Chart of the Week #2022-20
California Summer Hydroelectric Power Shortfall is Projected

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Because of drought during the last two years, water levels at California’s hydroelectric reservoirs are at pre-summer peaks that are much lower than normal. Because of this California’s 2022 summer electricity generation will need to rely on other energy sources, notably natural gas.
## California Summer Power Generation Percentage by Fuel Source 2018-2021

<table>
<thead>
<tr>
<th></th>
<th>Nuclear</th>
<th>Natural Gas</th>
<th>Hydro</th>
<th>Geo</th>
<th>Wind</th>
<th>Solar</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>8.1%</td>
<td>44.2%</td>
<td>13.9%</td>
<td>4.9%</td>
<td>7.8%</td>
<td>20.9%</td>
</tr>
<tr>
<td>2019</td>
<td>7.8%</td>
<td>38.6%</td>
<td>19.7%</td>
<td>4.9%</td>
<td>6.0%</td>
<td>23.0%</td>
</tr>
<tr>
<td>2020</td>
<td>7.6%</td>
<td>45.5%</td>
<td>11.9%</td>
<td>5.0%</td>
<td>5.4%</td>
<td>24.5%</td>
</tr>
<tr>
<td>2021</td>
<td>7.9%</td>
<td>48.1%</td>
<td>7.7%</td>
<td>4.7%</td>
<td>5.7%</td>
<td>25.8%</td>
</tr>
</tbody>
</table>

*Analysis based on EIA Data*
During the summer of 2019, California received about 19% of its electricity from hydropower.

During the summer of 2020, this dropped to 11% because of the state's drought.
California’s Reliance on Hydroelectric Power

- California has 10,000 Megawatts of installed hydroelectric capacity. Its utilization is highly dependent on water levels at California's reservoirs critical for summer peak generation.

- On most summer days, California utilizes about half of this capacity. During normal summer conditions, about 15% of California's electricity is generated from these sources.

- Ahead of the 2022 summer and beginning two years ago, California has been experiencing a severe drought; this has caused water levels across all California’s hydroelectric reservoirs to drop considerably.

- Lake Shasta and Lake Oroville, California's two largest hydroelectric reservoirs, are currently at 40% and 54% of their capacity, respectively, rather than 90% under normal circumstances.

- To make up for the shortfall, California is expected to increase its reliance on electricity from natural gas generation, rising from an average of 45% of total to over 50%.

- This slide deck is available on the EPRINC Website.

- For more information on this chart, please contact Max Pyziur (maxp@eprinc.org).