

Episode 56jF and Flyer. September 25, 2023. What killed canaries in Coal Mines? What were canaries replaced by?

Flyer: Residents Against Indoor Residential Wood Burning. 1)Photo of a Miner, a Canary in a Cage and the new Carbon Monoxide Detector replacing the canary. A Canary in a Coal Mine, in British Mines from 1911 to 1986, in 1986 replaced by a Carbon Monoxide monitor. Today we have PM2.5 monitors to protect near neighbors of indoor residential wood burners. Replace wood with Heat Pumps. 2)Photo of a Crystal Cave. The World could be like a crystal cave, with no human caused PM2.5, CO2 or CO emissions from solid fuel burning like coal or wood burning. Wood burning emits more PM2.5 & CO2 than coal burning. Use wind, solar, & geothermal to power a Heat Pump on a smart electric grid extending to all rural areas.

United Kingdom, From 1911 to 1986 Canaries in a Coal Mine were used for Carbon Monoxide detection in British mines. In 1986 legislation mandated that Canaries be replaced by Carbon Monoxide Detectors. The miners missed whistling to the birds and treating them as pets. Forbes. The Canary In The Coal Mine Isn't Ancient History. Dec 31,2019. <https://www.forbes.com/sites/kionasmith/2019/12/31/the-canary-in-the-coal-mine-isnt-ancient-history/?sh=738b25e44393> Excerpts edited by RAWSEP for brevity and clarity and relationship to Residents Against Wood Smoke Emission Particulates. As late as 1986, many British Coal Miners were still relying on canaries to detect dangerous carbon monoxide fumes in the mines. The birds are a cliché now, but they were a practical reality within the lifetimes of many of you reading this in 2019. British legislation officially ordered miners to replace canaries with electronic carbon monoxide sensors on December 30, 1986, although miners [had about a year to phase out the last 200 canaries still in use in Britain's coal mines](#). Coal miners face many constant dangers: cave-ins, explosions, fires, and dangerous gases like carbon monoxide. The gas is odorless, colorless, and tends to replace oxygen molecules in the bloodstream, which keeps actual oxygen molecules from reaching organs and tissues. At first, [carbon monoxide poisoning](#) just causes a mild headache, dizziness, and shortness of breath, but it can quickly become fatal. And because [burning coal and wood](#) is a perfect way to release carbon monoxide into the air, coal miners are especially at risk. But canaries, it turns out, are much more sensitive to carbon monoxide and other poisonous gases than humans. Around 1911, miners started carrying canaries into the mines with them, and they quickly became a metaphor for warning signs – when the canary keels over, it's time to evacuate the mine before you become the next victim. By 1986, though, only about 200 canaries were still being carried into British coal mines. The new digital detectors were cheaper and more effective.. Miners missed “whistling to the birds and coaxing them as they worked, treating them as pets,” reported the BBC in 1986, describing miners “saddened” by the decision. Wiki: **Canaries were iconically used in coal mines to detect the presence of carbon monoxide.** The bird's rapid breathing rate, small size, and high metabolism, compared to the miners, led birds in dangerous mines to succumb before the miners, thereby giving the miners time to take action. Try not to malign the miners, maybe miners, like firefighters today, caught the canaries as they fell from their perches and rescued everyone, every time! RAWSEP uses the iconography of a “canary in a coal mine” to stand in as sentinels of danger from PM2.5 and Carbon Dioxide from indoor residential wood burning, which affects the health and shortens the health of near neighbors of the wood burner. In the present day, either the near neighbors are the “canaries in a coal mine” or the PM2.5 monitors hung from the eaves of the homes of the near neighbors are the “canaries in a coal mine”. The near neighbors would prefer that the “canaries” be PurpleAir PM2.5 monitors handed out by the government to any near neighbor of an indoor residential wood burner whose polluting smoke enters the yards of the near neighbors. Who then would be left to take action? The near neighbors, who would alert their local Health Department to the dangerous emissions (violating federal National Ambient Air Quality Standards (NAAQS) now set in 2023 at 35 micrograms per cubic meter of PM2.5). PM2.5 is particulate matter of 2.5 micrometer size, the perfect size to infiltrate the human lung, setting off a cascade of human health problems and early deaths. <https://rawsepresidents.wordpress.com> for Videos, Podcasts & PDFs. RAWSEP is also writing a Federal grant to purchase and distribute PM2.5 monitors and Heat Pumps. <https://RAWSEPresidents.wordpress.com>