

Title: Refurbishing Ventilators by a Local Energy Company during a Pandemic

Activities: Maintain and repair durable medical equipment

Stakeholders: National and subnational health authorities; World Health Organization; Private sector organizations

Phases: Early response; Intervention

Years: 2020

Countries: United States

Agent: Coronavirus

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During the coronavirus pandemic, there were significant concerns about the United States' inventory of ventilators. States such as New York initially predicted that they would run out as COVID-19 cases surged. Although there was a great need and some patients had to share ventilators, as of April 28, 2020, no state had run out of ventilators completely.¹ In need of an adequate supply, states turned to their emergency stockpiles.

In California, the stockpile contained more than 4,200 ventilators. However, upwards of one thousand ventilators did not work.² In fact, many had been in storage since the outbreak of the avian flu.³ The original manufacturers told California Governor Gavin Newsom that they would need a month to fix 200 ventilators. Governor Newsom reached out to Bloom Energy, a California company that typically makes green-energy fuel cells. Their fuel cells provide power

¹ Mansfield E. As the coronavirus curve flattened, even hard-hit New York had enough ventilators. USA Today. Published April 28, 2020. Accessed June 27, 2020. <https://www.usatoday.com/story/news/2020/04/28/coronavirus-hospitals-avoid-ventilator-shortage-curve-new-york-flattens/3036008001/>.

² Martinez L. Gov. Newsom, Mayor Liccardo tour Sunnyvale company refurbishing ventilators. Fox KTVU. Published March 28, 2020. Accessed June 27, 2020. <https://www.ktvu.com/news/gov-newsom-mayor-liccardo-tour-sunnyvale-company-refurbishing-ventilators>.

³ Williams L, Evans W, Carless W. California once had mobile hospitals and a ventilator stockpile. But it dismantled them. Los Angeles Times. Published March 27, 2020. Accessed June 27, 2020. <https://www.latimes.com/california/story/2020-03-27/coronavirus-california-mobile-hospitals-ventilators>.

to hospitals, data centers, grocery stores, and other businesses. This made for a relatively smooth and efficient transition into a ventilator refurbishing plant.⁴

Rising to the occasion amid the unprecedented need for life-sustaining equipment, a Bloom engineer downloaded the ventilators' service manual and taught himself how to dismantle and rebuild it. They repurposed the manufacturing facility, and the rest of the company employees soon learned the intricacies of ventilators. Refurbishing generally takes about two hours. More than 200 ventilators were fixed in three days. Bloom ended up retooling approximately one thousand ventilators for California.⁵

Bloom leveraged its expertise and adaptive capacity to meet the needs of the country, calling for other states to reach out if necessary. For example, the company used its Delaware plant to refurbish 100 ventilators for the state.⁶

Please include case study summary text below this line.

During the coronavirus pandemic, states turned to their emergency stockpiles to ensure they had adequate ventilators for their residents. In California, the reserve contained many old ventilators that needed refurbishing to function properly. Governor Gavin Newsom turned to a private fuel cell energy company, Bloom Energy, to restore this critical equipment efficiently and effectively.

⁴ Duara N & Ibarra AB. California ramps up output of ventilators as COVID-19 cases grow. Cal Matters. Published March 28, 2020. Accessed June 27, 2020. <https://calmatters.org/health/coronavirus/2020/03/newsom-california-can-produce-enough-ventilators-to-meet-covid-19-need/>.

⁵ Molloy D. Coronavirus: Tech firm Bloom Energy fixes broken US ventilators. BBC News. Published March 30, 2020. Accessed June 27, 2020. <https://www.bbc.com/news/technology-52094193>.

⁶ Barrish C. Bloom Energy refurbishing mothballed ventilators in Delaware and California. WHYY. Published April 7, 2020. Accessed June 27, 2020. <https://whyy.org/articles/bloom-energy-refurbishing-mothballed-ventilators-in-delaware-and-california/>.