

A new approach to Carbon Neutral: taking advantage of JDRA's long-term environmental efforts and commitment to LCA.

JDRA の長期的な環境への取り組みと LCA 活動を生かしたカーボンニュートラルへのアプローチ

1. JDRA Promotional Activities to Reduce CO2 Emissions.
(JDRAのCO2削減に向けたプロモーション活動)
2. Continuous Understanding of Emissions to Reduce CO2 emissions.
(CO2削減に向けた排出量の継続的把握)
3. Summary. (まとめ)

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1. JDRA Promotional Activities to Reduce CO2 Emissions

(CO2削減に向けたプロモーション活動)




2. Continuous Monitoring to Reduce CO2 Emissions.

(CO2削減に向けた排出量の継続的把握)

- ① Monitoring current situation of individual companies. (個社における現状把握)
- ② Sharing awareness of issues. (問題意識の共有)
- ③ Solving the problems. (問題解決に向けて)





Monitoring Current Situation of Individual Companies

(個社における現状把握)

CO2 emissions calculation tool created by JDRA.

Step 1 Enter variables.
ステップ1 変数の入力

Step 2 Variable conversion based on CO2 emissions intensity.
ステップ2 CO2排出量の原単位による変数変換

Step 3 View the results.
ステップ3 結果の出力

Example: Asahi Drum

(例えば、旭ドラムの場合)

Step 1: Monthly average data entry table

Company Name: ASAHI DRUM
 Factory Name: KOBE Factory
 Processing methods:

Thick frame

Please enter the monthly average value only for the items in

※ Please enter the number of recondition drums produced, the number of original cans collected, and the composition ratio of each.

| Section | | productions/month | unit |
|---------|----------------------------|-------------------|--------|
| 1 | Average monthly production | 11,392 | can |
| | Composition ratio | M | 65.0 % |
| | | LM | 35.0 % |
| | | L | 0.0 % |

| Section | | recoveries/month | unit |
|---------|--------------------------|------------------|--------|
| 2 | Average monthly recovery | 11,863 | can |
| | Composition ratio | M | 60.0 % |
| | | LM | 35.0 % |
| | | L | 5.0 % |

※ Enter the amount of energy used and waste

| Section | Usage/month | unit |
|---------|----------------------------------|------------|
| 3 | Materials and energy used | |
| | paints | 3,264 kg |
| | detergent | 372 kg |
| | Abrasives | 0 kg |
| | water | 350 m3 |
| | electric power | 22,215 kWh |
| | heavy oil | 9,498 L |
| | kerosene | 0 L |
| | LNG gas | 2,256 m3 |
| | LPG gas | 0 m3 |
| 4 | waste | |
| | Waste plastic | 0 kg |
| | Waste acid | 0 kg |
| | Waste alkali | 11,000 kg |
| | sludge | 5,450 kg |
| others | 0 kg | |

※ Enter the average truckloads per truck and the average transportation distance

| Section | Average number of loads | unit | Average transport distance | unit |
|-----------|-------------------------------|---------|----------------------------|------|
| 5 | Collection of raw cans | | | |
| | 2t Truck | 20 can | 30 km | |
| | 3t Truck | 70 can | 50 km | |
| | 4t Truck | 100 can | 75 km | |
| | 8t Truck | 0 can | | km |
| | 10t Truck | 150 can | 100 km | |
| | (Typical value) | | 78.2 km | |
| 6 | Product delivery | | | |
| | 2t Truck | 20 can | 30 km | |
| | 3t Truck | 70 can | 50 km | |
| | 4t Truck | 120 can | 75 km | |
| | 8t Truck | 0 can | | km |
| 10t Truck | 170 can | 100 km | | |
| | (Typical value) | | 79.2 km | |



Example: Asahi Drum

(例えば、旭ドラムの場合)

Step 2:

ASAHI DRUM
KOBE Factory

List of energy consumption, CO2 emission intensity and emissions of recondition drum-related processes

| Recondition drum related processes | | 項目 | Activity | | | CO2 emission intensity | | | CO2 emissions (kg) | | | | |
|---|---|---------------------------------|-------------------------|------|-----------|------------------------|-------------|-----------|--------------------|------|------|------|------|
| | | | unit | M | LM | L | unit | M | LM | L | M | LM | L |
| Collection and transportation of used drums | | Transportation volume | t·km | 1.76 | 1.57 | 1.45 | kg-CO2/t·km | 0.27 | 0.30 | 0.32 | 0.48 | 0.47 | 0.46 |
| Production of raw materials | | Amount of paint input | kg | 0.29 | 0.29 | 0.29 | kg-CO2/kg | 1.00 | 1.00 | 1.00 | 0.29 | 0.29 | 0.29 |
| | | Amount of detergent input | kg | 0.03 | 0.03 | 0.03 | kg-CO2/kg | 0.93 | 0.93 | 0.93 | 0.03 | 0.03 | 0.03 |
| | | Abrasive input | kg | | | | kg-CO2/kg | 1.88 | 1.88 | 1.88 | | | |
| | | Water input | m3 | 0.03 | 0.03 | 0.03 | kg-CO2/m3 | 0.25 | 0.25 | 0.25 | 0.01 | 0.01 | 0.01 |
| Transportation of raw materials | | Amount of paint transported | t·km | 0.03 | 0.03 | 0.03 | kg-CO2/t·km | 0.32 | 0.32 | 0.32 | 0.01 | 0.01 | 0.01 |
| | | Amount of detergent transported | t·km | 0.00 | 0.00 | 0.00 | kg-CO2/t·km | 0.32 | 0.32 | 0.32 | 0.00 | 0.00 | 0.00 |
| | | Amount of abrasive transported | t·km | | | | kg-CO2/t·km | 0.32 | 0.32 | 0.32 | | | |
| Manufacture of recondition drums | Energy consumption | Power consumption | kWh | 1.95 | 1.95 | 1.95 | kg-CO2/kWh | 0.42 | 0.42 | 0.42 | 0.83 | 0.83 | 0.83 |
| | | A Heavy oil consumption | L | 0.83 | 0.83 | 0.83 | kg-CO2/L | 2.94 | 2.94 | 2.94 | 2.44 | 2.44 | 2.44 |
| | | Kerosene consumption | L | | | | kg-CO2/L | 2.68 | 2.68 | 2.68 | | | |
| | | LNG consumption (*1) | m3 | 0.20 | 0.20 | 0.20 | kg-CO2/m3 | 2.48 | 2.48 | 2.48 | 0.50 | 0.50 | 0.50 |
| | | LPG consumption (*1) | m3 | | | | kg-CO2/m3 | 7.92 | 7.92 | 7.92 | | | |
| Transportation and treatment of waste generated by the manufacture of recondition drums | Waste transportation | Waste transported volume | t·km | 0.15 | 0.15 | 0.15 | kg-CO2/t·km | 0.32 | 0.32 | 0.32 | 0.05 | 0.05 | 0.05 |
| | | waste disposal | Weight of waste plastic | kg | | | | kg-CO2/kg | 2.62 | 2.62 | 2.62 | | |
| | Weight of waste acid | | kg | | | | kg-CO2/kg | 0.07 | 0.07 | 0.07 | | | |
| | Weight of waste alkali | | kg | 0.97 | 0.97 | 0.97 | kg-CO2/kg | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |
| | Weight of sludge | | kg | 0.48 | 0.48 | 0.48 | kg-CO2/kg | 0.07 | 0.07 | 0.07 | 0.03 | 0.03 | 0.03 |
| | Weight of other (scrap iron, waste oil) | kg | | | | kg-CO2/kg | 0.07 | 0.07 | 0.07 | | | | |
| displacement | m3 | 0.03 | 0.03 | 0.03 | kg-CO2/m3 | 0.44 | 0.44 | 0.44 | 0.01 | 0.01 | 0.01 | | |
| Delivery of recondition drums | | Transport volume of drums | t·km | 1.72 | 1.53 | 1.41 | kg-CO2/t·km | 0.28 | 0.31 | 0.33 | 0.48 | 0.47 | 0.46 |
| | | Total emissions | | | | | | | | 5.22 | 5.20 | 5.19 | |

Emissions results

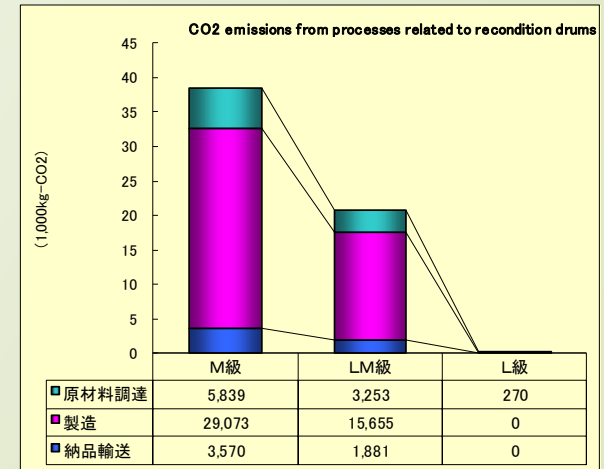
(結果)

Step 3:

ASAHI DRUM
KOBÉ Factory

Monthly average total CO2 emissions calculation results

| Recondition drum processes | | Section | CO2排出量 (kg-CO2) | | |
|---|---------------------------|--|-----------------|--------|-----|
| | | | M級 | LM級 | L級 |
| Collection and transportation of used drums | | Transportation volume of used drums | 3,354 | 1,915 | 270 |
| Production of raw materials | | Amount of paint input | 2,147 | 1,156 | 0 |
| | | Amount of detergent input | 207 | 111 | 0 |
| | | Abrasive input | | | |
| | | Water input | 56 | 30 | 0 |
| Transportation of raw materials | | Amount of paint transported | 69 | 37 | 0 |
| | | Amount of detergent transported | 7 | 4 | 0 |
| | | Amount of abrasive transported | | | |
| Manufacture of recondition drums | Energy consumption | Power consumption | 6,131 | 3,301 | 0 |
| | | A Heavy oil consumption | 18,069 | 9,730 | 0 |
| | | Kerosene consumption | | | |
| | | LNG consumption | 3,666 | 1,974 | 0 |
| | | LPG consumption | | | |
| Transportation and treatment of waste generated by the manufacture of recondition drums | Waste transportation | Waste transported volume | 343 | 185 | 0 |
| | waste disposal | Weight of waste plastic | | | |
| | | Weight of waste acid | | | |
| | | Weight of waste alkali | 512 | 276 | 0 |
| | | Weight of sludge | 253 | 136 | 0 |
| | | Weight of other (scrap iron, waste oil) displacement | 98 | 53 | 0 |
| | | displacement | | | |
| Delivery and transportation of recondition drums | Transport volume of drums | 3,570 | 1,881 | 0 | |
| Total emissions by can type (kg -CO2) | | | 38,482 | 20,789 | 270 |
| Total emissions (kg-CO2) | | | 59,541 | | |





3.Summary

(まとめ)

- After individual companies report the amount of emissions, it is necessary to share awareness of the problems and take action to solve them.

(個々の企業が排出量を把握した上で、問題意識を共有し、問題解決に向けたアクションを起こす必要があります。)

- Currently there are no penalties for CO2 emissions in Japan.

(日本ではCO2排出量に罰則はない)

However, penalties are likely to be imposed in the near future.

(近い将来、罰則ができる可能性が高い)

- As this is an important issue for JDRA, we will continue to work to enable individual companies to continuously monitor emissions.

(JDRAの直近の課題として、個々の企業が継続的に排出量を把握できるよう、継続して働きかけていきます。)



Arigato! Thank you!

2023.9.28

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