

## モンゴル国大気環境分野における開発ニーズ(課題)

- ・石炭の大量消費により、ウランバートル市の大気汚染の悪化が深刻化
- ・呼吸器疾患率が増加傾向にあるなど、大気汚染に伴う人体健康への影響が懸念されている
- ・対策を実施中であるが、依然として深刻性は高い

## 提案製品・技術

- ・提案製品は高い断熱効果を有した塗料であり、暖房エネルギー需要を20~40%削減し、石炭消費量及び大気汚染物質排出量の削減に貢献
- ・短期間の研修で塗布が可能で、現地生産・販売を通じて産業多角化を見据えた現地雇用創出に貢献

## 本事業の内容

- ・ 契約期間: 2019年6月~2020年10月
- ・ 対象国・地域: モンゴル国 ウランバートル市
- ・ カウンターパート機関: ウランバートル市大気汚染削減庁(DAAP)
- ・ 案件概要: 提案製品導入による保温効果・省エネ効果、それに伴う石炭消費量の削減効果を確認するとともに、現地人材を活用して、提案製品を用いた保温・省エネ技術の導入に関する持続可能な普及体制の整備を図る。また、大気汚染緩和効果などを通じて、本製品の有効性を周知する。



提案製品「ルミナスター」の導入効果

## 開発ニーズ(課題)へのアプローチ方法(ビジネスモデル)

- ・当面は既存の公共施設や一般住宅を対象に導入効果のPRを図り、その後は商業施設やビル・工場等の新規建築物を含めた建築物全般へ対象を広げる。
- ・初期は日本から製品輸出を行うが、目途が立った段階で現地生産に切り替え、事業者の収益は「出資配当」「技術ロイヤリティ」「原材料輸出」で賄う。
- ・モンゴル国内全域へのビジネス展開後は、内陸国や中国国境都市等へのビジネス展開を図る。

## 対象国に対し見込まれる成果(開発効果)

- ・石炭消費量及び大気汚染物質排出量の削減による、幅広い国民層への経済面/健康面の双方に係る裨益の享受
- ・既存建築物・住居の断熱性能の向上、断熱性能の高い新規建築物の普及による強固な都市インフラ基盤の取得
- ・将来における、鉱物資源以外の有力な輸出商品としての活用可能性

## Development Issues Concerned in Environment Sector

- Use of coal has been the main source of severe air pollution in Ulaanbaatar.
- Adverse health effects due to air pollution is under concern, such as an increase in respiratory illnesses.
- Current countermeasures are not enough, which Ulaanbaatar still suffers from severe air pollution.

## Products/Technologies of Shimizu

- Proposed product has high insulation performance, which can reduce heating energy by 20 to 40%, and contribute to the decrease of coal consumption and pollutant emission.
- Training period required to use the coating is short. Through it's local production and sales, job creation and industrial diversity in the local area would be enhanced.

## Project Overview

- Contract Period: June 2019 ~ October 2020
- Target Country: Mongolian People's Republic (Ulaanbaatar)
- C/P candidates: Air Pollution Reducing Department, Ulaanbaatar (DAAP)
- Overview: Proposed product's energy reduction and heat retention effect, accompanied by coal usage reduction, will be confirmed. Formation to disseminate proposed product will also be established utilizing the local human resource. Effectiveness of the product will be publicized through it's air pollution reduction effect.



Effect of the barrier/insulation coating  
Proposed product “LUMINOUSTAR”

## How to Approach to the Development Issues

- Aiming to publicize it's effect, “LUMINOUSTAR” will be installed to pre-existing public facilities and housings for the time being. Later, various types of buildings will be targeted including new commercial buildings and factories.
- Product will be exported from Japan in the initial stage of the project, but will be shifted to local production later on. Benefit of Shimizu will be covered by “investment dividend”, “royalty”, and “export of the ingredients”.
- After business development in Mongolia, Shimizu plans to spread it's business to inland countries and Chinese cities along the boarder.

## Expected Impact in Mongolia

- Economical and health related benefit for wide range of citizen, through the decrease of coal consumption and air pollutant emission.
- Increase in heat retention of pre-existing public facilities and housings.
- Acquisition of adamant urban infrastructure supported by the dissemination of new buildings with high heat retention.
- Utilization as a new export product other than mineral resources in the future.