

## Overview of measurement networks of the Czech Republic

### Statistical survey

**Tab. 1 Air pollution monitoring localities, based on the owner, Czech Republic, 2007**

| <b>Zone / agglomeration</b>            | <b>CHMI</b> | <b>ZÚ</b> | <b>ČEZ</b> | <b>P+S</b> | <b>KMon</b> | <b>Total</b> |
|--|-------------|-----------|------------|------------|-------------|--------------|
| Agglomeration Brno                     | 4           | 3         | –          | –          | 5           | <b>12</b>    |
| Agglomeration Prague                   | 15          | 8         | –          | –          | –           | <b>23</b>    |
| Zone South Bohemian region             | 8           | 2         | –          | –          | –           | <b>10</b>    |
| Zone South Moravian region             | 5           | 1         | –          | –          | –           | <b>6</b>     |
| Zone Karlovy Vary region               | 5           | 4         | 1          | –          | –           | <b>10</b>    |
| Zone Hradec Králové region             | 12          | 1         | –          | –          | –           | <b>13</b>    |
| Zone Liberec region                    | 9           | 2         | –          | –          | –           | <b>11</b>    |
| Agglomeration Moravian-Silesian region | 21          | 5         | 2          | –          | 1           | <b>29</b>    |
| Zone Olomouc region                    | 6           | 1         | –          | –          | 2           | <b>9</b>     |
| Zone Pardubice                         | 6           | 2         | 1          | –          | 1           | <b>10</b>    |
| Zone Plzeň region                      | 5           | 3         | –          | –          | 6           | <b>14</b>    |
| Zone Central Bohemian region           | 11          | 9         | –          | 1          | –           | <b>21</b>    |
| Zone Ústí nad Labem region             | 19          | 11        | 9          | 2          | –           | <b>41</b>    |
| Zone Vysočina region                   | 7           | 3         | –          | –          | –           | <b>10</b>    |
| Zone Zlín region                       | 4           | 2         | –          | –          | 2           | <b>8</b>     |
| <b>Total</b>                           | <b>137</b>  | <b>57</b> | <b>13</b>  | <b>3</b>   | <b>17</b>   | <b>227</b>   |

**Explanatory notes:**

ZÚ Health Institute [incl. ZÚ Kolín (3)]

P+S industry [ČESRAF (1), FP (1)] + education [SŠZE Žatec(1)]

KMon municipal monitoring [MÚ Třinec (1), Město Plzeň (6), MÚ Pardubice (1), Město Šumperk (1), Město Olomouc (1), Město Zlín (1), Statutární město Brno(5), Město Valašské Meziříčí(1)]

**Tab. 2 Air pollution monitoring localities measuring basic pollutants, AMS, based on the owner, Czech Republic, 2007**

| Zone / agglomeration                   | SO <sub>2</sub> |                        | NO, NO <sub>2</sub> , NO <sub>x</sub> |                                    | PM <sub>10</sub> |                       | O <sub>3</sub> |                       | CO        |  | BTX       |                                   |
|--|-----------------|------------------------|---------------------------------------|------------------------------------|------------------|-----------------------|----------------|-----------------------|-----------|--|-----------|-----------------------------------|
|  | CHMI            | <sup>1</sup> Others SN | CHMI                                  | <sup>1</sup> Others SN, SŠZE Žatec | CHMI             | <sup>2</sup> Others P | CHMI           | <sup>3</sup> Others O | CHMI      | ZÚ, Město Plzeň, Statutární město Brno | CHMI      | Město Plzeň, MÚ Pardubice, ČESRAF |
| Agglomeration Brno                     | 2               | 5                      | 2                                     | 5                                  | 2                | 5                     | 2              | 2                     | 1         | 5                                      | 1         | –                                 |
| Agglomeration Prague                   | 14              | –                      | 15                                    | –                                  | 14               | –                     | 8              | –                     | 6         | 7                                      | 4         | –                                 |
| Zone South Bohemian region             | 4               | 2                      | 4                                     | 2                                  | 2                | 2                     | 5              | 1                     | 2         | 1                                      | 2         | –                                 |
| Zone South Moravian region             | 2               | 1                      | 2                                     | 1                                  | 2                | 1                     | 2              | 1                     | –         | –                                      | 1         | –                                 |
| Zone Karlovy Vary region               | 4               | 2                      | 4                                     | 2                                  | 4                | 1                     | 2              | –                     | 2         | –                                      | 1         | –                                 |
| Zone Hradec Králové region             | 4               | 1                      | 4                                     | 1                                  | 3                | 1                     | 4              | 1                     | 1         | 1                                      | 1         | –                                 |
| Zone Liberec region                    | 5               | –                      | 5                                     | –                                  | 5                | –                     | 2              | –                     | 1         | –                                      | 1         | –                                 |
| Agglomeration Moravian-Silesian region | 14              | 3                      | 15                                    | 3                                  | 13               | 4                     | 6              | –                     | 3         | –                                      | 4         | –                                 |
| Zone Olomouc region                    | 4               | 3                      | 4                                     | 3                                  | 4                | 1                     | 3              | 3                     | 1         | –                                      | 2         | –                                 |
| Zone Pardubice                         | 2               | 4                      | 2                                     | 4                                  | 2                | 2                     | 2              | 1                     | 1         | 1                                      | 1         | 1                                 |
| Zone Plzeň region                      | 2               | 8                      | 2                                     | 8                                  | 1                | 8                     | 2              | 5                     | 1         | 5                                      | –         | 2                                 |
| Zone Central Bohemian region           | 6               | 2                      | 6                                     | 2                                  | 5                | 2                     | 3              | –                     | 1         | –                                      | 1         | 1                                 |
| Zone Ústí nad Labem region             | 14              | 9                      | 15                                    | 11                                 | 14               | 1                     | 10             | 2                     | 7         | –                                      | 4         | –                                 |
| Zone Vysočina region                   | 3               | 2                      | 3                                     | 2                                  | 3                | 2                     | 3              | 1                     | 2         | –                                      | 1         | –                                 |
| Zone Zlín region                       | 2               | 1                      | 2                                     | 1                                  | 2                | –                     | 2              | 1                     | 1         | –                                      | 1         | –                                 |
| <b>Total</b>                           | <b>82</b>       | <b>43</b>              | <b>85</b>                             | <b>45</b>                          | <b>76</b>        | <b>30</b>             | <b>56</b>      | <b>18</b>             | <b>30</b> | <b>20</b>                              | <b>25</b> | <b>4</b>                          |
| <b>Total</b>                           | <b>125</b>      |                        | <b>130</b>                            |                                    | <b>106</b>       |                       | <b>74</b>      |                       | <b>50</b> |  | <b>29</b> |                                   |

**Explanatory notes:**

<sup>1</sup>Others SN: ZÚ, ČEZ, ČESRAF, Město Plzeň, Město Zlín, Město Šumperk, Město Olomouc, Statutární město Brno, MÚ Pardubice, MÚ Třinec

<sup>2</sup>Others P: ZÚ, ČESRAF, Město Plzeň, Statutární město Brno, MÚ Třinec, SŠZE Žatec

<sup>3</sup>Others O: ZÚ, Město Plzeň, Město Zlín, Město Šumperk, Město Olomouc, Statutární město Brno, MÚ Pardubice, SŠZE Žatec

BTX Includes measurement of aromatic hydrocarbons: benzene, toluene, ethylbenzene, o-xylene, m-xylene, p-xylene.

**Note:** At certain stations the above measuring programme may be limited.

**Tab. 3 Air pollution monitoring localities measuring other pollutants and supplementary quantities, AMS, based on the owner, Czech Republic 2007**

| Zone / agglomeration                   | PM <sub>2,5</sub> |  | PM <sub>1</sub> |                          | NH <sub>3</sub> | Hg <sup>0</sup> | SPM                      | Meteo     |        |
|--|-------------------|--|-----------------|--------------------------|-----------------|-----------------|--------------------------|-----------|--------|
|  | CHMI              | Město Plzeň,<br>Statutární město<br>Brno | CHMI            | Statutární město<br>Brno | CHMI            | CHMI            | Statutární<br>město Brno | CHMI      | Others |
| Agglomeration Brno                     | 1                 | 3  | –               | 3                        | –               | –               | 3                        | 1         | 5      |
| Agglomeration Prague                   | 4                 | –  | –               | –                        | –               | –               | –                        | 6         | -      |
| Zone South Bohemian region             | 1                 | –  | –               | –                        | –               | –               | –                        | 3         | 1      |
| Zone South Moravian region             | –                 | –  | –               | –                        | 1               | –               | –                        | 2         | -      |
| Zone Karlovy Vary region               | 1                 | –  | –               | –                        | –               | –               | –                        | 4         | 1      |
| Zone Hradec Králové region             | 1                 | –  | –               | –                        | –               | –               | –                        | 4         | -      |
| Zone Liberec region                    | 1                 | –  | –               | –                        | –               | –               | –                        | 4         | -      |
| Agglomeration Moravian-Silesian region | 6                 | –  | 1               | –                        | –               | –               | –                        | 13        | 3      |
| Zone Olomouc region                    | 1                 | –  | –               | –                        | –               | –               | –                        | 4         | -      |
| Zone Pardubice                         | 1                 | –  | –               | –                        | 1               | –               | –                        | 1         | 2      |
| Zone Plzeň region                      | –                 | 1  | –               | –                        | –               | –               | –                        | 1         | 4      |
| Zone Central Bohemian region           | 2                 | –  | –               | –                        | –               | –               | –                        | 4         | 1      |
| Zone Ústí nad Labem region             | 3                 | –  | –               | –                        | 1               | 1               | –                        | 13        | 10     |
| Zone Vysočina region                   | 1                 | –  | –               | –                        | –               | –               | –                        | 2         | -      |
| Zone Zlín region                       | 1                 | –  | –               | –                        | –               | –               | –                        | 3         | -      |
| Total                                  | 24                | 4  | 1               | 3                        | 3               | 1               | 3                        | 65        | 27     |
| <b>Total</b>                           | <b>28</b>         |  | <b>4</b>        |                          | <b>3</b>        | <b>1</b>        | <b>3</b>                 | <b>92</b> |        |

**Explanatory notes:**

Others: ZÚ, ČEZ, MÚ Třinec, Město Plzeň, MÚ Pardubice, Statutární město Brno, ČESRAF, SŠZE Žatec

Meteo Measurement of meteorological parameters:

WV- wind velocity, WD - wind direction, T10m - temperature 10 m above terrain, T2m - temperature 2 m above terrain, h - relative air humidity, p - atmospheric pressure, RAIN -precipitation amount, GLRD - global radiation

**Note:** At certain stations the above measuring programme may be limited.

**Tab. 4 Air pollution monitoring localities measuring basic pollutants, manual methods, based on the owner, Czech Republic 2007**

| Zone / agglomeration                   | SO <sub>2</sub> |                            | NO <sub>2</sub> |                     | PM <sub>10</sub> |                           | HM        |                     | SPM       |    | NO <sub>x</sub> |
|--|-----------------|----------------------------|-----------------|---------------------|------------------|---------------------------|-----------|---------------------|-----------|----|-----------------|
|  | CHMI            | ZÚ (incl. ZÚ Kolín), FP(1) | CHMI            | ZÚ (incl. ZÚ Kolín) | CHMI             | ZÚ (incl. ZÚ Kolín), KMon | CHMI      | ZÚ (incl. ZÚ Kolín) | CHMI      | ZÚ | ZÚ              |
| Agglomeration Brno                     | 2               | –                          | 1               | 3                   | 1                | 3                         | 1         | 3                   | 2         | –  | –               |
| Agglomeration Prague                   | 1               | 1                          | 1               | 8                   | 3                | 6                         | 1         | 8                   | –         | 4  | –               |
| Zone South Bohemian region             | 2               | –                          | 2               | –                   | 3                | –                         | 2         | 1                   | –         | –  | –               |
| Zone South Moravian region             | 1               | –                          | 2               | –                   | 3                | –                         | 1         | 1                   | 1         | –  | –               |
| Zone Karlovy Vary region               | 1               | 3                          | 1               | –                   | 1                | –                         | 1         | 1                   | –         | 2  | 3               |
| Zone Hradec Králové region             | 6               | –                          | 4               | –                   | 6                | –                         | 2         | 1                   | –         | –  | –               |
| Zone Liberec region                    | 3               | –                          | 3               | –                   | 4                | 2                         | 2         | 2                   | –         | –  | –               |
| Agglomeration Moravian-Silesian region | 6               | 1                          | 5               | 4                   | 7                | 2                         | 4         | 5                   | –         | 2  | 3               |
| Zone Olomouc region                    | 2               | –                          | 2               | –                   | 3                | 2                         | 1         | 1                   | –         | –  | –               |
| Zone Pardubice                         | 5               | –                          | 4               | –                   | 5                | –                         | 2         | 2                   | 1         | –  | –               |
| Zone Plzeň region                      | 2               | –                          | 2               | –                   | 3                | –                         | 1         | 3                   | –         | 1  | –               |
| Zone Central Bohemian region           | 5               | 4                          | 5               | 6                   | 5                | 8                         | 1         | 9                   | –         | –  | –               |
| Zone Ústí nad Labem region             | 5               | 7                          | 5               | 5                   | 8                | 8                         | 3         | 7                   | –         | –  | 6               |
| Zone Vysočina region                   | 4               | 1                          | 4               | –                   | 3                | 1                         | 1         | 3                   | 1         | –  | 1               |
| Zone Zlín region                       | 1               | 1                          | 1               | 1                   | 2                | 3                         | 1         | 2                   | –         | 1  | 1               |
| Total                                  | 46              | 18                         | 42              | 27                  | 57               | 35                        | 24        | 49                  | 5         | 10 | 14              |
| <b>Total</b>                           | <b>64</b>       |                            | <b>69</b>       |                     | <b>92</b>        |                           | <b>73</b> |                     | <b>15</b> |    | <b>14</b>       |

**Explanatory notes:**

KMon municipal monitoring [Město Šumperk (1), Město Olomouc (1), Město Zlín (1), Město Valašské Meziříčí(1)]

HM Includes measurement of the following elements:  
Al, As, Cd, Pb, Cr, Ni, Be, Hg, Mn, Fe, Cu, Zn, V.

**Note:** HM in PM<sub>10</sub> and in PM<sub>2.5</sub> are counted once  
ZÚ only aggreg. 24h data: CO: Prague and Ústí nad Labem region - 1 measurement, ozone: Ústí nad Labem region and Moravian-Silesian region - 3 measurements  
At certain stations the above measuring programme may be limited.

**Tab. 5 Total number of monitoring localities with special measurements, manual methods, based on the owner, Czech Republic, 2007**

| Zone / agglomeration                   | VOC       |          | POPs      |           | PM <sub>2.5</sub> |          | NH <sub>3</sub> | SNO <sub>3</sub> <sup>-</sup><br>SNH <sub>4</sub> <sup>+</sup><br>SO <sub>4</sub> | CS <sub>2</sub> | H <sub>2</sub> S |
|--|-----------|----------|-----------|-----------|-------------------|----------|-----------------|---|-----------------|------------------|
|  | CHMI      | ZÚ       | CHMI      | ZÚ        | CHMI              | ZÚ       | ZÚ              | CHMI  | ZÚ              | ZÚ, FP (I)       |
| Agglomeration Brno                     | 1         | –        | 1         | 1         | –                 | –        | –               | –   | –               | –                |
| Agglomeration Prague                   | 2         | 1        | 2         | 1         | 2                 | 1        | –               | 1   | –               | –                |
| Zone South Bohemian region             | –         | –        | 1         | –         | –                 | –        | –               | –   | –               | –                |
| Zone South Moravian region             | –         | –        | 2         | –         | –                 | –        | –               | –   | –               | –                |
| Zone Karlovy Vary region               | 2         | 1        | 1         | –         | –                 | –        | –               | –   | –               | –                |
| Zone Hradec Králové region             | –         | 1        | 1         | 1         | 3                 | –        | –               | –   | –               | –                |
| Zone Liberec region                    | 1         | –        | 1         | –         | –                 | –        | –               | –   | –               | –                |
| Agglomeration Moravian-Silesian region | 1         | 4        | 3         | 4         | 2                 | –        | –               | –   | –               | 1                |
| Zone Olomouc region                    | –         | –        | 1         | –         | –                 | –        | –               | –   | –               | –                |
| Zone Pardubice                         | –         | –        | 1         | –         | 2                 | –        | –               | 1   | –               | –                |
| Zone Plzeň region                      | –         | –        | 1         | 1         | –                 | –        | –               | –   | –               | –                |
| Zone Central Bohemian region           | –         | –        | 2         | –         | –                 | –        | –               | –   | –               | –                |
| Zone Ústí nad Labem region             | 4         | 1        | 4         | 1         | 4                 | –        | 1               | –   | 2               | 5                |
| Zone Vysočina region                   | 2         | –        | 1         | 1         | 1                 | –        | –               | 1   | –               | –                |
| Zone Zlín region                       | –         | –        | 1         | –         | –                 | –        | –               | –   | –               | –                |
| <b>Total</b>                           | <b>13</b> | <b>8</b> | <b>23</b> | <b>10</b> | <b>14</b>         | <b>1</b> | <b>1</b>        | <b>3</b>  | <b>2</b>        | <b>6</b>         |
| <b>Total</b>                           | <b>21</b> |          | <b>33</b> |           | <b>15</b>         |          | <b>1</b>        | <b>3</b>  | <b>2</b>        | <b>6</b>         |

**Explanatory notes:**

VOC Includes measurement of separately analyzed hydrocarbons:

benzene, methane, ethane, ethene, propane, propene, i-butane, n-butane, acetylene, sum of butene, i-pentane, n-pentane, sum of pentene, methyl cyclopentane, n-hexane, cyclohexane, n-heptane, isoprene, toluene, ethylbenzene, m,p-xylene, o-xylene, nonane, 2+3 methylpentane, 2+3 methylhexane, cyclopentane, 2,2-dimethylbutane, 2,3 dimethylbutane, 2+3 methylheptane, i-octane, n-octane, sum of xylenes, styrene, chloromethane, trichloromethane, chlorobenzene, sum of dichlorobenzenes, sum of trimethylbenzenes, dichloromethane, tetrachloromethane, karbon tetrachloride, trichlorethylene, tetrachlorethylene, trichlorethane, Freon 11, Freon 113, Freon 12.

POPs Includes measurement of persistent organic pollutants:

anthracene, acenaphtene, acenaphthylene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, phenanthrene, fluorene, fluoranthene, ideno(1,2,3-cd)pyrene, naphtalene, pyrene, alpha-HCH, beta-HCH, delta-HCH, gamma-HCH, hexachlorbenzene, PAHs, PCP28, PCB52, PCB101, PCB118, PCB138, PCB153, PCB180, p,p'-DDD, p,p'-DDE, p,p'-DDT.

**Note:** One more measurement of SO<sub>4</sub>, HNO<sub>3</sub> and NO<sub>3</sub> in Ústí nad Labem region.

At certain stations the above measuring programme may be limited.