

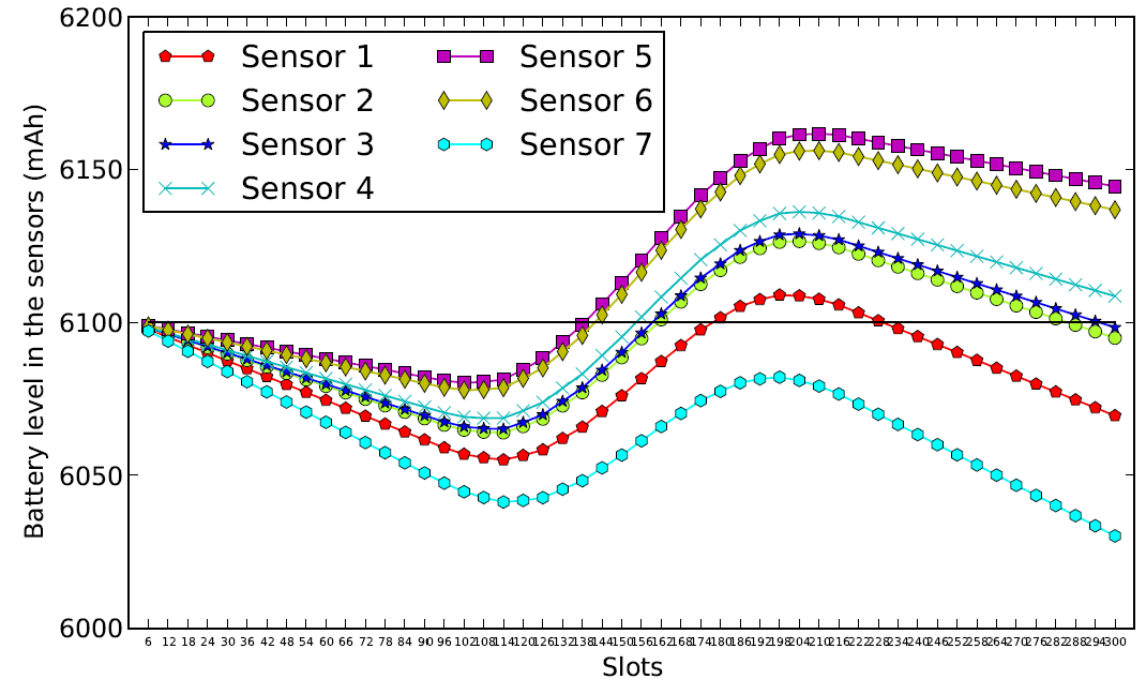
The background image is a dark, atmospheric landscape. It features a body of water in the foreground, reflecting the light from the sky. In the middle ground, there are several jagged, snow-capped mountains. The sky is dark, with a bright light source on the right side, creating a lens flare effect. The overall mood is mysterious and serene.

Energy neutrality in energy harvesting IoT

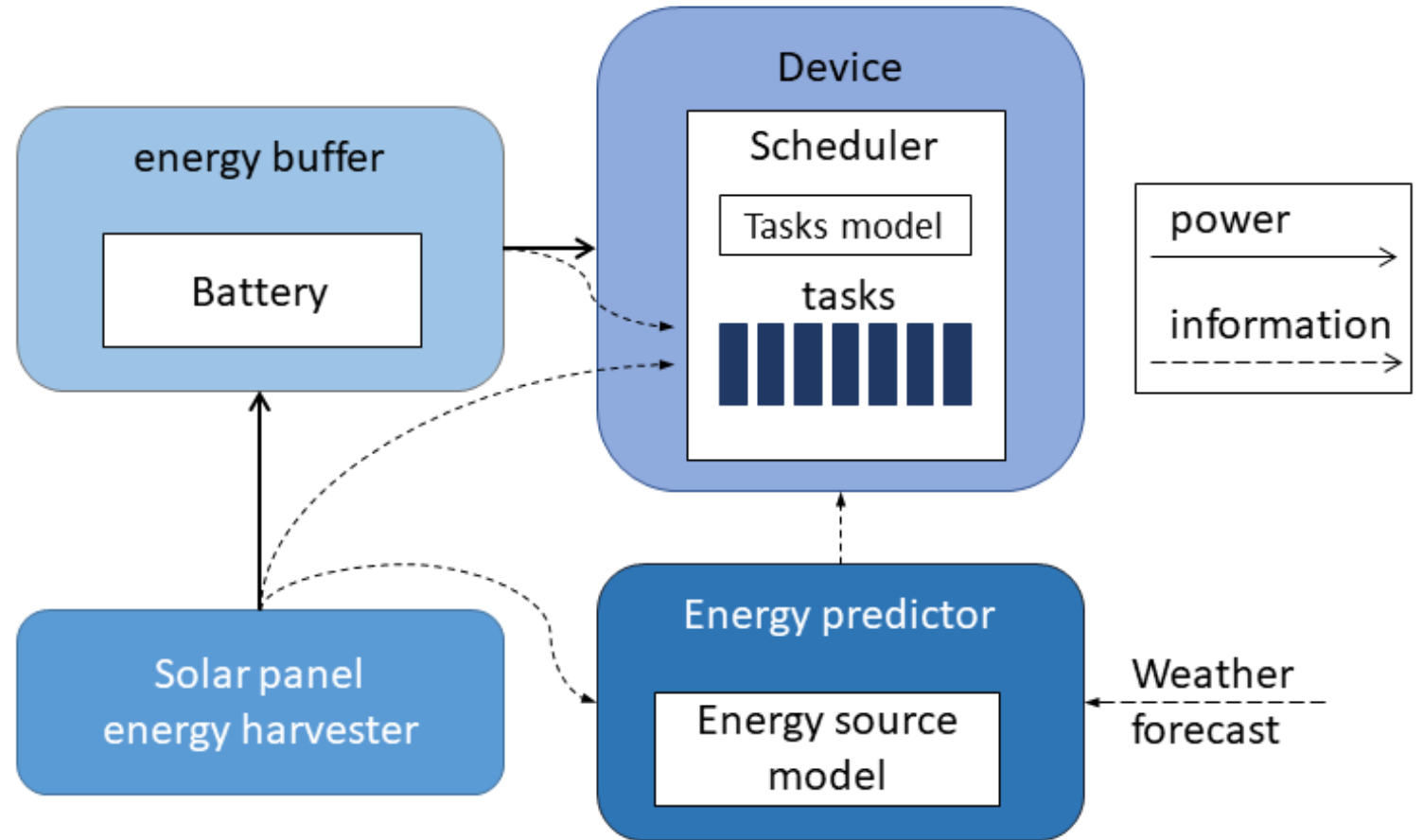
Stefano Chessa

Energy neutrality

- An energy-harvesting device is **energy neutral** if it can keep the desired performance level **forever**
 - different than the classical approach of maximizing device's lifetime
- Need to match an uncontrollable but predictable harvesting source with the load of the IoT device
 - Based on modulation of the load by trading utility vs energy expenditure
- Gives rise to two design considerations:
 - Energy neutral operation
 - Maximum performance



Ensuring energy neutrality



Energy neutral networks

Beyond the design of stand-alone energy harvesting IoT:

- Energy neutrality of networked, energy harvesting IoT
- The case of battery-less IoT devices with wireless power transmission

