

| <b>CO<sub>2</sub> emissions from Tasluja Cement production (base data)</b> |                                     |                                                                                           |
|----------------------------------------------------------------------------|-------------------------------------|-------------------------------------------------------------------------------------------|
|                                                                            | Value and unit                      | Data source:                                                                              |
| Calcinations process                                                       | 525 kg/t clinker                    | The Cement CO <sub>2</sub> Protocol, WBCSD working group Oct. 2001                        |
| Fuel firing                                                                | 3.740 GJ/t clinker                  | Actual efficiency end of 2009                                                             |
| Electricity consumption                                                    | 100 kWh/t cement                    | Estimated consumption                                                                     |
| HFO as fuel                                                                | 77.4kg CO <sub>2</sub> / GJ         | World Resources Institute (2008) GHG Protocol Tool for stationary combustion, Version 4.0 |
| Electricity from grid                                                      | 701 kg CO <sub>2</sub> / MWh        | World Resources Institute (2009) GHG Protocol Tool for stationary combustion, Version 4.0 |
| CO <sub>2</sub> from electricity                                           | 70 kg CO <sub>2</sub> / tons cement | 701 kg CO <sub>2</sub> /MWh * 0.100 MWh/t cement                                          |

| <b>Clinker percentage in cement (base data)</b> |                     |                                     |
|-------------------------------------------------|---------------------|-------------------------------------|
|                                                 | Value and unit      | Data source:                        |
| OPC (ordinary Portland Cement)                  | 90% clinker         | Actual operational data end of 2009 |
| Blended cement                                  | 70% clinker average | Future operational assumption       |

| <b>Fuel caused CO<sub>2</sub> emissions at Tasluja (clinker based):</b>                |                                            |                                    |
|----------------------------------------------------------------------------------------|--------------------------------------------|------------------------------------|
| HFO                                                                                    | $77.4 * 3.740 =$                           | 289 kg CO <sub>2</sub> / t clinker |
| <b>Combined calcinations and fuel caused CO<sub>2</sub> emissions (clinker based):</b> |                                            |                                    |
| HFO                                                                                    | $289 + 525 =$                              | 814 kg CO <sub>2</sub> / t clinker |
| <b>CO<sub>2</sub> emissions per unit product based on fuel type:</b>                   |                                            |                                    |
| Production basis:                                                                      | CO <sub>2</sub> emission per ton product   |                                    |
| OPC                                                                                    | $0.9*814+70 = 803$ kg CO <sub>2</sub> /ton |                                    |
| Blended                                                                                | $0.7*814+70 = 640$ kg CO <sub>2</sub> /ton |                                    |

| <b>Total CO<sub>2</sub> emissions based on up to 2.1 M tons of clinker per year:</b> |                          |                                         |
|--------------------------------------------------------------------------------------|--------------------------|-----------------------------------------|
| Production basis:                                                                    | Yearly cement production | <b>Total CO<sub>2</sub> emission</b>    |
| OPC                                                                                  | 2,33M tons               | <b>1.87M tons CO<sub>2</sub> / year</b> |
| Blended cement                                                                       | 3.00M tons               | <b>1.92M tons CO<sub>2</sub>/ year</b>  |