



# Ferramenta de Gestão de Água

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*Votorantim Cimentos*

# Ferramenta de Gestão de Água

- ▶ Global Water Tool  
*Ferramenta free desenvolvida em 2007*
- ▶ CSI – Cement Sustainability Initiative  
*Grupos de trabalho*
- ▶ CSI - GWT  
*Customização da ferramenta*



Global



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Global



for the Cement Sector



# Global Water Tool



Uma ferramenta para ajudar as empresas de cimento a entender e gerenciar seus riscos e apoiar a tomada de decisão na gestão da água



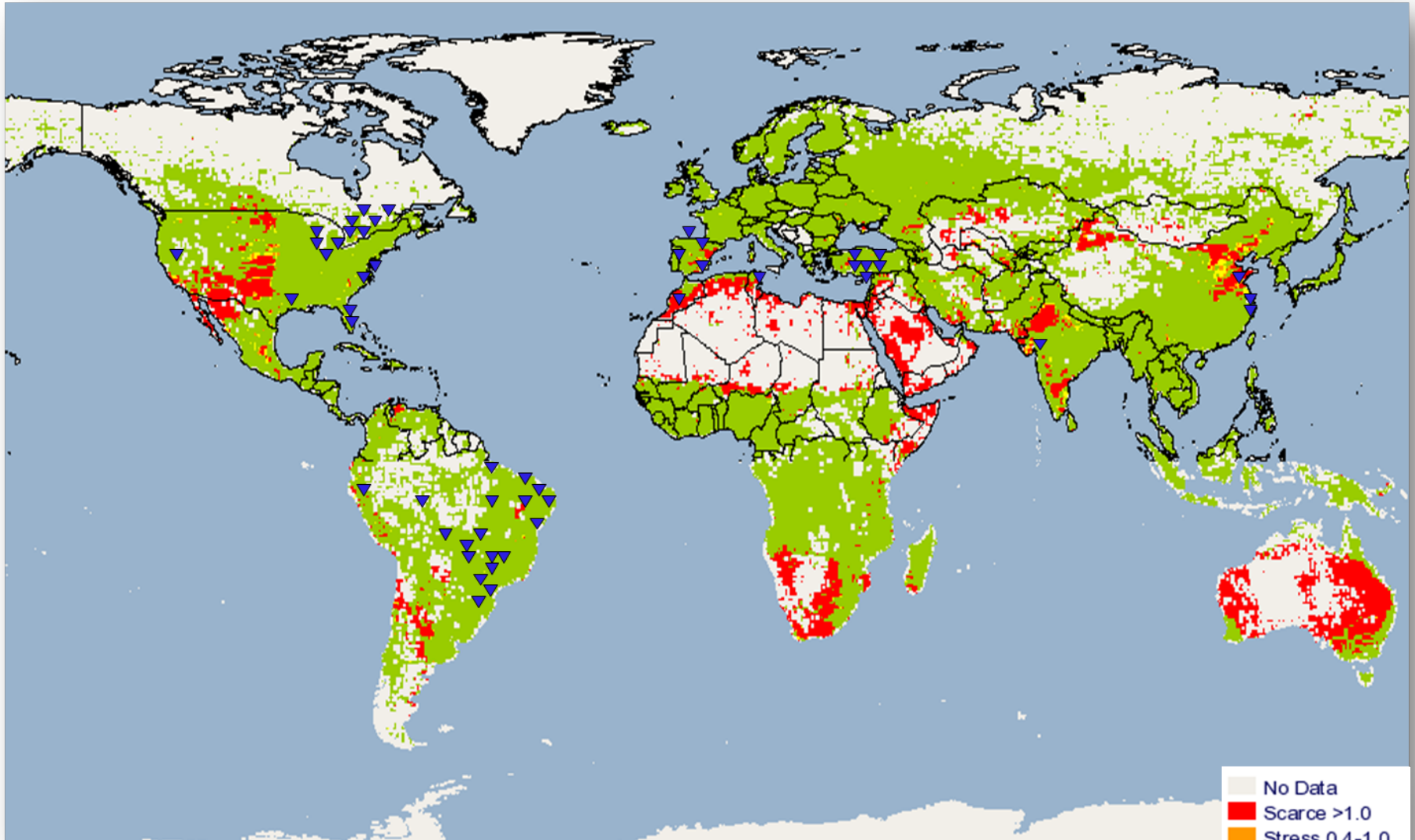
A ferramenta customizada contempla:  
operações de cimento e mina  
operações de agregados  
argamassa, concreto  
outras operações

# Global Water Tool

- q Permite comparar o uso de água da empresa com histórico, dados companhias de saneamento e disponibilidade de dados da população;
- q Permite cálculo de indicadores GRI e CSI de água;
- q Estabelece riscos relativo de água de maneira a priorizar a ação;
- q Cria visão geográfica global, possibilitando gestão que destaque o risco e as métricas de desempenho sustentável
- q Permite uma comunicação eficaz com as partes interessadas internas e externas sobre as questões da água na empresa.



# Global Water Tool

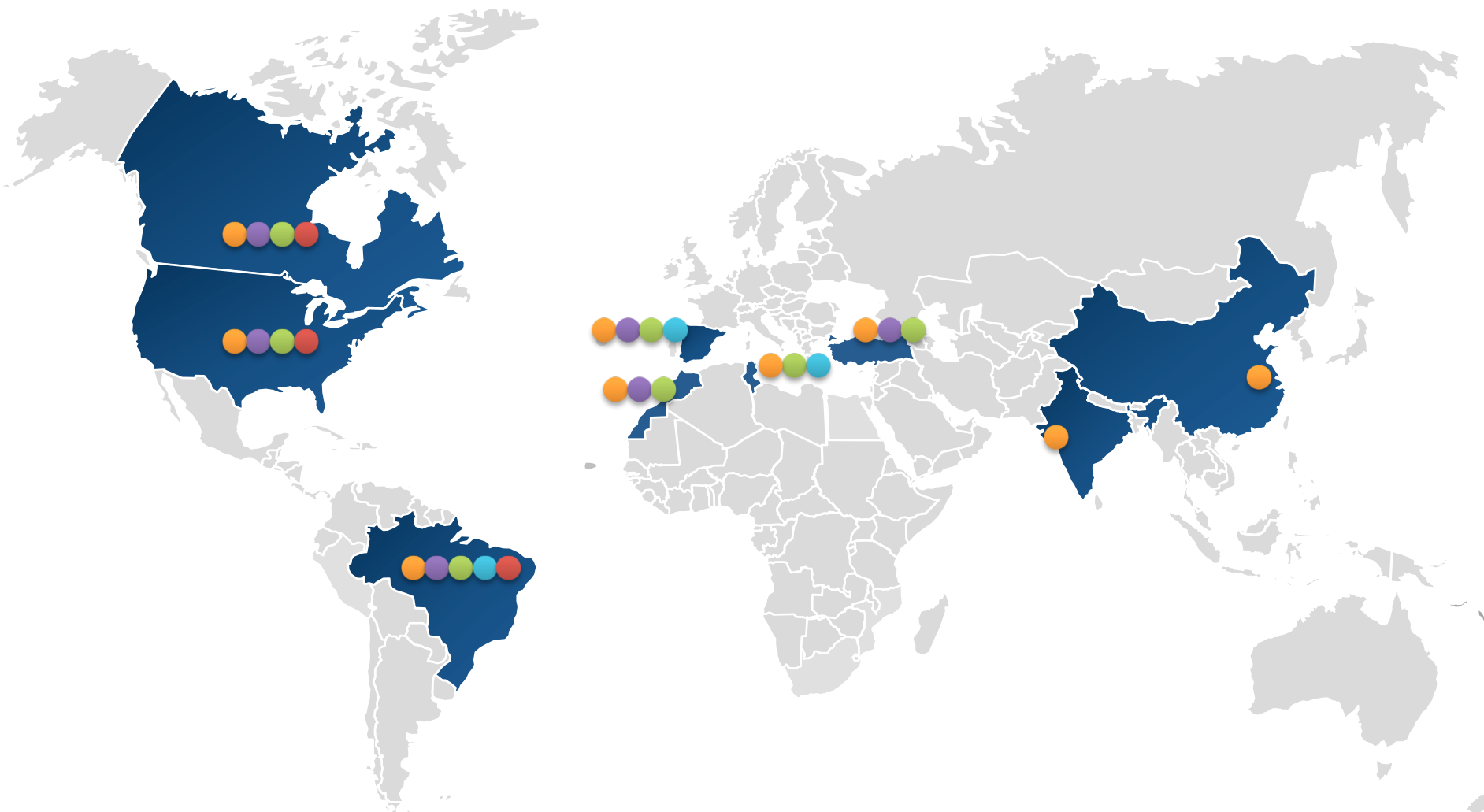


**Water Stress Index**





# Visão Estratégica A Votorantim Cimentos Global



● Cimento (54) ● Concreto (324) ● Agregados (73) ● Complem. (10) ● Logística (53)



[Print Map](#)

- Base Maps**
  - Google Physical
  - Google Streets
  - Google Hybrid
  - Google Satellite
- Facilities**
  - Facilities
  - Labels
- Water Resources by Country**
  - Total renewable water per person (2008)
  - Projected total renewable per person (2025)
  - Projected total renewable per person (2050)
  - Water withdrawal per person
  - Industrial withdrawal (as percent of total)
  - Dependency Ratio
  - Population with improved water (percent)
  - Population with improved sanitation (percent)
- Water Resources by Watershed**
  - Annual renewable supply per person (1995)
  - Projected annual renewable supply per person (2025)
  - Environmental water scarcity index
  - Mean annual relative water stress index
  - Physical and economic water scarcity
  - Biodiversity Hotspots

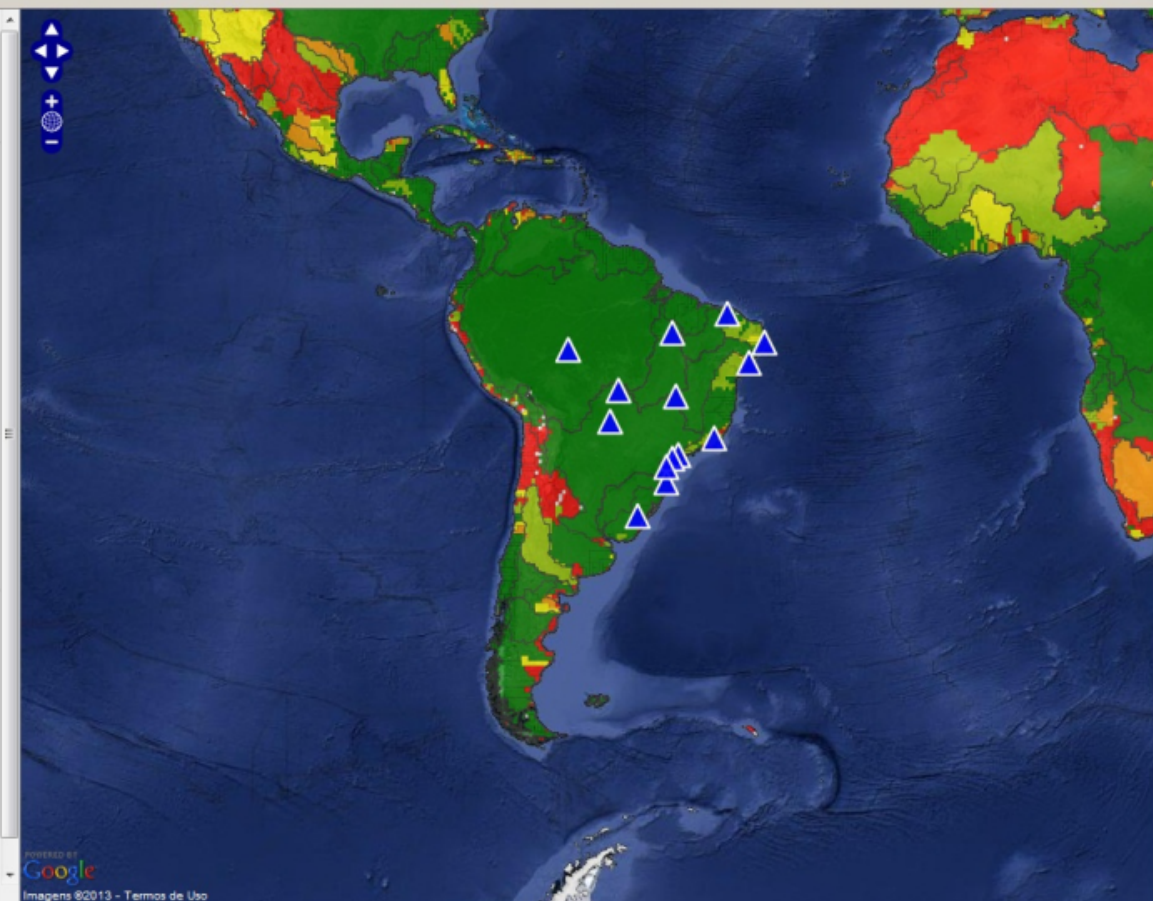


## Projected annual renewable supply per person (2025)



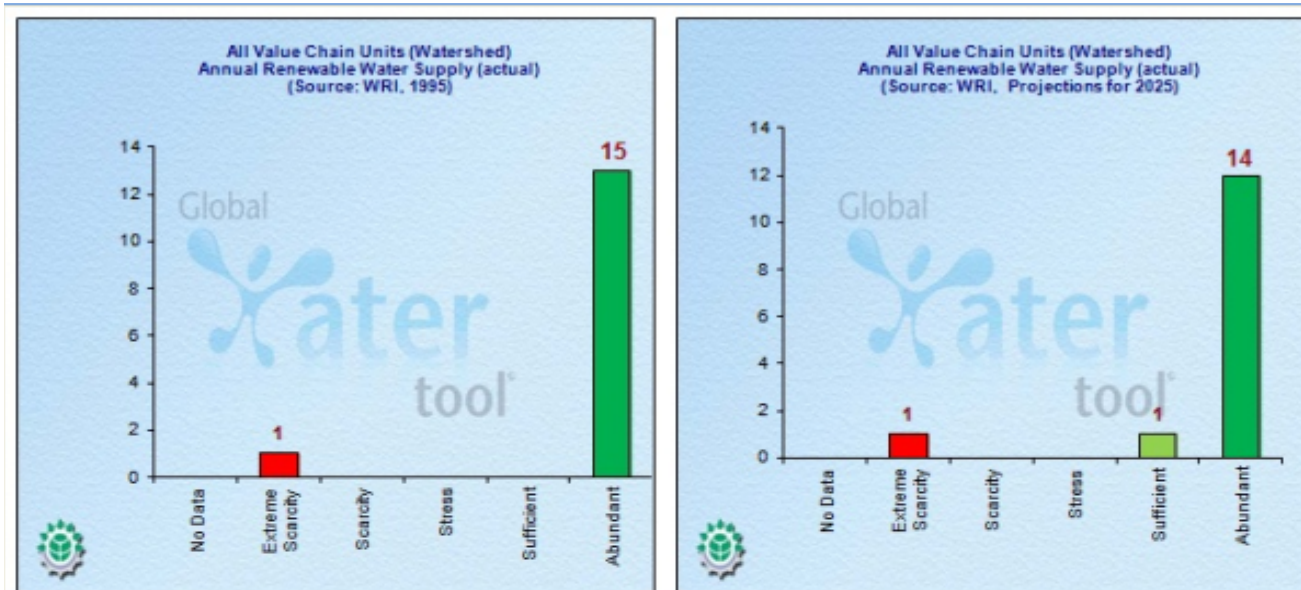
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- No Data
- Extreme Scarcity
- Scarcity
- Stress
- Sufficient
- Abundant

# Global Water Tool



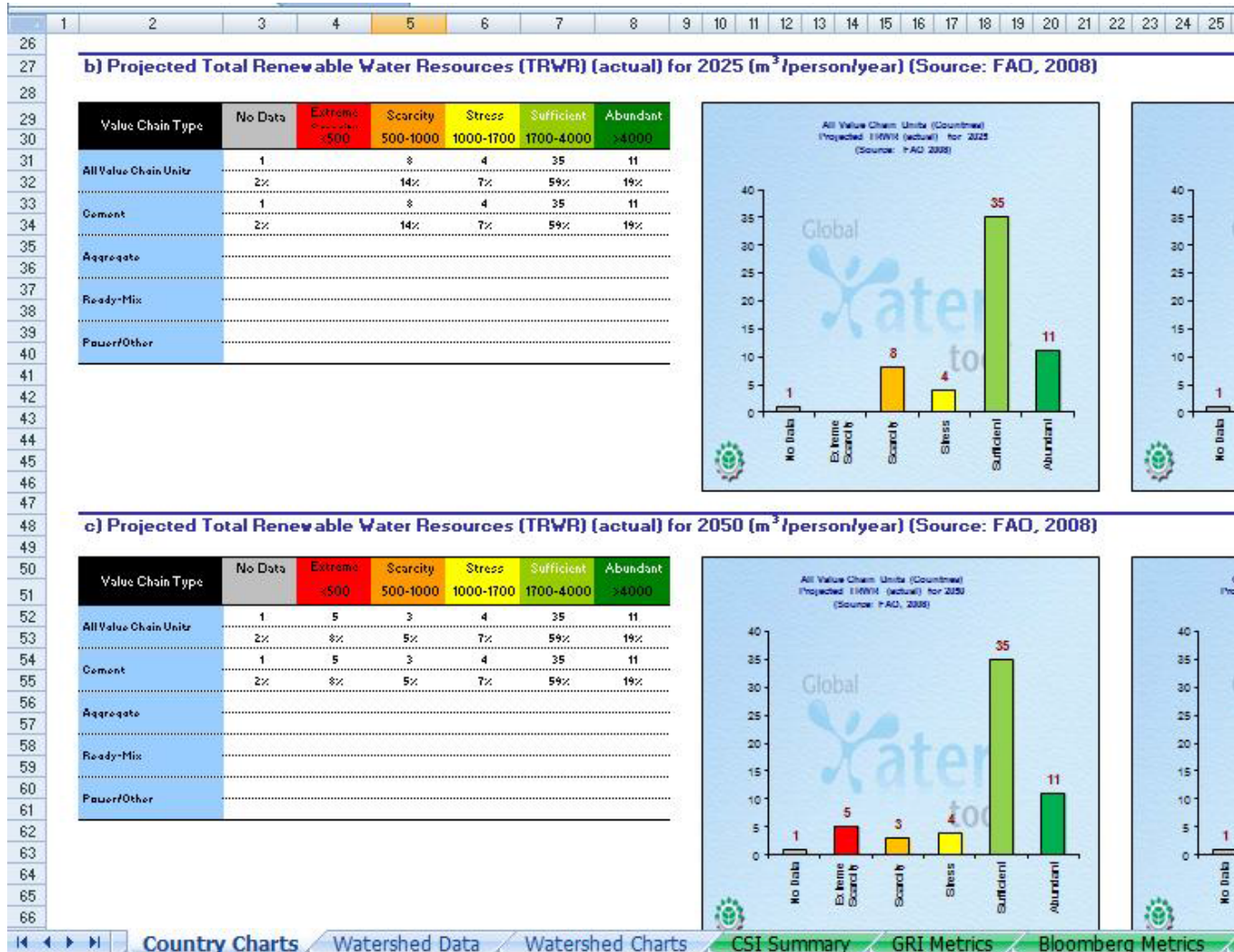
# Global Water Tool

## Métricas do setor

| 1  | 2                        | 5  | 6  | 7  | 8   | 9   | 10   | 11  | 12  | 13   | 14  | 15                           |  |  |
|----|--------------------------|--|--|--|---|---|--|---|---|--|---|------------------------------|--|--|
|    | Country                  | Water Inventory                                    |  |  |   |   |  |   |   |  |   | Recycled/Reused              |  |  |
|    |                          | Water Withdrawal                                   |  |  | Water Discharge                                   |   |  | Water Consumption                                   |   |  | Total Recycled/ Reused (m <sup>3</sup> /year) | Percent Recycled/ Reused (%) | Total Freshwater Withdrawal (m <sup>3</sup> /year) |  |
|    |                          | Total Freshwater Withdrawal (m <sup>3</sup> /year) | Total Non-Freshwater Withdrawal (m <sup>3</sup> /year) | Total Water Withdrawal GBLEN8 (m <sup>3</sup> /year) | Total Freshwater Discharge (m <sup>3</sup> /year) | Total Non-Freshwater Discharge (m <sup>3</sup> /year) | Total Water Discharge GBLEN21 (m <sup>3</sup> /year) | Total Freshwater Consumption (m <sup>3</sup> /year) | Total Non-Freshwater Consumption (m <sup>3</sup> /year) | Total Water Consumption (m <sup>3</sup> /year) |   |                              |  |  |
| 16 | France                   | 1,636,983  | 0  | 1,636,983  | 1,570,166   | 0   | 1,570,166  | 66,817  | 0   | 66,817   | 0   | 0.00%                        | 3  |  |
| 17 | Belgium                  | 518,013  | 0  | 518,013  | 113,615   | 0   | 113,615  | 404,398   | 0   | 404,398  | 0   | 0.00%                        | 0  |  |
| 18 | France                   | 404,932  | 0  | 404,932  | 5,112   | 0   | 5,112  | 399,880   | 0   | 399,880  | 0   | 0.00%                        | 0  |  |
| 19 | France                   | 19,297   | 0  | 19,297   | 0   | 0   | 0  | 19,297  | 0   | 19,297   | 0   | 0.00%                        | 0  |  |
| 20 | Thailand                 | 747,354  | 0  | 747,354  | 105,080   | 0   | 105,080  | 642,274   | 0   | 642,274  | 0   | 0.00%                        | 0  |  |
| 21 | Thailand                 | 319,780  | 0  | 319,780  | 82,000  | 0   | 82,000   | 237,780   | 0   | 237,780  | 0   | 0.00%                        | 0  |  |
| 22 | Morocco                  | 214,320  | 0  | 214,320  | 93,073  | 0   | 93,073   | 121,247   | 0   | 121,247  | 0   | 0.00%                        | 0  |  |
| 23 | Morocco                  | 134,800  | 0  | 134,800  | 0   | 0   | 0  | 134,800   | 0   | 134,800  | 0   | 0.00%                        | 0  |  |
| 24 | Morocco                  | 129,574  | 0  | 129,574  | 37,958  | 0   | 37,958   | 91,616  | 0   | 91,616   | 0   | 0.00%                        | 0  |  |
| 25 | Bulgaria                 | 790,968  | 0  | 790,968  | 64,330  | 0   | 64,330   | 726,638   | 0   | 726,638  | 0   | 0.00%                        | 1  |  |
| 26 | Spain                    | 340,986  | 0  | 340,986  | 0   | 0   | 0  | 340,986   | 0   | 340,986  | 0   | 0.00%                        | 0  |  |
| 27 | Spain                    | 21,390   | 0  | 21,390   | 0   | 0   | 0  | 21,390  | 0   | 21,390   | 0   | 0.00%                        | 0  |  |
| 28 | Spain                    | 35,177   | 11,148   | 46,325   | 3,280   | 0   | 3,280  | 31,897  | 11,148  | 43,045   | 0   | 0.00%                        | 0  |  |
| 29 | Greece                   | 35,361   | 15,000   | 50,361   | 0   | 0   | 0  | 35,361  | 15,000  | 50,361   | 0   | 0.00%                        | 0  |  |
| 30 | Kazakhstan               | 1,008,150  | 0  | 1,008,150  | 108,450   | 0   | 108,450  | 899,700   | 0   | 899,700  | 0   | 0.00%                        | 1  |  |
| 31 | Egypt                    | 716,221  | 0  | 716,221  | 16,500  | 0   | 16,500   | 699,721   | 0   | 699,721  | 0   | 0.00%                        | 0  |  |
| 32 | Egypt                    | 720,290  | 0  | 720,290  | 63,600  | 0   | 63,600   | 656,690   | 0   | 656,690  | 0   | 0.00%                        | 0  |  |
| 33 | Egypt                    | 1,200,103  | 0  | 1,200,103  | 78,836  | 0   | 78,836   | 1,121,267   | 0   | 1,121,267                                      | 0   | 0.00%                        | 0  |  |
| 34 | Egypt                    | 1,352,698  | 0  | 1,352,698  | 403,770   | 0   | 403,770  | 948,928   | 0   | 948,928  | 0   | 0.00%                        | 0  |  |
| 35 | Egypt                    | 265,688  | 0  | 265,688  | 4,965   | 0   | 4,965  | 260,723   | 0   | 260,723  | 0   | 0.00%                        | 0  |  |
| 36 | United States of America | 326,667  | 245  | 326,912  | 3,465   | 0   | 3,465  | 323,202   | 245   | 323,447  | 0   | 0.00%                        | 1  |  |
| 37 | United States of America | 501,441  | 0  | 501,441  | 6,000   | 0   | 6,000  | 495,441   | 0   | 495,441  | 0   | 0.00%                        | 0  |  |

# Global Water Tool

## Métricas do setor



# Global Water Tool

## Indicadores CSI

| 1 | 2                     | 3  | 4   | 5  | 6   | 7   |
|---|-----------------------|--|---|--|---|---|
|   | Value Chain Unit Type | Total Water Withdrawals (E6)<br>(m <sup>3</sup> /year) | Total Water Discharge<br>(m <sup>3</sup> /year) | Total Water Consumed<br>(m <sup>3</sup> /year) | Percentage of sites with recycling<br>(%) | Site Distribution by Watershed Scarcity Level (2025)  |
| 6 |                       |  |   |  |   |   |
| 7 |                       |  |   |  |   |   |
| 8 | All Value Chain Units | 24,330,141   | 3,324,413                                       | 15,665,728                                     | 86.44%                                    | <p>All Value Chain Units (Watershed)<br/>Annual Renewable Water Supply (actual)<br/>(Source: WRI, Projections for 2025)</p> |
| 9 | Cement                | 24,330,141   | 3,324,413                                       | 15,665,728                                     | 86%                                       | <p>Cement Operations (Watershed)<br/>Annual Renewable Water Supply (actual)<br/>(Source: WRI, Projections for 2025)</p>     |

Global



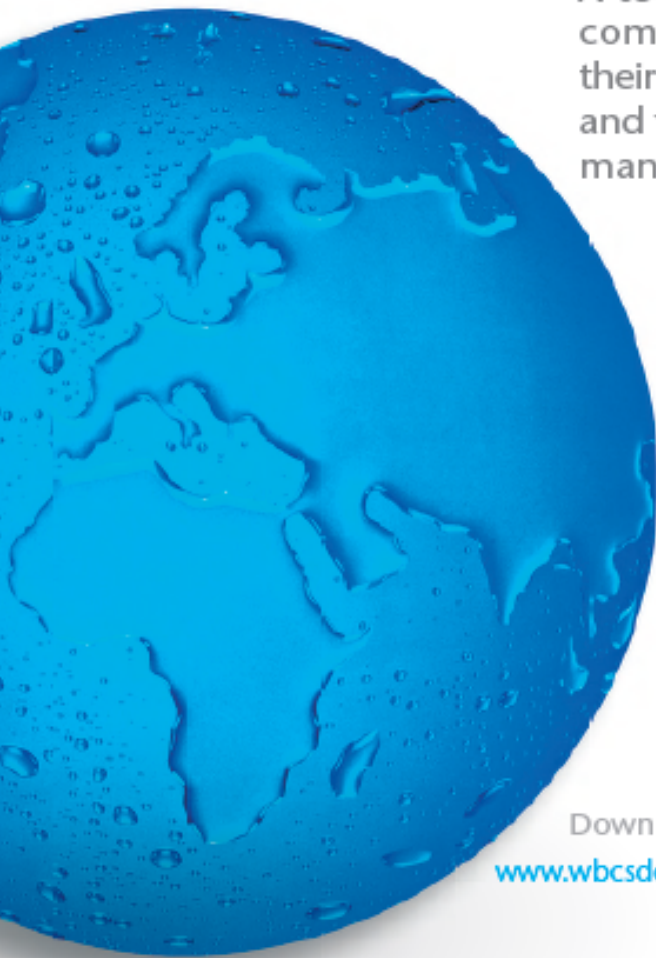
A tool to help cement companies understand their water risk portfolio and to inform their water management decisions.



Open-access  
IT-based resource



generates maps  
to highlight water  
stress areas and  
biodiversity hotspots



Download it **FREE** from  
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