars, it is difficult to map dispersed mining impacts, while the integration of data on small-scale impacts is another challenge."
 5. The Food and Agricultural Organisation of the UN (FAO) [estimates](#) close to 1.6 billion people rely on forest resources for their livelihoods.
 6. Recent evidence supporting this includes a paper by the World Resources Institute, [The Economic Costs and Benefits of Securing Community Forest Tenure](#).
 7. A\$3.9 billion is €2.65 billion at the current exchange rate.
 8. A\$16.5 billion is €11.21 at the current exchange rate.
 9. The [Carmichael Coal Mine and Rail Project](#) has been the target of huge public protests, with the [threat](#) posed to the Great Barrier Reef among the many objections. By Greenpeace's [estimate](#), burning the coal the Galilee Basin's mines are expected to produce will result in 128.4 million tonnes of CO₂ a year – roughly the same as [Belgium's current emissions](#).
 10. This is [Greenpeace's](#) calculation. The NGO also points out that "The 2011 Maules Creek Environmental Assessment in fact predicted a greater impact than 40 per cent over the next two or three decades: 'Based upon current proposals within the Leard State Forest, the combined impacts of mining could remove 3,081 ha of the 5,053 ha of forest and woodland, a total of 60 per cent. This would include removal of 1,217 ha of 2,153 ha of Box Gum Woodland and Derived Native Grassland, equating to 57 per cent of the CEEC within the forest.'"
 11. The New South Wales Department of Premier and cabinet described the Leard State Forest as having "irreplaceable, ecologically unique values". NSW Office of Environment and Heritage, 2011, Proposed Maules Creek Project (10_0138) – Review of Publicly Exhibited Environmental Assessment Report, pg 11. See: [Whitehaven Coal: No Future](#), Greenpeace, October 2014.
 12. Leard was the Lairds original family name.
 13. Maules Creek Mine [began](#) operating commercially in July 2015 and was officially opened two months later, in September. See: [http://www.whitehavennews.com.au/official-opening-of-maules-creek-mine/](#)
 14. Rick Laird interview with Fern, 8.10.15.
 15. After his arrest, Professor Butler said: "It's getting worse. The evidence for climate change is getting stronger and yet instead of moving away from coal exports [Australia] is just advocating it. It's the moral equivalent of selling heroin and saying, 'It's not my fault I'm selling heroin, it's the people who use it'. We profit from selling something we know poisons the future." See: [http://www.canberratimes.com.au/act-news/canberra-university-professor-arrested-at-coal-mine-protest-20141128-11w7lq.html](#)
 16. Whitehaven Coal's analysis of the ecological impact of the mines and their proposed mitigation for it can be seen here: [https://www.whitehavencoal.com.au/environment/docs/ea-main-volume-part-3.pdf](#) while their statement on the activists protesting against the mines is here: [http://www.whitehavennews.com.au/increased-level-of-illegal-activity-by-activists-highlights-need-for-tough-action/](#)
 17. In July 2014 Jonathan Moylan was sentenced to a year and eight months in jail for disseminating false information to the market, but released immediately, with the judge noting that he had done so not for financial gain, but with motives that were "sincerely held". See: [http://www.smh.com.au/nsw/jonathan-moylan-avoids-jail-term-for-fake-anz-media-release-about-whitehaven-coal-20140725-zwwe7.html](#)
 18. Raluca Besliu [points out](#) that Romania's woods provided sanctuary in ancient as well as recent times, ensuring a safe haven for anti-communists opposing the communist regime from the late 1940s to the mid-1950s.
 19. According to the [Romanian Court of Auditors](#), six percent of the country's total forested area has been illegally logged since communism ended. As well as the environmental cost, they calculate this has resulted in financial losses of €5 billion. See also, [Clear-Cutting Romania: Logging Threatens One of Europe's Last Virgin Forests](#), Der Spiegel, May 8, 2015. In April 2015 the Environmental Investigation Agency (EIA) [exposed](#) how an Austrian timber company was offering bonuses for illegal Romanian timber. See: [http://www.balkaninsight.com/en/article/romanians-protest-over-illegal-logging](#)
 20. Lignite is the youngest form of coal and is almost exclusively used for electric power generation. See: [https://www.worldenergy.org/data/resources/resource/coal/](#)
 21. In response to comments by Bankwatch, the regional Environmental Agency in Gorj County stated that 1698,99 hectares of forest needs to be cleared for the expansion of the 10 lignite mines. See: [http://www.anpm.ro/documents/20769/2849198/Formular+prezentare+solutii+UMC+TISMANA+Tismania+1.pdf/f2e4bb0a-4c63-445b-b421-8e09bed5e9f5](#).
 23. India is the world's third biggest coal producer. See: [Key World Energy Statistics, 2014, International Energy Agency](#).
 24. The Wall Street Journal does not provide a source for this figure.
 25. Greenpeace supplied Fern with the polygon coal mining data used to reach the figure of 250,000 hectares of forest under threat. In 2012 Greenpeace used this same mining data, which they attained under India's Right to Information laws, in its report [How coal mining is trashing Tigerland](#). They estimated that 1.1 million hectares of forest was at risk through coal mining. Our figure is less because we have used different forest cover data and more limited forest cover descriptions. Both the Fern and Greenpeace studies show the need for higher resolution forest data than is currently available – and both are undoubtedly underestimates of the amount of forest at risk from coal in India.
 26. CoalSwarm, 'the collaborative information clearing house for the worldwide citizens' movement to address the impacts of coal' has detailed the opposition to coal across India on its Sourcewatch wiki site, a joint project with the Centre for Media and Democracy. See: [http://www.sourcewatch.org/index.php/Opinion_to_coal_in_India](#)
- In June 2014 a leaked secret briefing from India's Intelligence Bureau stated: "While [Greenpeace's] efforts to raise obstacles to India's coal-based energy plans are gathering pace, it has also started spawning mass-based movements against development projects and is assessed to be a potential threat to national economic security." The full briefing is here: [http://www.pratirodh.com/wp-content/uploads/2014/06/IB-Report-NGO.pdf](#)
27. For detailed accounts of the Mahan Forest case and the Indian government's crackdown on Greenpeace, see: [In India climate change takes a back seat to coal powered development](#), ClimateWire, October 16, 2015, and [India's war on Greenpeace](#), The Guardian, August 11, 2015.
 28. Greenpeace is presently fighting for its survival in seven court cases.
 29. Ramesh Agrawal was awarded the prestigious Goldman Prize in 2014 for his environmental activism.
 30. Professor Paul Ekins and Dr Christophe McGlade state that the overwhelming majority of the coal reserves in China, Russia and the United States must remain unused. See: [The geographical distribution of fossil fuels unused when limiting global warming to 2 °C](#), January 2015.