

**Appendix B Emissions Data**

**Table 1  
Emissions  
Summary**

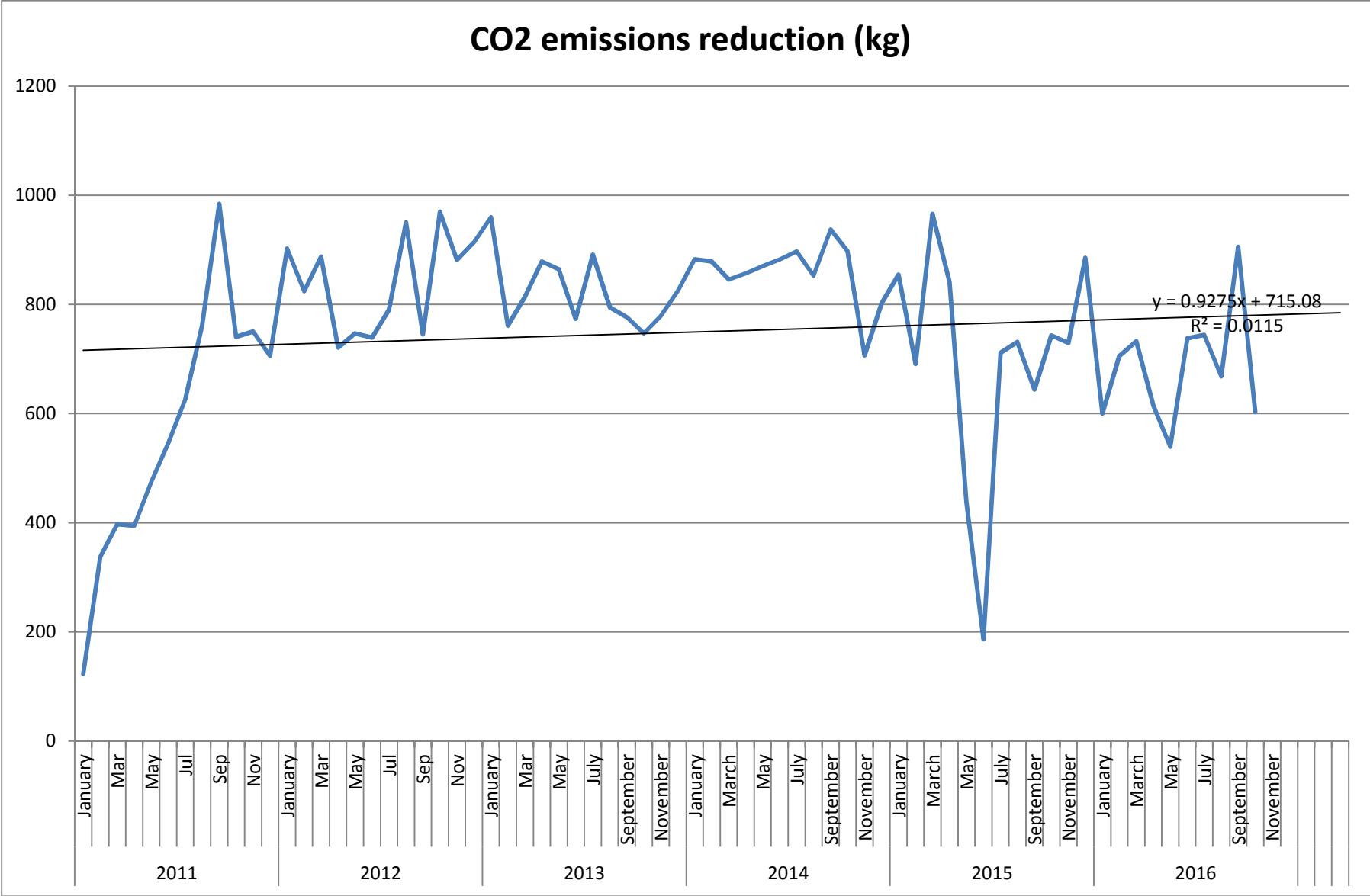
|      |         | Indicator |       |  |                                 | Number of retailers in Bath | Delivery Vehicles                             |   |       |     |              |     |          |               |                  | Delivery reduction rounded |
|------|---------|-----------|-------|--|---------------------------------|-----------------------------|---|---|-------|-----|--------------|-----|----------|---------------|------------------|----------------------------|
|      |         |           |       |  |                                 |                             | Vehicles in                                   |   |       |     | Vehicles out |     |          |               |                  |                            |
|      |         | Year      | Month | 8 – CO <sub>2</sub> emissions reduction (kg) | 9 – CO emissions reduction (kg) |                             | 10 – NO <sub>x</sub> emissions reduction (kg) | 11 – Particulate emissions reduction (kg) | Artic | 18t | 7.5t         | Van | Electric | Euro 4 diesel | Reduction number |                            |
| 2011 | January | 122.97    | 0.77  | 4  | 0.12                            | 4                           | 4   | 8   | 0     | 0   | 9            | 1   | 10       | 16.67         | 17               |                            |
|      | Feb     | 337.87    | 2.11  | 10.98  | 0.33                            | 9                           | 11  | 17  | 3     | 0   | 16           | 0   | 16       | 48.39         | 48               |                            |
|      | Mar     | 397.09    | 2.48  | 12.91  | 0.39                            | 9                           | 11  | 15  | 10    | 6   | 19           | 0   | 23       | 54.76         | 55               |                            |
|      | Apr     | 397.68    | 2.49  | 12.92  | 0.39                            | 9                           | 13  | 11  | 9     | 7   | 15           | 0   | 25       | 62.5          | 63               |                            |
|      | May     | 473.9     | 2.97  | 15.4   | 0.46                            | 9                           | 12  | 17  | 18    | 4   | 18           | 0   | 33       | 64.71         | 65               |                            |
|      | Jun     | 545.5     | 3.41  | 17.73  | 0.53                            | 12                          | 13  | 18  | 25    | 4   | 18           | 0   | 42       | 70            | 70               |                            |
|      | Jul     | 626.03    | 3.92  | 20.35  | 0.61                            | 14                          | 18  | 13  | 24    | 13  | 21           | 0   | 47       | 69.12         | 69               |                            |
|      | Aug     | 761.76    | 4.77  | 24.76  | 0.74                            | 15                          | 12  | 10  | 49    | 46  | 14           | 9   | 94       | 80.34         | 80               |                            |
|      | Sep     | 984.49    | 6.16  | 32   | 0.95                            | 15                          | 23  | 14  | 36    | 69  | 11           | 11  | 120      | 84.51         | 85               |                            |
|      | Oct     | 740.47    | 4.63  | 24.07  | 0.72                            | 15                          | 5   | 21  | 51    | 47  | 11           | 10  | 103      | 83.06         | 83               |                            |
|      | Nov     | 750.56    | 4.7   | 24.39  | 0.73                            | 17                          | 6   | 20  | 48    | 53  | 11           | 11  | 105      | 82.68         | 83               |                            |
| Dec  | 705.93  | 4.42      | 22.94 | 0.68   | 17                              | 25                          | 1   | 28  | 35    | 11  | 11           | 67  | 75.28    | 75            |                  |                            |
| 2012 | January | 902.38    | 5.65  | 29.33  | 0.88                            | 19                          | 26  | 3   | 44    | 40  | 15           | 6   | 92       | 81.42         | 81               |                            |
|      | Feb     | 824.38    | 5.16  | 26.79  | 0.8                             | 19                          | 24  | 6   | 41    | 37  | 10           | 11  | 87       | 80.56         | 81               |                            |
|      | Mar     | 887.92    | 5.56  | 28.86  | 0.86                            | 20                          | 26  | 6   | 33    | 55  | 11           | 11  | 98       | 81.67         | 82               |                            |
|      | Apr     | 720.81    | 4.51  | 23.43  | 0.7                             | 20                          | 19  | 4   | 41    | 42  | 5            | 15  | 86       | 81.13         | 81               |                            |
|      | May     | 746.96    | 4.67  | 24.28  | 0.72                            | 21                          | 20  | 4   | 49    | 44  | 0            | 23  | 94       | 80.34         | 80               |                            |
|      | Jun     | 739.26    | 4.63  | 24.03  | 0.72                            | 23                          | 20  | 4   | 49    | 38  | 0            | 20  | 91       | 81.98         | 82               |                            |
|      | Jul     | 790.41    | 4.95  | 25.69  | 0.77                            | 23                          | 19  | 6   | 45    | 58  | 0            | 22  | 106      | 82.81         | 83               |                            |

|                 |                  |        |      |       |      |    |    |    |    |    |    |    |       |       |    |
|-----------------|------------------|--------|------|-------|------|----|----|----|----|----|----|----|-------|-------|----|
|                 | <b>Aug</b>       | 950.37 | 5.95 | 30.89 | 0.92 | 24 | 26 | 10 | 40 | 69 | 0  | 23 | 122   | 84.14 | 84 |
|                 | <b>Sep</b>       | 745.05 | 4.66 | 24.21 | 0.72 | 26 | 19 | 5  | 45 | 47 | 0  | 20 | 96    | 82.76 | 83 |
|                 | <b>Oct</b>       | 969.77 | 6.07 | 31.52 | 0.94 | 26 | 24 | 6  | 42 | 51 | 23 | 0  | 100   | 81.3  | 81 |
|                 | <b>Nov</b>       | 881.63 | 5.52 | 28.65 | 0.86 | 25 | 17 | 6  | 52 | 43 | 22 | 0  | 96    | 81.36 | 81 |
|                 | <b>Dec</b>       | 913.82 | 5.72 | 29.7  | 0.89 | 26 | 24 | 12 | 40 | 39 | 18 | 5  | 92    | 80    | 80 |
| <b>2013</b>     | <b>January</b>   | 959.71 | 6.00 | 31.19 | 0.93 | 28 | 18 | 18 | 41 | 52 | 25 | 0  | 104   | 80.62 | 81 |
|                 | <b>Feb</b>       | 761.16 | 4.76 | 24.74 | 0.74 | 30 | 14 | 16 | 30 | 43 | 20 | 0  | 83    | 80.58 | 81 |
|                 | <b>Mar</b>       | 813.86 | 5.09 | 26.45 | 0.79 | 29 | 17 | 16 | 31 | 42 | 20 | 0  | 86    | 81.13 | 81 |
|                 | <b>Apr</b>       | 878.58 | 5.5  | 28.55 | 0.85 | 29 | 18 | 11 | 46 | 39 | 21 | 0  | 93    | 81.58 | 82 |
|                 | <b>May</b>       | 864.46 | 5.41 | 28.09 | 0.84 | 29 | 18 | 7  | 43 | 47 | 23 | 0  | 92    | 80    | 80 |
|                 | <b>June</b>      | 773.53 | 4.84 | 25.14 | 0.75 | 31 | 18 | 16 | 28 | 34 | 20 | 0  | 76    | 79.17 | 79 |
|                 | <b>July</b>      | 891.45 | 5.58 | 28.97 | 0.86 | 31 | 16 | 32 | 30 | 37 | 23 | 0  | 92    | 80    | 80 |
|                 | <b>August</b>    | 794.87 | 4.97 | 25.83 | 0.77 | 35 | 14 | 22 | 26 | 46 | 22 | 0  | 86    | 79.63 | 80 |
|                 | <b>September</b> | 776.99 | 4.86 | 25.25 | 0.75 | 35 | 12 | 18 | 33 | 46 | 21 | 0  | 88    | 80.73 | 81 |
|                 | <b>October</b>   | 746.97 | 4.67 | 24.28 | 0.72 | 36 | 13 | 20 | 35 | 47 | 11 | 12 | 92    | 80.00 | 80 |
|                 | <b>November</b>  | 778.47 | 4.87 | 25.3  | 0.76 | 35 | 9  | 31 | 36 | 34 | 19 | 2  | 89    | 80.91 | 81 |
| <b>December</b> | 824.49           | 5.16   | 26.8 | 0.8   | 35   | 10 | 24 | 43 | 39 | 20 | 0  | 96 | 82.76 | 83    |    |
| <b>2014</b>     | <b>January</b>   | 882.66 | 5.52 | 28.69 | 0.86 | 35 | 14 | 22 | 46 | 36 | 24 | 0  | 94    | 79.66 | 80 |
|                 | <b>February</b>  | 878.97 | 5.5  | 28.57 | 0.85 | 35 | 12 | 28 | 38 | 44 | 20 | 0  | 102   | 83.61 | 84 |
|                 | <b>March</b>     | 845.64 | 5.29 | 27.48 | 0.82 | 36 | 13 | 23 | 37 | 43 | 21 | 0  | 95    | 81.9  | 82 |
|                 | <b>April</b>     | 856.93 | 5.36 | 27.85 | 0.83 | 38 | 20 | 19 | 34 | 31 | 21 | 0  | 83    | 79.81 | 80 |
|                 | <b>May</b>       | 870.05 | 5.44 | 28.28 | 0.84 | 38 | 18 | 18 | 38 | 37 | 22 | 0  | 89    | 80.18 | 80 |
|                 | <b>June</b>      | 882.16 | 5.52 | 28.67 | 0.86 | 38 | 20 | 20 | 29 | 42 | 21 | 0  | 90    | 81.08 | 81 |
|                 | <b>July</b>      | 897.24 | 5.61 | 29.16 | 0.87 | 38 | 13 | 22 | 33 | 56 | 24 | 0  | 100   | 80.65 | 81 |
|                 | <b>August</b>    | 852.94 | 5.34 | 27.72 | 0.83 | 38 | 18 | 20 | 26 | 42 | 21 | 0  | 85    | 80.19 | 80 |
|                 | <b>September</b> | 937.25 | 5.86 | 30.46 | 0.91 | 38 | 20 | 25 | 26 | 44 | 22 | 0  | 93    | 80.87 | 81 |
|                 | <b>October</b>   | 897.42 | 5.62 | 29.17 | 0.87 | 37 | 15 | 19 | 37 | 48 | 23 | 0  | 96    | 80.67 | 81 |
|                 | <b>November</b>  | 706.39 | 4.42 | 22.96 | 0.69 | 37 | 9  | 25 | 32 | 27 | 18 | 0  | 75    | 80.65 | 81 |
|                 | <b>December</b>  | 802.41 | 5.02 | 26.08 | 0.78 | 34 | 17 | 26 | 36 | 30 | 11 | 10 | 88    | 80.73 | 81 |

|      |           |        |      |       |      |    |    |    |    |    |    |    |     |       |    |
|------|-----------|--------|------|-------|------|----|----|----|----|----|----|----|-----|-------|----|
| 2015 | January   | 854.69 | 5.35 | 27.78 | 0.83 | 34 | 17 | 2  | 55 | 41 | 20 | 1  | 94  | 81.74 | 82 |
|      | February  | 690.77 | 4.32 | 22.45 | 0.67 | 35 | 8  | 12 | 42 | 39 | 20 | 0  | 81  | 80.2  | 80 |
|      | March     | 966.14 | 6.05 | 31.4  | 0.94 | 36 | 23 | 1  | 38 | 63 | 22 | 0  | 103 | 82.48 | 82 |
|      | April     | 841    | 5.26 | 27.33 | 0.82 | 38 | 21 | 12 | 31 | 40 | 22 | 0  | 82  | 78.85 | 79 |
|      | May       | 438.5  | 2.74 | 14.25 | 0.43 | 37 | 36 | 5  | 27 | 35 | 21 | 0  | 82  | 79.61 | 80 |
|      | June      | 186.42 | 1.17 | 6.06  | 0.18 | 36 | 10 | 1  | 22 | 43 | 22 | 0  | 54  | 71.05 | 71 |
|      | July      | 711.37 | 4.45 | 23.12 | 0.69 | 36 | 12 | 5  | 31 | 48 | 23 | 0  | 74  | 76.04 | 76 |
|      | August    | 731.24 | 4.58 | 23.77 | 0.71 | 37 | 16 | 9  | 30 | 41 | 21 | 0  | 75  | 78.13 | 78 |
|      | September | 643.92 | 4.03 | 20.93 | 0.62 | 37 | 12 | 4  | 28 | 48 | 22 | 0  | 70  | 76.09 | 76 |
|      | October   | 743.13 | 4.65 | 24.15 | 0.72 | 38 | 16 | 11 | 27 | 46 | 21 | 1  | 78  | 78    | 78 |
|      | November  | 729.22 | 4.56 | 23.7  | 0.71 | 39 | 18 | 17 | 23 | 30 | 21 | 0  | 67  | 76.14 | 76 |
|      | December  | 885.46 | 5.54 | 28.78 | 0.86 | 40 | 27 | 16 | 31 | 31 | 23 | 0  | 82  | 78.1  | 78 |
| 2016 | January   | 600.2  | 3.76 | 19.51 | 0.58 | 39 | 12 | 5  | 30 | 34 | 20 | 0  | 61  | 75.31 | 75 |
|      | February  | 705.16 | 4.41 | 22.92 | 0.68 | 39 | 12 | 14 | 29 | 43 | 21 | 0  | 77  | 78.57 | 79 |
|      | March     | 732.54 | 4.58 | 23.81 | 0.71 | 39 | 12 | 17 | 29 | 48 | 23 | 0  | 83  | 78.3  | 78 |
|      | April     | 614.68 | 3.85 | 19.98 | 0.6  | 40 | 8  | 19 | 26 | 34 | 18 | 0  | 69  | 79.31 | 79 |
|      | May       | 539.44 | 3.38 | 17.53 | 0.52 | 40 | 3  | 18 | 27 | 43 | 22 | 0  | 65  | 75.82 | 76 |
|      | June      | 737.74 | 4.62 | 23.98 | 0.72 | 40 | 16 | 19 | 23 | 43 | 17 | 5  | 79  | 78.22 | 78 |
|      | July      | 744.39 | 4.66 | 24.19 | 0.72 | 40 | 16 | 17 | 24 | 42 | 19 | 2  | 78  | 78.79 | 79 |
|      | August    | 667.95 | 4.18 | 21.71 | 0.65 | 40 | 14 | 26 | 32 | 33 | 11 | 12 | 82  | 78.1  | 78 |
|      | September | 905.42 | 5.67 | 29.43 | 0.88 | 40 | 28 | 24 | 27 | 30 | 11 | 11 | 87  | 79.82 | 80 |
|      | October   | 602.64 | 3.77 | 19.59 | 0.58 | 40 | 15 | 13 | 24 | 44 | 8  | 13 | 75  | 78.13 | 78 |
|      | November  |        |      |       |      |    |    |    |    |    |    |    |     |       |    |
|      | December  |        |      |       |      |    |    |    |    |    |    |    |     |       |    |

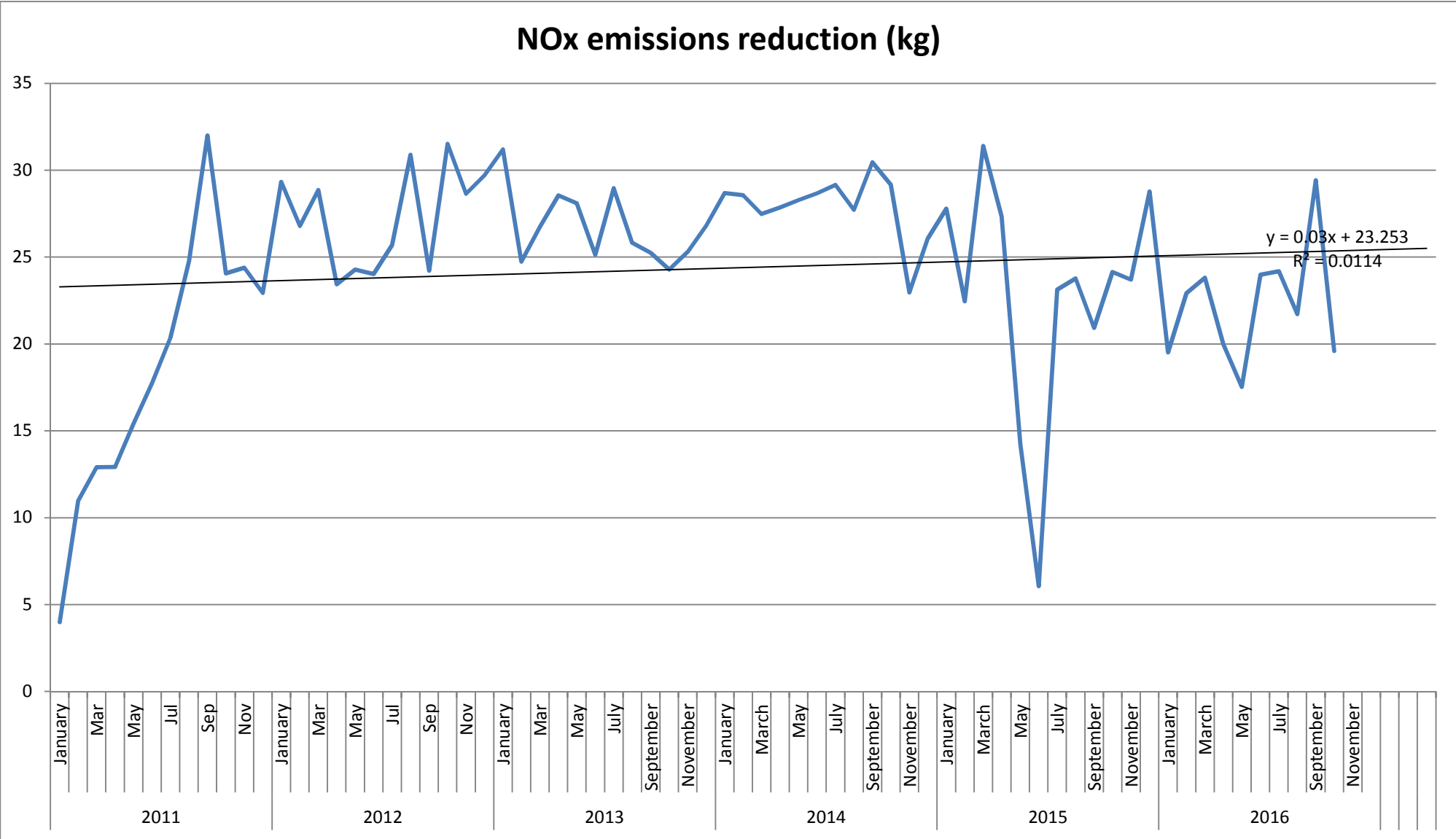
**Totals**                      52363.63      327.67      1701.88      50.82      2082      1135      1002      2312      2732      1199      278      5710

Graph 1: CO2 Emissions Reduction

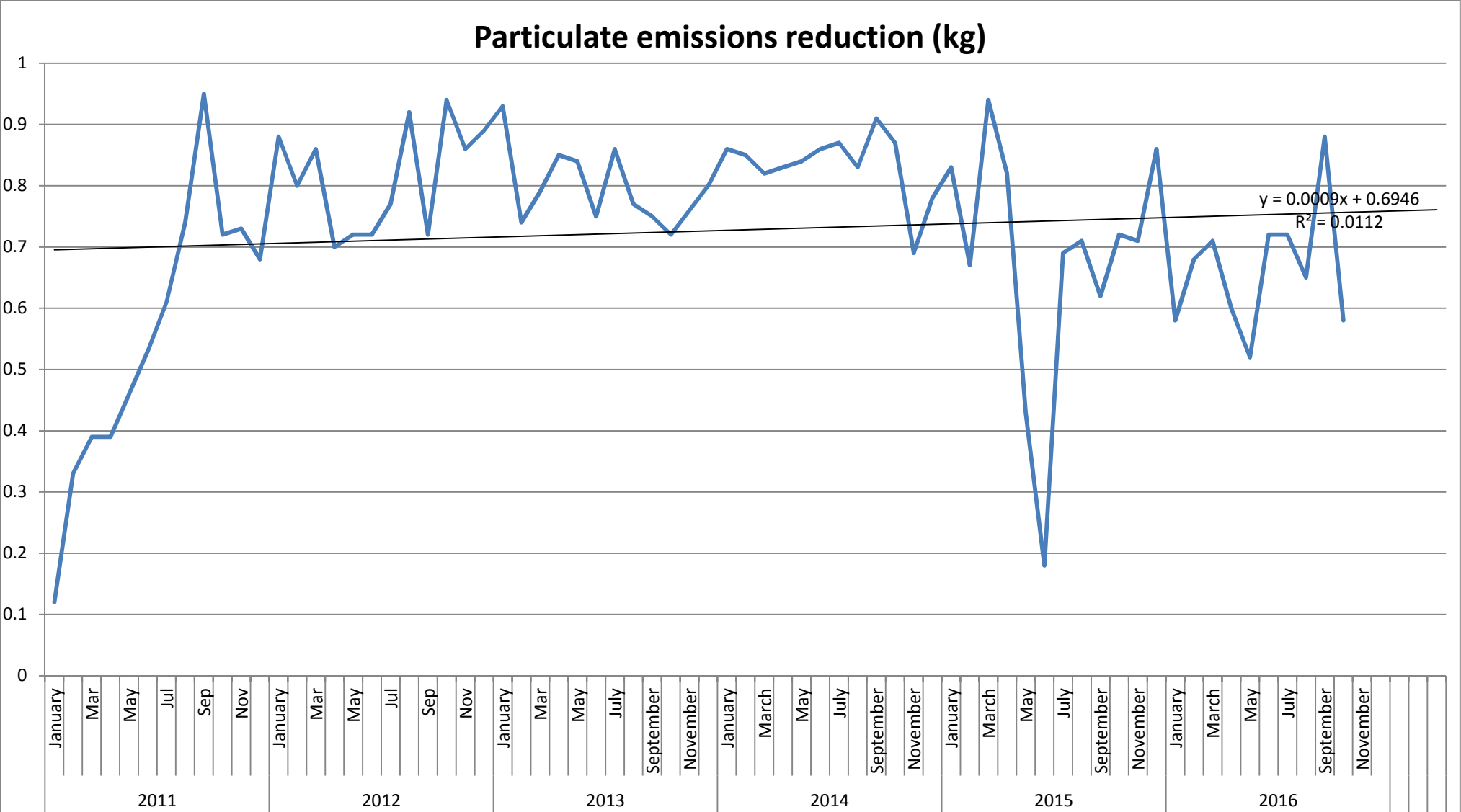




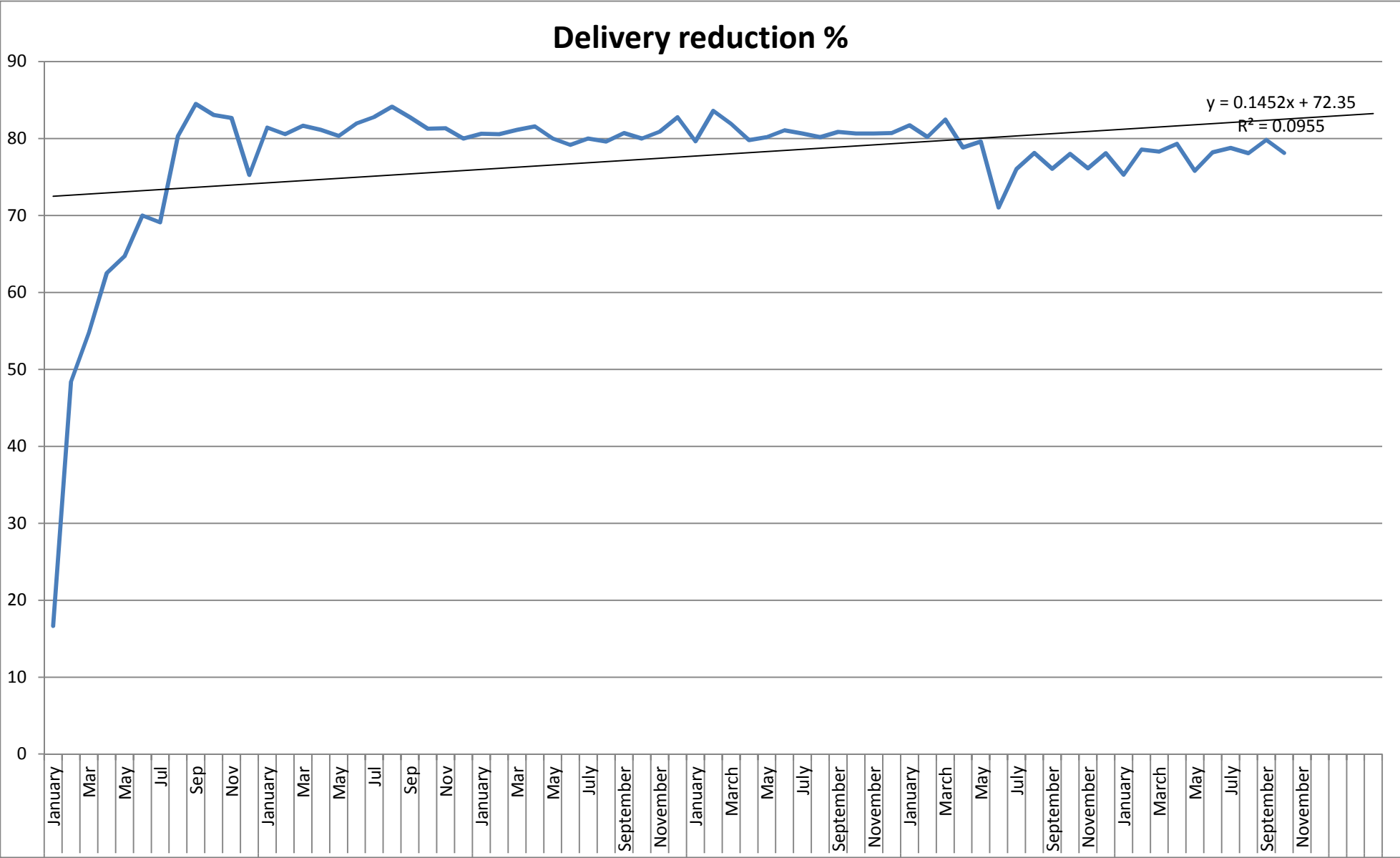
Graph 3: NOx Emissions Reduction



Graph 4: Particulate Emissions Reduction

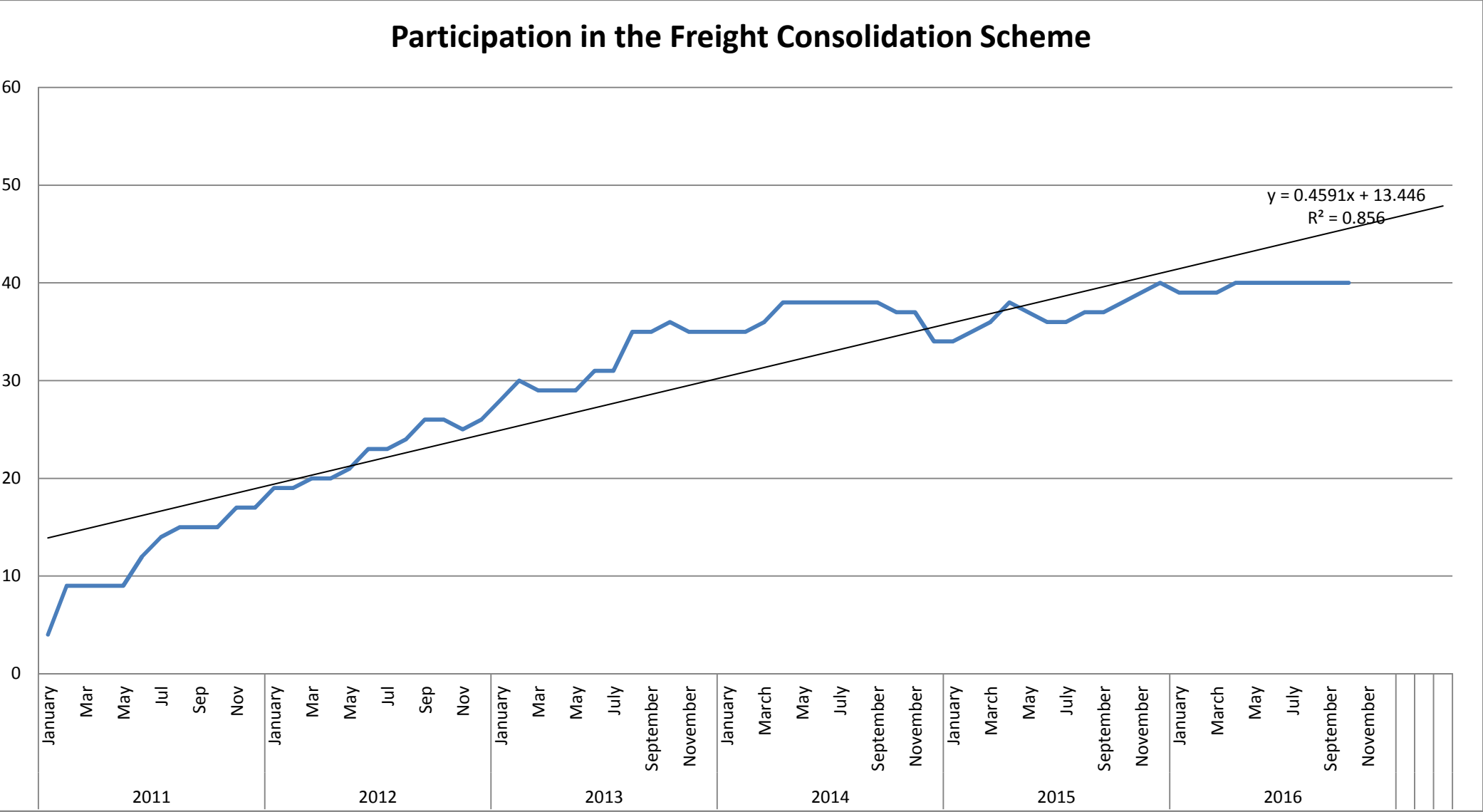


Graph 5: Delivery Reduction

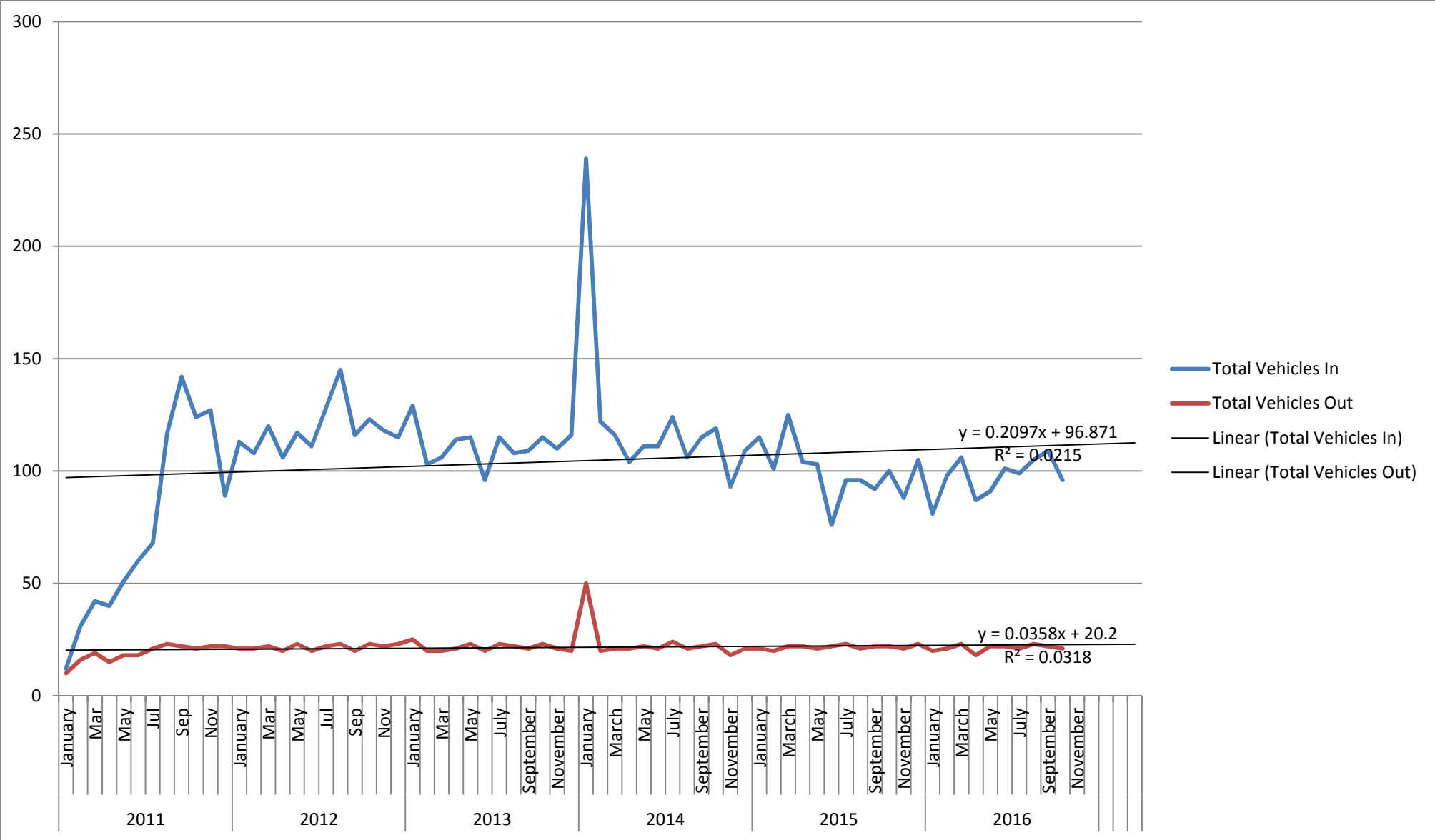




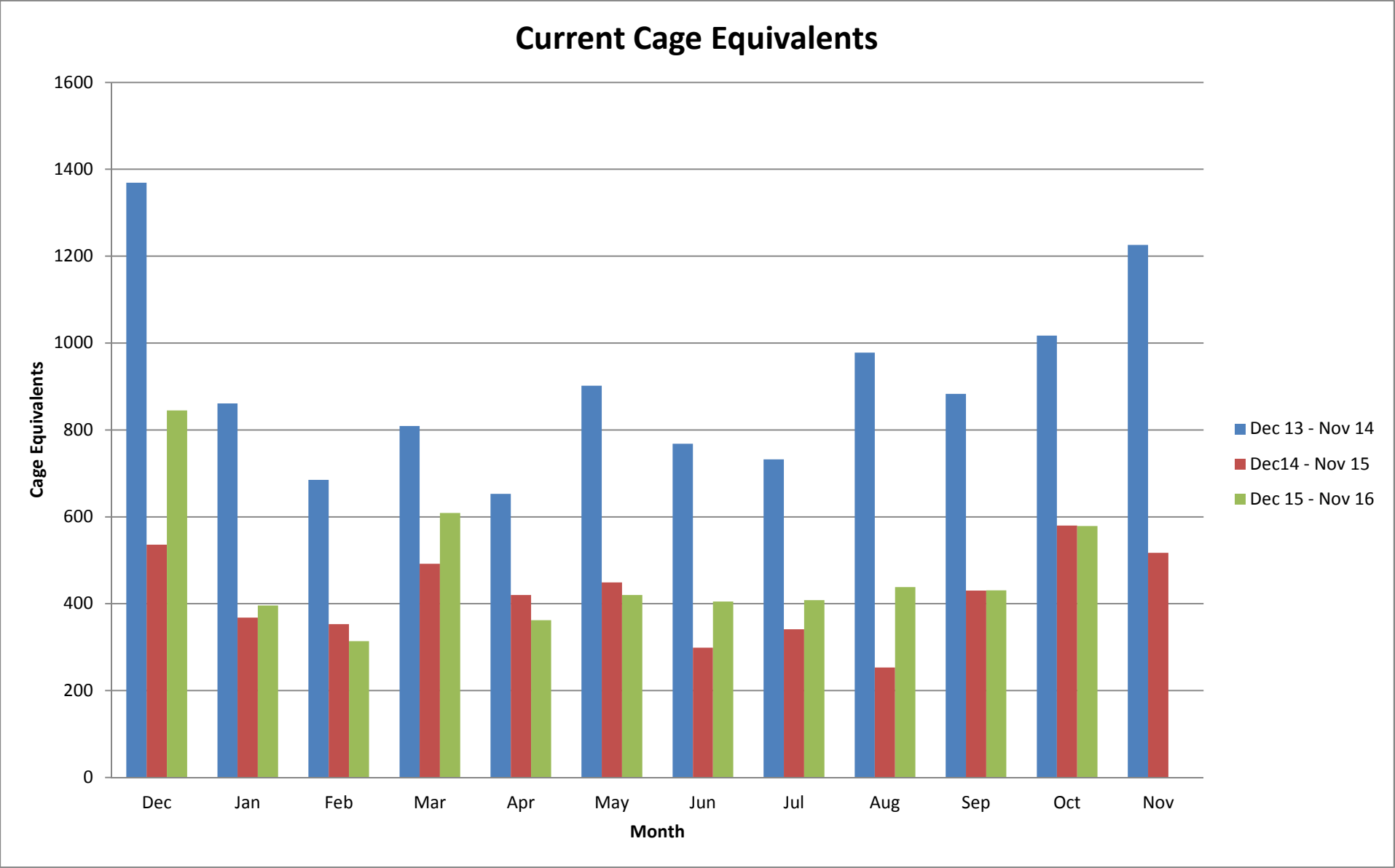
**Graph 6: Number of Retailers Participating**



**Graph 7: Number of Retailers Participating**



**Graph 8: Cage Equivalent Comparison**



**Table 2: Vehicle Summary**

**Vehicles Summary**

| Year         | Vehicles in |            |             |                |             | Vehicles out |                |             |                  |
|--------------|-------------|------------|-------------|----------------|-------------|--------------|----------------|-------------|------------------|
|              | Artic       | 18t        | 7.5t        | Van            | Total       | Electric     | Euro 4 diesel  | Total       | Reduction number |
| 2011         | 153         | 165        | 301         | 284            | <b>903</b>  | 174          | 53             | <b>227</b>  | 685              |
| 2012         | 264         | 72         | 521         | 563            | <b>1420</b> | 104          | 156            | <b>260</b>  | 1160             |
| 2013         | 177         | 231        | 422         | 506            | <b>1336</b> | 245          | 14             | <b>259</b>  | 1077             |
| 2014         | 189         | 267        | 412         | 480            | <b>1348</b> | 248          | 10             | <b>258</b>  | 1090             |
| 2015         | 216         | 95         | 385         | 505            | <b>1201</b> | 258          | 2              | <b>260</b>  | 942              |
| 2016         | 121         | 159        | 247         | 350            | <b>877</b>  | 162          | 30             | <b>192</b>  | 681              |
| <b>Total</b> | <b>1120</b> | <b>989</b> | <b>2288</b> | <b>2688</b>    | <b>7085</b> | <b>1191</b>  | <b>265</b>     | <b>1456</b> | <b>5635</b>      |
|              |             |            |             | Annual Average | <b>1181</b> |              | Annual Average | <b>243</b>  | <b>939</b>       |

**Monthly Average**

| Year | Vehicles in total | Vehicles out total | Reduction Number |
|------|-------------------|--------------------|------------------|
| 2011 | 75                | 19                 | 57               |
| 2012 | 118               | 22                 | 97               |
| 2013 | 111               | 22                 | 90               |
| 2014 | 112               | 22                 | 91               |
| 2015 | 100               | 22                 | 79               |
| 2016 | 73                | 16                 | 57               |

**Traffic Counts**

Site 8 461935 vehicle types 2 , 3, 4 total for 21/7/15 - 20/07/16  
 Annual average reduction 939  
 Annual average reduction as % of Site 8 vehicles 0.20%