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**Energy Watch Group:
The capacity of coal is significantly overestimated**

The statistics on global coal reserves are probably too high
Peak production could be reached as soon as 2025

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Notwithstanding the significant climate risks, the share of coal in energy supply is being significantly expanded. Yet this road could lead to a dead end: for the first time, the Energy Watch Group has analysed the international statistics on coal reserves. The report also looks at future prospects for coal production in the coming decades. Conclusion: many statistics are out of date. Up-to-date and transparent data collection is urgently required.

It is probable that significantly less coal is available than is widely assumed. "The statistics suggest that the coal in known deposits is available at today's market prices, but this is out of the question," says Dr. Werner Zittel, head of the study at the Energy Watch Group. "A lot of information has not been updated for years. Where updating has occurred, the reserves have for the most part been adjusted downwards; in some cases drastically." Indeed, the German Federal Institute for Geosciences had for decades indicated that the German black coal reserves comprise 23 to 24 billion tonnes. In the year 2004, this was adjusted to 183 million tonnes, i.e. reduced by 99 percent. By way of explanation, it was noted that speculative resources were now no longer taken into account. In the intensive debate over the future of German black coal mining, this data played no role whatsoever, although the debate as to whether mining should continue at a constant level was thus done away with. For lignite, there have also been dramatic devaluations of more than 80 percent. Germany is the world's largest lignite producer. There are similar tendencies, if not on such a massive scale, in Great Britain and Poland, for example.

However, regardless of this trend, coal is being dealt with as a replacement for crude oil and natural gas, reserves of which will decrease considerably in the coming years. "This ray of

hope is quite dim," warns Zittel. "The data is very unreliable. For some nations such as Vietnam, the data has not been updated for 40 years. The last update of data from China is from the year 1992." Around one fifth of the Chinese reserves indicated back then have since been mined. It is highly probable that Chinese coal production will pass its peak in the coming ten years.

In the past 20 years, only India and Australia have increased their reserves: India from 12.6 billion tonnes (1987) to 90 billion tonnes (2005) and Australia from 29 billion tonnes (1987) to 38.6 billion tonnes (2005). For all other countries, the reserves have been devalued by 35 percent on average. Overall, the world's available and mineable black coal reserves were estimated in 2005 to be 15 percent lower than in 1987. The same trend is evident for lignite. The assumed worldwide reserves were reduced by 50 percent in the same period of time. With today's level of consumption, the coal reserves indicated by statistics would last for 155 years.

Six nations share 85 percent of the world's coal reserves. At the top of the list is the USA (2005: 120 billion oil-equivalent tonnes), followed by Russia (69 billion tonnes), India (61 billion tonnes) and China (59 billion tonnes), with Australia and South Africa further behind. The country with the most reserves is not automatically the most significant producer: China is the world's largest coal producer (2005: 1.1 billion tonnes) but has reserves only half the size of the USA's reserves. The United States mined around 576 million tonnes in 2005, whereas they own 30 percent of the world's reserves. The Australians extracted 202 million tonnes from the ground, India 200 million tonnes. With South Africa and Russia included, these six nations account for around 80 percent of the world's black coal production.

In 2005, significantly lower volumes were exported. The largest net exporter was Australia (150 million tonnes), followed by Indonesia (60 million tonnes), South Africa (47 million tonnes) and Colombia (36 million tonnes). China and Russia also released coal onto the world market. These six countries contribute around 85 percent of exports worldwide. However, in a few years, China will no longer be an exporter. On paper, the coal reserves in the USA are sufficient for more than 200 years. However, there is plenty to suggest that peak production there is not far off, if it hasn't already been passed. As the share of black coal has been receding since 1990, the contribution made by domestic coal to energy supply in the

USA has been stagnant, or even decreasing, since 1998. It is already necessary to import high-grade coal. It is probable that the estimated coal reserves in Montana will never be mined, as opencast mining there has to compete directly with the farmers' pasture land. Livestock farming is this state's most important industry. Yet as much as half the USA's coal reserves are in Montana.

If one were to assume that coal is to make up for the decreasing production of natural gas and oil in the coming decades, a 30 percent expansion of global production would be conceivable for the time being. This increase would have to come primarily from Australia, China, Russia, the Ukraine, Kazakhstan and South Africa. Afterwards, production will remain constant, to then continually decrease after 2025. "This brings us to a different conclusion than that of many observers," states Zittel. "Investment in clean coal ties up a lot of money and attention. This will primarily serve to justify the construction of new coal-fired power stations in the coming 10 to 15 years. If later, so-called sequestration of carbon is ready for the market, it will become irrelevant, because the emitting power stations will already be built, and further construction will no longer occur, due to the insufficient availability of coal."