# CLIMATE VULNERABILITY MONITOR

DARA

Climate Vulnerable Forum

## COUNTRY PROFILE

## POLAND

CLIMATE: LOW  CARBON: MODERATE

### THE MONITOR ASSESSMENT

The Climate Vulnerability Monitor provides a comprehensive national-level assessment of vulnerabilities and impact specifically related to contemporary climate change and carbon intensiveness. This 2012 Monitor assessment was commissioned by the Climate Vulnerable Forum and has been independently developed by DARA. It is grounded in leading and up-to-date scientific studies, research and data assimilated on the basis of an externally reviewed methodology. The assessment spans 34 indicators of impact/vulnerability: 22 for climate change ("Climate") and 12 for carbon intensiveness ("Carbon"). Estimates in human, economic and environmental terms are for 2010 and 2030. Vulnerability at country-level and by indicator is comparative to the 184 countries included in the assessment.

➔ **For the full report, data & additional info: www.daraint.org/cvm2 - cvm@daraint.org - +34 915310372**

## ECONOMIC NATIONAL LOSS TOTALS: POLAND

ADDITIONAL ECONOMIC COSTS (NEGATIVE NUMBERS SHOW POSITIVE EFFECTS) - YEARLY AVERAGE

**CLIMATE CHANGE IMPACT** — LOSSES PER YEAR

2010 **NIL**
2030 **0.2%GDP**

**CARBON INTENSIVENESS IMPACT** — LOSSES PER YEAR

2010 **0.3%GDP**
2030 **0.3%GDP**

## HUMAN NATIONAL LOSS TOTALS: POLAND

ADDITIONAL HUMAN IMPACTS (NEGATIVE NUMBERS SHOW POSITIVE EFFECTS) - YEARLY AVERAGE

**CLIMATE +CARBON COMBINED** — ADDITIONAL MORTALITY-YEARLY AVERAGE

2010 **15,000**
2030 **15,000**

**CLIMATE** — ADDITIONAL PERSONS AFFECTED-YEARLY AVERAGE

2010 **200,000**  2030 **200,000**

**CARBON**

2010 **150,000**  2030 **150,000**

## FULL COUNTRY ASSESSMENT: POLAND

| | | VULNERABILITY LEVEL | | ADDITIONAL ECONOMIC COSTS (MILLION USD PPP) | | ADDITIONAL MORTALITY | | ADDITIONAL AFFECTED POPULATION (1000s) | | OTHER VALUE 1* | | OTHER VALUE 2* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2010 | 2030 | 2010 | 2030 | 2010 | 2030 | 2010 | 2030 | 2010 | 2030 | 2010 | 2030 |
| CLIMATE | **ENVIRONMENTAL DISASTERS** | | | | | | | | | | | | |
| | DROUGHT | - | + | 30 | 100 | | | | | | | | |
| | FLOODS AND LANDSLIDES | | - | 85 | 600 | 1 | 1 | 5 | 4 | | | | |
| | STORMS | | | 1 | 10 | | | 0 | 0 | | | | |
| | WILDFIRES | + | + | | | | | | | | | | |
| | TOTAL | | | 116 | 710 | 1 | 1 | 5 | 4 | | | | |
| | **HABITAT CHANGE** | | | | | | | | | | | | |
| | BIODIVERSITY | - | + | 700 | 4,750 | | | | | -2,500 | -5,000 | 80 | 250 |
| | DESERTIFICATION | | | | | | | | | | | | |
| | HEATING AND COOLING | | | -1,250 | -8,250 | | | | | -6,750 | -10,000 | -7,000 | -15,000 |
| | LABOUR PRODUCTIVITY | | | 15 | 100 | | | | | 5 | 5 | | |
| | PERMAFROST | | | | | | | | | | | | |
| | SEA-LEVEL RISE | | | 200 | 850 | | | 0 | 0 | 15 | 35 | | |
| | WATER | - | + | 900 | 6,250 | | | | | 1 | 1 | | |
| | TOTAL | | | 565 | 3,700 | | | 0 | 0 | | | | |
| | **HEALTH IMPACT** | | | | | | | | | | | | |
| | DIARRHEAL INFECTIONS | | | | | 1 | 1 | 0 | | | | | |
| | HEAT AND COLD ILLNESSES | + | - | | | 250 | 350 | | | | | | |
| | HUNGER | | | | | | | | | | | | |
| | MALARIA AND VECTOR-BORNE | | | | | | | | | | | | |
| | MENINGITIS | | | | | | | | | | | | |
| | TOTAL | | | | | 251 | 351 | 0 | 0 | | | | |
| | **INDUSTRY STRESS** | | | | | | | | | | | | |
| | AGRICULTURE | | | 90 | 500 | | | | | | | | |
| | FISHERIES | | | 25 | 200 | | | | | | | | |
| | FORESTRY | | | -5 | -40 | | | | | | | | |
| | HYDRO ENERGY | | | 5 | 20 | | | | | | | | |
| | TOURISM | | | -10 | -65 | | | | | | | | |
| | TRANSPORT | | | | | | | | | | | | |
| | TOTAL | | | 105 | 615 | | | | | | | | |
| | **CLIMATE TOTAL** | | | **786** | **5,025** | **251** | **350** | **5** | **4** | | | | |
| CARBON | **ENVIRONMENTAL DISASTERS** | | | | | | | | | | | | |
| | OIL SANDS | | | | | | | | | | | | |
| | OIL SPILLS | | | | | | | | | | | | |
| | TOTAL | | | 0 | 0 | | | | | | | | |
| | **HABITAT CHANGE** | | | | | | | | | | | | |
| | BIODIVERSITY | | | 400 | 2,750 | | | | | 80 | 200 | | |
| | CORROSION | + | + | 20 | 50 | | | | | | | | |
| | WATER | + | + | 200 | 650 | | | | | 6,500 | 5,750 | | |
| | TOTAL | | | 620 | 3450 | | | | | | | | |
| | **HEALTH IMPACT** | | | | | | | | | | | | |
| | AIR POLLUTION | - | + | | | 6,500 | 7,500 | 75 | 100 | | | | |
| | INDOOR SMOKE | | - | | | 5,500 | 7,250 | 35 | 45 | | | | |
| | OCCUPATIONAL HAZARDS | + | + | | | 200 | 200 | 20 | 20 | | | | |
| | SKIN CANCER | + | + | | | 500 | 1,000 | 0 | 1 | | | | |
| | TOTAL | | | | | 12700 | 15950 | 130 | 166 | | | | |
| | **INDUSTRY STRESS** | | | | | | | | | | | | |
| | AGRICULTURE | + | | 400 | -150 | | | | | | | | |
| | FISHERIES | | | 1 | 10 | | | | | | | | |
| | FORESTRY | - | | 150 | 350 | | | | | | | | |
| | TOTAL | | | 551 | 210 | | | | | | | | |
| | **CARBON TOTAL** | | | **1,171** | **3,660** | **12,700** | **15,950** | **130** | **166** | | | | |

VULNERABILITY LEVELS:

| | |
|---|---|
| + Acute+ | + High+ |
| - Acute- | - High- |
| + Severe+ | Moderate |
| - Severe- | Low |

+ = Upper tier of vulnerability level
- = Lower tier of vulnerability level

- Environmental disasters
- Habitat change
- Health impact
- Industry stress

**CLIMATE** = Impact/Vulnerability to Climate Change

**CARBON** = Impact/Vulnerability to Carbon Intensiveness

| | OTHER VALUE 1 | OTHER VALUE 2 |
|---|---|---|
| BIODIVERSITY | Contraction of biological zones ($km^2$) (cumulative) | Decline in biological richness |
| DESERTIFICATION | Additional land degraded ($km^2$) (cumulative) | |
| HEATING & COOLING | Change in energy load (GWh) | |
| LABOUR PRODUCTIVITY | Share of workforce particularly affected (%) | |
| SEA-LEVEL RISE | Net loss of land ($km^2$) (cumulative) | |
| WATER | Loss in water runoff 2030 ($km^3$) | |
| OIL SANDS | Tonnes toxic waste (1000s) | |
| OIL SPILLS | Gallons oil spill (1000s) | |
| BIODIVERSITY | Decline in biological richness | |
| WATER | Volume of water to treat (millions $m^3$) | |