



# Cooper Farms' Wind VW

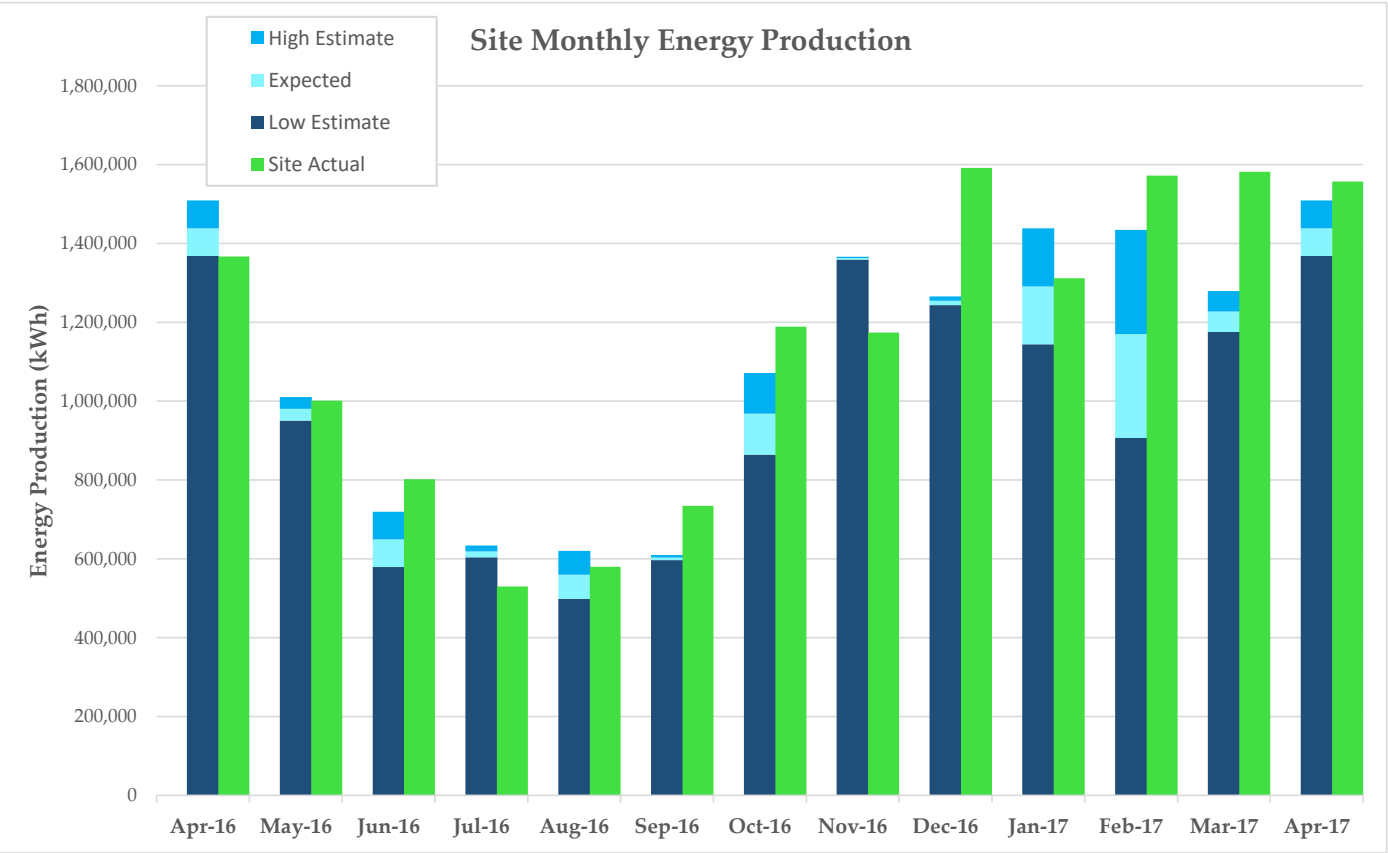
Van Wert, OH

## A. Site Energy Production Summary

|                                   | Energy Production (kWh) |            |            |           |           |
|-----------------------------------|-------------------------|------------|------------|-----------|-----------|
|                                   | Site                    |            | By Turbine |           |           |
|                                   | Expected Production     | Actual YTD | WTG 1      | WTG 2     | WTG 3     |
| Apr-16                            | 1,438,497               | 1,366,540  | 456,840    | 456,850   | 452,850   |
| May-16                            | 980,450                 | 1,001,290  | 336,470    | 329,250   | 335,570   |
| Jun-16                            | 649,158                 | 801,910    | 277,710    | 253,130   | 271,070   |
| Jul-16                            | 618,687                 | 529,840    | 183,200    | 170,520   | 176,120   |
| Aug-16                            | 559,508                 | 580,070    | 194,910    | 191,420   | 193,740   |
| Sep-16                            | 603,085                 | 734,680    | 252,480    | 233,810   | 248,390   |
| Oct-16                            | 967,926                 | 1,188,990  | 404,800    | 383,900   | 400,290   |
| Nov-16                            | 1,362,692               | 1,173,980  | 484,660    | 444,930   | 244,390   |
| Dec-16                            | 1,254,397               | 1,591,430  | 579,520    | 576,970   | 434,940   |
| Jan-17                            | 1,290,968               | 1,311,480  | 532,310    | 521,710   | 257,460   |
| Feb-17                            | 1,170,349               | 1,572,230  | 533,230    | 515,160   | 523,840   |
| Mar-17                            | 1,227,217               | 1,581,840  | 535,650    | 530,270   | 515,920   |
| Apr-17                            | 1,438,497               | 1,557,140  | 513,210    | 522,740   | 521,190   |
| 2017 Annual                       | 12,122,935              | 6,022,690  | 2,114,400  | 2,089,880 | 1,818,410 |
| Rolling 12 month Capacity Factor: |                         |            |            |           | 34.56%    |

## B. Site Energy Production Graph

April-2017



# Monthly Report

## April-2017



## C. Safety Summary

|                         | This Month | Project Cumulative |
|-------------------------|------------|--------------------|
| Recordable Incident(s): | 0          | 0                  |
| Near Miss(es):          | 0          | 0                  |

## D. Planned Maintenance Events

| Date                  | Event                       | Duration (hrs) | Turbine |
|-----------------------|-----------------------------|----------------|---------|
| May-2017 <sup>1</sup> | Goldwind 5 year maintenance | ~8             | WTG 2   |
| May-2017 <sup>1</sup> | Goldwind 5 year maintenance | ~8             | WTG 3   |

## E. Actual Maintenance Events

| Date           | Event                         | Planned/Unplanned | Duration (hrs) | Turbine     |
|----------------|-------------------------------|-------------------|----------------|-------------|
| 4/23-4/24/2017 | Cooper Plant Transformer Work | Unplanned         | 12.68          | WTG 1, 2, 3 |
| 4/24/2017      | Annual Maintenance            | Planned           | 5.42           | WTG 1       |
| 4/24/2017      | Annual Maintenance            | Planned           | 6.91           | WTG 2       |
| 4/24/2017      | Annual Maintenance            | Planned           | 3.33           | WTG 3       |
| 4/25/2017      | Annual Maintenance            | Planned           | 5.90           | WTG 1       |
| 4/26/2017      | Annual Maintenance            | Planned           | 3.15           | WTG 2       |
| 4/26/2017      | Annual Maintenance            | Planned           | 0.92           | WTG 3       |

## F. Turbine Availability & Downtime

| Availability (%) | This Month | 2017 Annual |
|------------------|------------|-------------|
| WTG 1            | 99.87%     | 99.61%      |
| WTG 2            | 99.94%     | 99.96%      |
| WTG 3            | 99.88%     | 84.58%      |
| Avg              |            | 94.72%      |

| Downtime (hrs) | This Month | 2017 Annual |
|----------------|------------|-------------|
| WTG 1          | 29.65      | 63.42       |
| WTG 2          | 22.47      | 60.15       |
| WTG 3          | 16.99      | 487.12      |
| Total          | 69.11      | 610.69      |

## G. Wind Speed & Capacity Factor

| Wind Speed (mph) | This Month | 2017 Annual |
|------------------|------------|-------------|
| WTG 1            | 16.64      | 15.93       |
| WTG 2            | 15.20      | 14.86       |
| WTG 3            | 15.76      | 15.31       |
| Estimated        | 16.62      | 13.39       |

| Capacity Factor (%) | This Month | 2017 Annual |
|---------------------|------------|-------------|
| WTG 1               | 47.52%     | 48.94%      |
| WTG 2               | 48.40%     | 48.38%      |
| WTG 3               | 48.26%     | 42.09%      |
| Low Estimate        | 42.22%     | 28.70%      |

## H. Report Notes and Comments

1 - Goldwind 5 year maintenance for WTG 2 and WTG 3 will be completed in May.