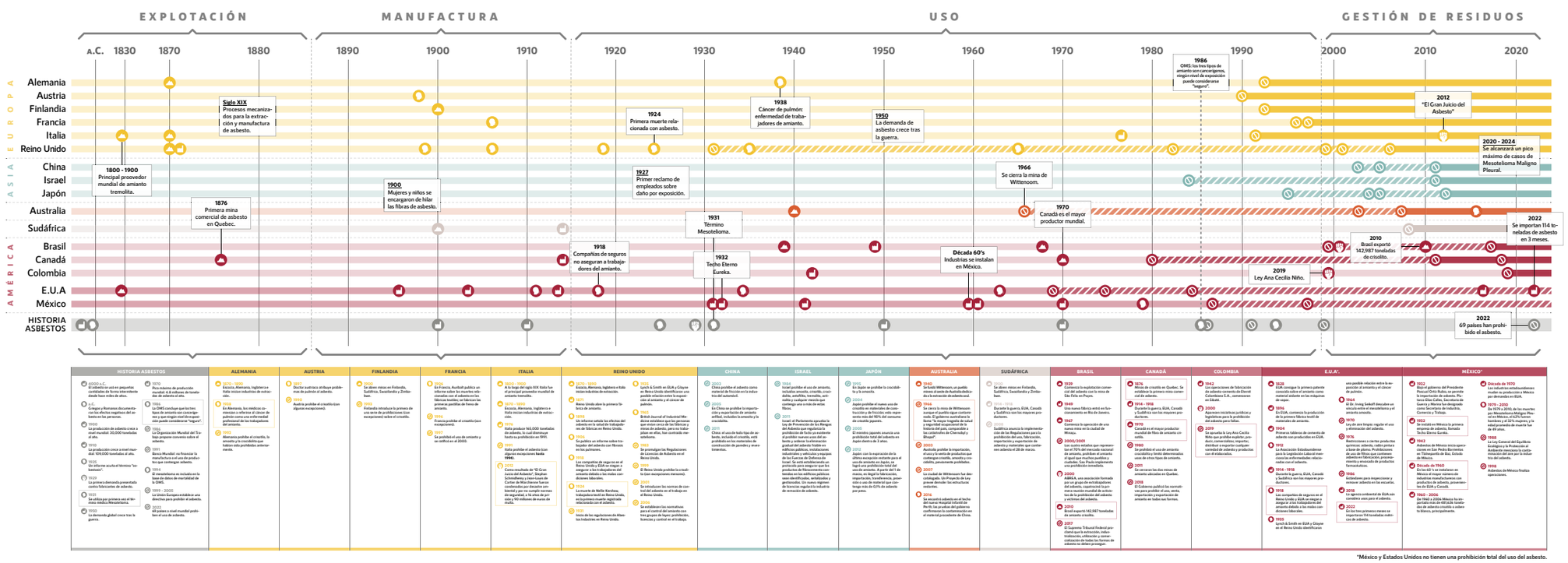
Category: **Emergency and safety**

Project: **Inequality and risk: The evolution of global asbestos production and regulation**



What was the challenge?

There are some countries like Mexico where asbestos has not been totally prohibited by regulation, while others (mainly in Europe) are thinking about how to remove the material to avoid future risk. Having a law against the so-called "hidden killer" is not enough. We still have to deal with all the fatal diseases that result from its exposure; it is estimated that 100,000 people die every year as a direct result of exposure (Hadley & Rennell, 2013). About half of the world production and consumption of asbestos occurred between 1976 and 2003 accumulating about 181 million metric tons and the process of regulation and prohibition varies between countries. This work is part of a multidisciplinary research study funded by the National Council of Science and Technology (CONACYT) in Mexico which aims to influence public policy and social transformation.

Our information design team developed a series of visualizations for research analysis and communication materials. This timeline aims to map the evolution of the global asbestos production, consumption and history of the regulation process, considering its various stages (exploitation, manufacturing, uses and management disposal) in order to understand and compare leading countries' actions in Asia, Europe and LATAM and identify key aspects that are associated with regulation enforcement preceding an outright ban, like social movements, disease outbreaks (particularly mesothelioma) and compensations and claims.

What was the solution?

Inspired by the work of designer Atley G. Kasky: "Good Sheet: The First 100 Days", we mapped a general historic view of the evolution of the world's asbestos production and their protagonist countries by continent. Each track represents actions regarded by each country in the production and regulation matter. The pictogram system represents landmarks worth mentioning in relation to the regulation and production process from partial to superior bans or total prohibition.

By visually comparing information we were able to identify an approximate gap of 30 years delay between regulations in European countries and the beginning of the Mexican asbestos industries. For example, by the beginning of 1930's the UK was starting a partial regulation of exposure to the mineral while Mexico was establishing their first asbestos industry enterprise and starting to manufacture products such as sheets of roofing to the popular housing. Fourteen years earlier the insurance companies in the US decided not to cover workers that work with asbestos. These highlight evidence of health and scientific facts that asbestos exposure was toxic for people.

An important insight is the relation between social movements started by workers and affected citizens in the process to achive a full legislation banning the use and commercialization of asbestos, especially for LATAM countries. This reflection took us to continue further analysis on how legislation works in each country, reviewing matters of operations, control and monitoring and focus on how countries are talking about "managing" asbestos instead of "removing".

What was the effect?

The visualization provided a general overview of facts in regard to world asbestos production to the research team and helped to understand that asbestos legislation is a dynamic process that needs to be constantly reviewed with safety limits and the urgent need to anticipate asbestos future collectively. Some time comparison between periods showed evidence of inequality and social justice between the global north countries and the global South. The gap becomes broader if we sum aspects like corruption, bureaucracy and economic situations that carry the so-called underdeveloped economies.

Those insights give specific light to the Mexican situation and our research project that made us realize the urgency of a total ban regulation, since the omission of the government is reflected in the health conditions of the population. But also the importance of attending problems at different scales and anticipating actions that will need to be taken from a safe point of view to remove already installed asbestos in buildings and structures in the future; these are aspects like bioremediation in Australia (Wallis et al., 2020) and most European countries are starting to talk about it (European Commission, 2022).

**To explore the time-line closer go to:*
https://vizcovid.myportfolio.com/infocoord

Bibliography and references

Hadley, B., & Rennell, T. (2013). *Asbestos the future risk* (D. Austin, Ed.). Iskaboo Publishing Ltd.

Virta, R. L. (2006). *Worldwide asbestos supply and consumption trends from 1900 through 2003*. U.S. Geological Survey.

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