

SITUATIONAL AWARENESS

South Africa (ZA) faces an energy supply crisis and the rising threat of more extreme load-shedding, or rolling power outages, will continue to impact Airbnb staff and remote workers.

- The most intensive year for load-shedding in South Africa has been 2022, and experts foresee the energy crisis to deteriorate further in 2023. South Africa's energy problems stem from decades of underinvestment, mismanagement, and corruption in the sector, notably the state utility, Eskom.
- By instruction from Eskom, regional and municipal control centers typically issue advance notifications of planned power outages. However, municipalities frequently adjust the schedule without sufficient notice.
- The high frequency of power outages disrupts operations and exposes private-sector organizations' security vulnerabilities. As load-shedding disables alarms and security systems, burglary and thefts have risen.
- Load-shedding is implemented to protect the national grid and is required to prevent the total collapse of ZA's power grid. Efforts to improve electricity generation will take several years to resolve. Meanwhile, reliability will deteriorate in the short term. Load-shedding stifles ZA's economy, and the resultant economic slowdown has further exacerbated the entrenched unemployment crisis.
- Mitigation efforts commonly rely on alternative power solutions, e.g., generators or solar systems. Frequent outages present a range of challenges, from traffic disruptions to nonfunctional generators in health clinics, hospitals, and schools.



LOAD-SHEDDING STAGES EXPLAINED

The table below shows the maximum power South Africa has to shed before its power grid is in balance. If Cape Town, for example, implements Stage 2 load-shedding, a remote-working Airbnb employee could lose power up to six times over four days for at least two hours at a time. The employee could be without power for 12 hours to reduce demand on the power grid by 2,000MW. Until 2019, the most the grid had to shed was 4,000MW (stage 4).

STAGE	Grid needs to shed...	Frequency of load-shedding increases as higher stages are used:	Total Hours w/o Power
1	1,000MW	3 times over 4-day period/2 hours at a time	6hrs out of 96hrs
2	2,000MW	6 times over 4-day period/2 hours at a time	12hrs out of 96hrs
3	3,000MW	9 times over 4-day period/2 hours at a time	18hrs out of 96hrs
4	4,000MW	12 times over 4-day period/2 hours at a time	24hrs out of 96hrs

Recently, the demand on the power grid intensified, resulting in Eskom making provisions for stages 6-8. Officially, the most South Africa has had to shed is 6,000MW (stage 6); however, earlier this year, some regions experienced the shedding of 7,000MW (stage 7). Once stages 6-8 load-shedding becomes necessary, residents should expect the duration and frequency of outages to increase up to eight hours at a time, according to Eskom's system's operations general manager. Load-shedding beyond stage 8 would require additional provisions.

Sources: Sunday Times; Eskom, Eskom Chief Operating Officer Jan Oberholzer



IMPLICATIONS FOR AIRBNB EMPLOYEES

- Experts found frequent disruptions in South Africa's power supply are leading to a decline in worker productivity. Workers are disconnected until Eskom completes load-shedding, which takes several hours.
- Backup batteries are a poor short-term solution to frequent power outages, as the brief gap between outages makes it difficult to recharge before the next power cut. Once a battery runs down, its lifespan significantly shortens.

- Many employees opt to return to an office instead of teleworking around load-shedding schedules and after incurring personal expenses to purchase backup batteries. Most medium- and small-businesses do not have generators and businesses are forced to shut down during power outages. Transitioning between 'power-on' locations is an unsustainable solution for remote workers.
- Power outages also impact critical infrastructure, including traffic management systems, hospitals, schools, and street lighting, increasing the risk to employees. Eskom tries to plan load-shedding schedules outside of peak hours, which is mostly achievable during the lower stages; however, becomes increasingly more difficult with each stage increase.