



This is not an ADB material. The views expressed in this document are the views of the author/s and/or their organizations and do not necessarily reflect the views policies of the Asian Development Bank, or its Board of Governors, or the governments they represent. ADB does not guarantee the accuracy and/or completeness of the material's contents, and accepts no responsibility for any direct or indirect consequence of their use or reliance, whether wholly or partially. Please feel free to contact the authors directly should you have queries.

Policy-Based Loan

Mongolia: Ulaanbaatar Air Quality Improvement Program Phase 2 Tranche 2

Project Number: 53028-001

Key Insights

November 2020

Annabelle Giorgetti, Environmental Economist & Team Leader

Key Challenges for the coldest capital city in the world

- Ulaanbaatar coldest & most polluted capital
- Winter temperatures exceed -30c
- Ger areas >220,000 HHs & growing
- PM_{2.5} used to exceed WHO guidelines 133x
- Kids in ger areas 40% less lung capacity
- Air pollution causes 10% of Ulaanbaatar's total mortality
- Women & young children most vulnerable
- Coal dependent economy and legacy of old coal power stations



Overview of PBL Phases 1 & 2

PBL Phase 1

Closed 30 October 2019

- Approved March 2018
 - \$130m over 2 tranches
 - **Reform Area 1** Improved regulatory framework
 - **Reform Area 2** Key measures on air pollution reduction and health protection
 - **Reform Area 3** Environmentally sound & integrated urban and energy systems
 - All policy actions completed
 - Classified as ‘some gender elements’
-
- ✓ Raw Coal Ban in May 2019
 - ✓ Piloting of cleaner fuel

PBL Phase 2

Closes 31 December 2020

- Approved December 2019
 - \$160m over 2 tranches
 - Tranche 1 of \$100m was released 23 December 2019
 - Tranche 2 of \$60m is to be released by November 2020
 - Same Reform Areas as PBL Phase 1
 - 16 policy actions completed
 - Classified as ‘effective gender mainstreaming’
-
- ✓ Night-time Electricity Tariffs Sustainability Study
 - ✓ Air Quality Improvement Strategy

8 policy actions under PBL 2, Tranche 2

Medium-term

1. National Committee for Reducing Environmental Pollution made fully operational
2. 2020 Implementation Action Plan approved for the National Program for Reducing Air and Environment Pollution 2017-2025
3. Customized EDGE system adopting green building standards
4. Community outreach program approved including mitigation measures to reduce indoor air pollution and its impacts on women



Long-term

5. Night-time Electricity Tariffs Sustainability Study approved
6. PCV13 immunization national program rolled out
- 7a. UB Development Masterplan 2020-40 developed
- 7b. Long-term clean heat supply approved
8. Green financing mechanism for electric heaters and insulation materials

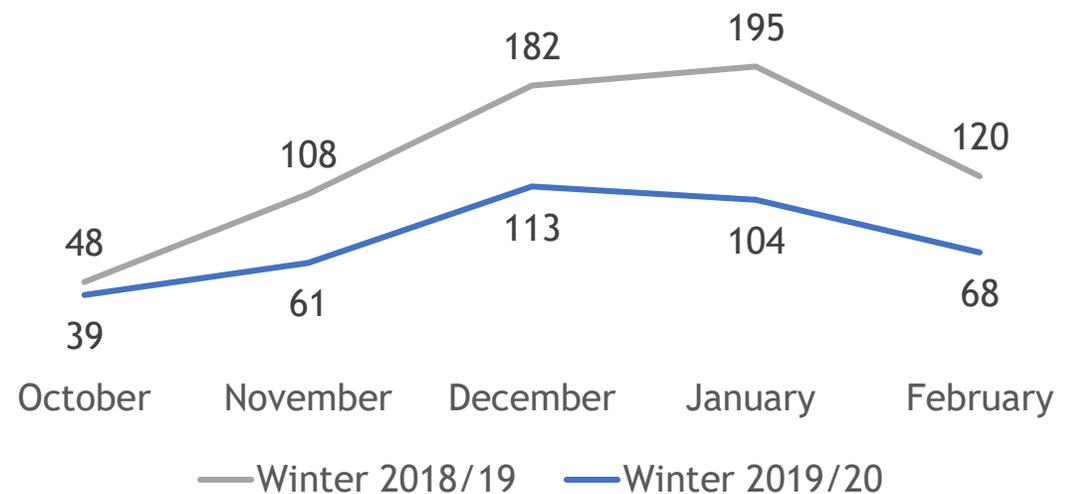


Air Quality in UB is Improving:

41% decrease in average winter $PM_{2.5}$ concentrations this year



Ulaanbaatar $PM_{2.5}$ mean concentrations ($\mu g\ m^{-3}$)

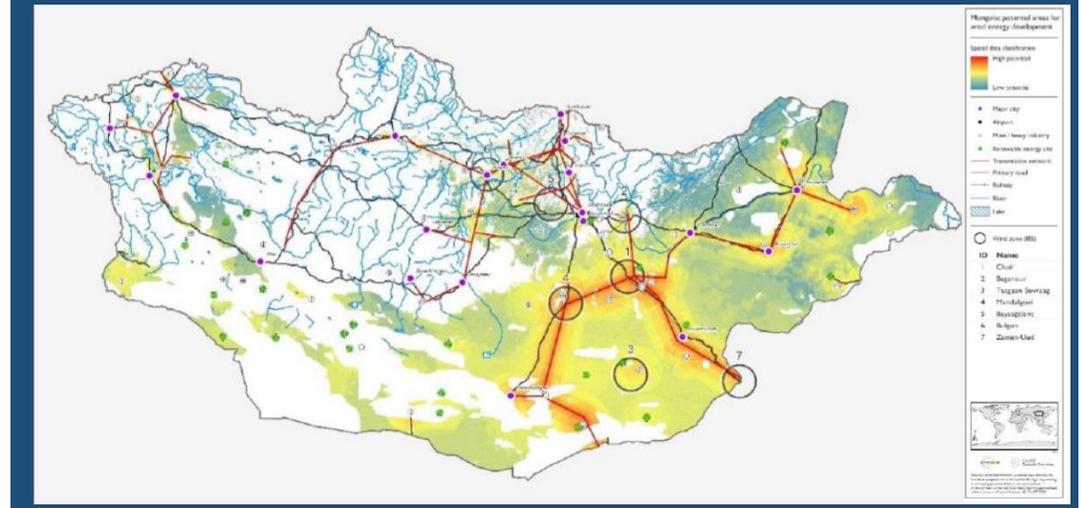


Source: Ganbat (2020) State of air quality in Ulaanbaatar

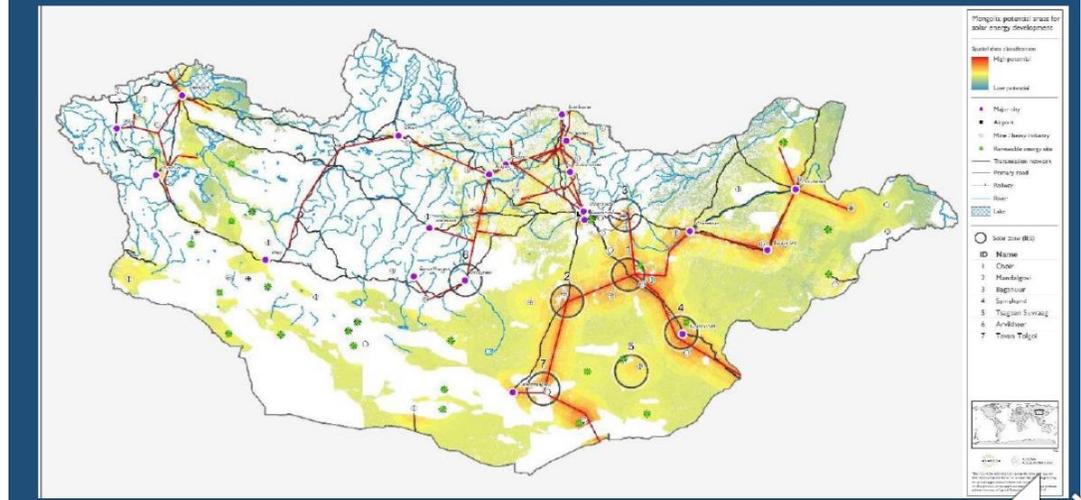
High potential for decarbonizing the economy but key constraints remain

- Mongolia has abundant wind and solar resources - expanding clean energy will take time
- Inflexible coal-fired CHPs required to meet winter district heating demand
- Economic & financial dis-incentives
- Clean energy requires substantial investments
- Distribution networks & transmission need significant upgrades

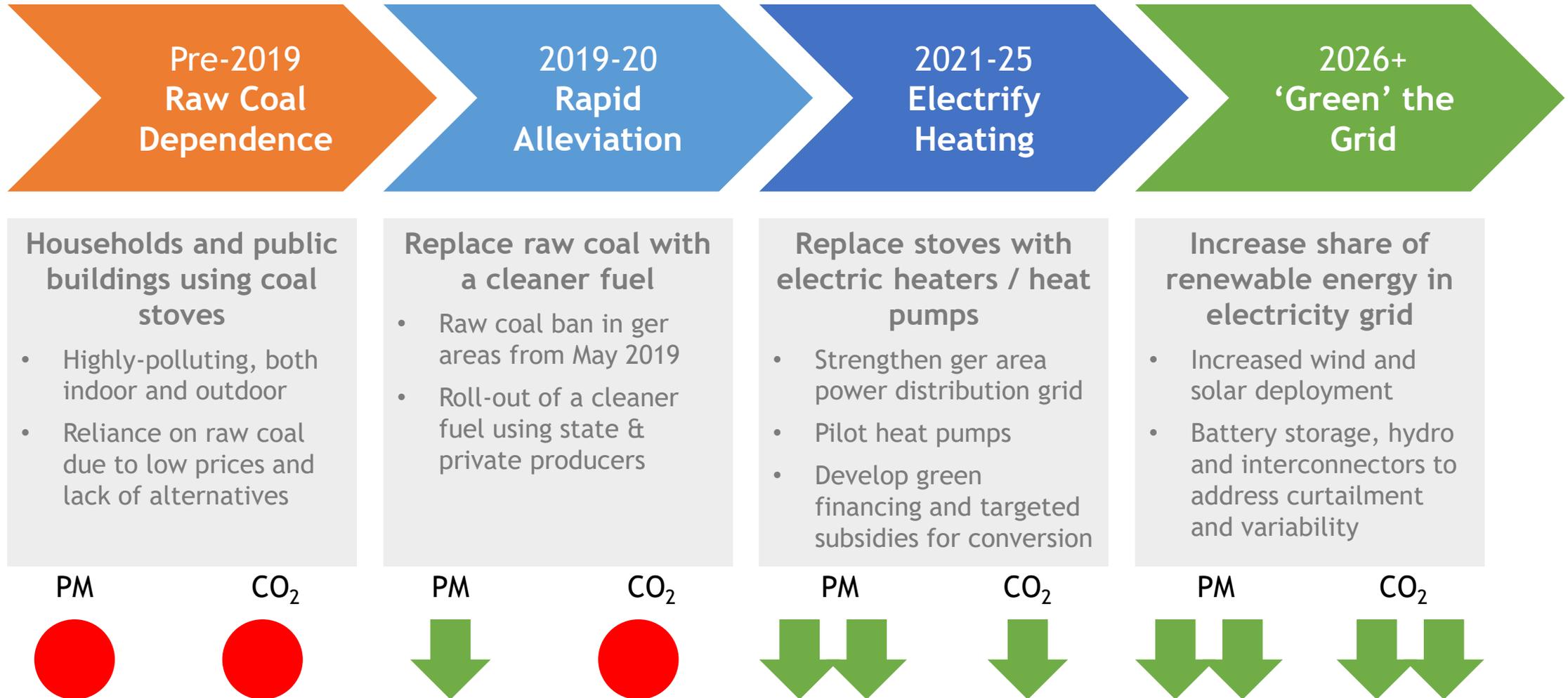
OVERALL WIND RESOURCE IS ESTIMATED AT 400 GW



OVERALL SOLAR RESOURCE IS ESTIMATED AT 700 GW



Air Quality Improvement Strategy developed during PBL Phase 2 provides a roadmap to clean energy and better air quality



Questions or comments?

