

Employment Creation through Green Locomotive Manufacturing at Wabtec's Erie, Pennsylvania Facility

Research Design and Key Findings

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Green Locomotive Manufacturing

- Tier four diesel-electric: 50-90% less pollution than tier zero
- Battery-electric: no pollution during operation if battery charged on renewable energy
- With new focus on low-emissions railroads, expect high demand for these locomotives

Capacity at Lawrence Park, Erie

- In 2008, production of ~1,000 locomotives per year, then decline
- Plant & equipment still exist: only need additional workers
- 1,000 locomotives would be \$3 – \$4 billion in sales for Wabtec, about 40% over current levels
- We consider production increasing to 500 now, and over 2-3 years, back to 1,000 locomotives per year

Translating revenue to jobs: employment/output coefficients

- The employment/output ratio shows how many jobs a given amount of spending, e.g. on locomotive manufacturing, creates
- “Input-output” models trace the interrelationship between all activities in an economy, i.e. all *inputs*, such as raw metals, glass, engine components as well as workers producing any given *output*, such as locomotive trains.
- *Direct jobs*: created in locomotive manufacturing
- *Indirect jobs*: created in producing intermediate inputs
- *Induced jobs*: created when wages are spent (multiplier)
- The effects take place both in Erie County and elsewhere

Jobs per \$1 million spending on tier 4 locomotives

	1) Direct Jobs [= jobs at <i>Lawrence Park</i>]	2) Indirect Jobs	3) Induced Jobs	4) TOTAL: Direct + Indirect + Induced Jobs
Lawrence Park	1.5	0.0	0.0	1.5
Erie County outside of Lawrence Park	0.0	0.5	0.9	1.4
Pennsylvania outside of Erie County	0.0	0.2	0.2	0.4
U.S. outside of Pennsylvania	0.0	0.7	0.5	1.2
Total Job Creation throughout U.S.	1.5	1.4	1.6	4.5

Lawrence Park jobs from making 1,000 locomotives per year

3,400 – 5,100 jobs at Lawrence Park itself

(number depends on the mix of tier 4 and battery-electric trains and whether battery manufacturing is onsite)

+ indirect jobs in the supply chain

+ induced jobs from spending wages

Total employment effects

	Low-end estimate	High-end estimate
Lawrence Park	3,400	5,100
Erie County outside of Lawrence Park	3,060	5,100
Pennsylvania outside of Erie County	780	1,360
U.S. outside of Pennsylvania	2,720	3,400
Total Job Creation throughout U.S.	9,860	14,960

New, well-paid employment at Lawrence Park

- 800 workers already employed in rolling stock manufacturing
- **New**, full-time employment at the facility:

2,600 – 4,300 jobs

- Well-paying jobs
- For instance: A Lawrence Park metal worker could expect to make on average \$75,000/year compared with \$45,000/year PA median wage

Employment boost also to wider Erie County

2,600 – 4,300 new jobs at Lawrence Park and a similar number of new jobs created elsewhere in Erie County...

- on the order of current unemployment of 7,000
- likely increases labor force, which was about 15,000 higher in 2008 than today

Summary

- Production of 1,000 green locomotives a year
- Creates
 - 3,400 – 5,100 jobs at Lawrence Park
 - of which 2,600 – 4,300 are new
 - thousands of jobs in the rest of Erie County, also in the rest of PA and the United States
- Jobs are well paid, raise average in Erie
- Considerable drop in unemployment in Erie, labor force expansion likely