



Computation of long-term annual renewable water resources (RWR) by country (in km<sup>3</sup>/year, average)

## Turkmenistan

| Internal RWR                                    |           |  |
|---|-----------|--|
| Precipitation (mm/year)                         | [1]       | 161                                      |
| Area of the country (1000 ha)                   | [2]       | 48 810                                   |
| Precipitation (km <sup>3</sup> /year)           | [3]       | 78.58 =([1]/1000000)x([2]x10)            |
| Surface water: produced internally              | [4]       | 1 (a)                                    |
| Groundwater: produced internally                | [5]       | 0.405 (b)                                |
| Overlap between surface water and groundwater   | [6]       | 0 (c)                                    |
| <b>Total internal renewable water resources</b> | [7]       | 1.405 =([4]+[5]-[6])                     |
| External RWR                                    |           |  |
|   | Total     | Accounted                                |
| <b>Surface water</b>                            |           |  |
| Surface water entering the country              | 80.2 (d)  |  |
| Inflow not submitted to treaties                |           | [8] 1.25 (e)                             |
| Inflow submitted to treaties                    |           | 78.95 (f)                                |
| Inflow secured through treaties                 |           | [9] 44.11 (g)                            |
| Flow in border rivers                           |           | [10] 0                                   |
| Accounted inflow                                |           | [11] 45.36 =([8]+[9]+[10])               |
| Surface water leaving the country               | 78.46 (h) |  |
| Outflow not submitted to treaties               |           |  |
| Outflow submitted to treaties                   |           | 22 (i)                                   |
| Outflow secured through treaties                |           | [12] 22                                  |
| Total external renewable surface water          |           | [13] 23.36 =([11]-[12])                  |
| <b>Groundwater</b>                              |           |  |
| Groundwater entering the country                | 0         | [14] 0                                   |
| Groundwater leaving the country                 |           |  |
| <b>Total external renewable water resources</b> |           | [15] 23.36 =([13]+[14])                  |
| Total RWR                                       |           |  |
| Surface water                                   |           | [16] 24.36 =([4]+[13])                   |
| Groundwater                                     |           | [17] 0.405 =([5]+[14])                   |
| Overlap between surface water and groundwater   |           | [6] 0 (c)                                |
| <b>Total renewable water resources</b>          |           | [18] 24.77 =([16]+[17]-[6])              |
| Dependency ratio (%)                            |           | [19] 97 =100*([11]+[14])/([11]+[14]+[7]) |

Metadata:

- (a) Amu Darya 0.68; Atrek 0.02 (Sumbar/Chandyr); Murghab, Tedzhen and other 0.30.  
 (b) Difference between TIRWR (1.405. Ref: "CA-water. Aral sea basin. [http://www.cawater-info.net/aral/water\\_e.htm](http://www.cawater-info.net/aral/water_e.htm).) and IRSWR  
 (c) Overlap between surface water and groundwater is considered negligible.  
 (d) Amu Darya from UZB 66.08, of which 1.93 originating in KGZ, 59.45 in TJK and 4.70 in UZB; Amu Darya from AFG 11.7; Murghab from AFG 1.25 (total 3.1, but most lost in desert at border); Tedzhen from IRN 1.07; Atrek from IRN 0.1.  
 (e) Murghab from Afghanistan 1.25.  
 (f) Amu Darya from UZB 66.08; Amu Darya from AFG 11.7 (through short border with UZB) - even though AFG is not considered to be part of the treaty, the 11.7 is included in the total amount based on which the allocations to the ex-USSR countries are calculated, since the flow is measured at Kerki station in TKM; Tedzhen from IRN 1.07; Atrek from IRN 0.1.  
 (g) Amu Darya from Uzbekistan 43.32 (=22 for Uzbekistan further downstream+22 for Turkmenistan-0.68 IRSWR Turkmenistan); Tedzhen from Islamic Republic of Iran 0.75; Atrek From Islamic Republic of Iran 0.04.  
 (h) Equal to the IRSWR of all countries in Amu Darya basin: 1.93 (Kyrgyzstan) + 59.45 (Tajikistan) + 4.70 (Uzbekistan) + 11.7 (Afghanistan) + 0.68 (Turkmenistan)  
 (i) Amu Darya to Uzbekistan.