2009 Revisions to the JEDI Wind Model

In December 2008, Wind Powering America released a new version of the JEDI Wind model, which contained updated default values (such as current cost data, job data, and tax data), as well as usability enhancements. For more information about these updates, please read MS Word 35 KB.

As part of our continual effort to provide user-friendly features, we have renamed the model's categories to facilitate better user interpretation of model results. The former direct, indirect, and induced categories for jobs, earnings, and output impacts during the **construction** period are now:

- Project Development and On-Site Labor Impacts
- Turbine and Supply Chain Impacts
- Induced Impacts

Similarly, impacts during the **operating** period are now:

- On-Site Labor Impacts
- Local Revenue and Supply Chain Impacts
- Induced Impacts

Sample Updated Summary Results Section as of June 2009:

Local Economic Impacts - Summary Results

	Jobs	Earnings	Output
During construction period			
Project Development and On-Site Labor Impacts	67	$4.2	$4.9
Construction and Interconnection Labor	60	$3.8	
Construction-Related Services	7	$0.5	
Turbine and Supply Chain Impacts	306	$12.0	$41.5
Induced Impacts	122	$4.3	$14.6
Total Impacts	**495**	**$20.5**	**$61.0**
During operating years (annual)			
Onsite Labor Impacts	6	$0.4	$0.4
Local Revenue and Supply Chain Impacts	8	$0.3	$1.7
Induced Impacts	7	$0.2	$0.8
Total Impacts	**20**	**$1.0**	**$2.9**

Impacts during Construction:

1) **Project Development and On-Site Labor:** These impacts encompass the jobs* (no materials) that are performed on-site, at a given wind power plant, as well as basic project development services and construction management. This category is divided by the following two subcategories:

   1.1) Construction and Interconnection Labor: These jobs* are calculated based on cost and local share information entered in the Labor foundation, Erection, Electrical, Management/Supervision, and HV Sub/Interconnection Labor fields in the JEDI model.

   Examples of this job type include: crane operators, road contractors, construction managers, electricians, tower erectors, excavation workers, backhoe operators, foundation workers, installation workers, etc.

   1.2) Construction-Related Services: These jobs are calculated based on cost and local share information entered in the Engineering and Legal Services fields in the JEDI model. *Examples* of this job type include: civil and electrical engineers, attorneys, permitting specialists, etc.

2) **Turbine and Supply Chain Impacts:** These impacts are derived from spending related to project development and on-site labor such as equipment costs (turbines, blades, towers, transportation), manufacturing of components and supply chain inputs , materials (transformer, electrical, HV line extension, HV sub-interconnection materials), and the supply chain of inputs required to produce these materials. This category also includes expenses such as land easements, site certificate/permitting, and miscellaneous labor.

   Examples of the kind of jobs, services and turbine-related components in this category include: turbine manufacturers, blade manufacturers, tower manufacturers, turbine suppliers, blade suppliers, tower suppliers, gravel workers, rebar manufacturers, cement producers, lumber and building materials, hardware and supplies, bearing manufacturers, speed changers, gear manufacturers, transmission manufacturers, glass fiber manufacturers, wood products suppliers, epoxy and resin manufacturing, generator manufacturers, electronic controls and equipment manufacturing, cable manufacturing, industrial control manufacturing, rolled steel shape manufacturers, electrical equipment wholesalers, metal fabricators, welders, heavy equipment rental companies, transportation service providers, tool manufacturers, bookkeepers and accountants, banks, etc.

3) **Induced Impacts:** These impacts refer to activities that result from income spending by workers involved in the first two categories (Project Development and On-Site Labor as well as Turbine and Supply Chain Impacts). Examples include construction workers who spend a portion of their income on lodging, groceries, clothing, medicine, a local movie theatre, restaurant, bowling alley, etc. or a steel mill worker who provides the inputs for turbine production and spends his money in a similar fashion, thus supporting jobs and economic activities in different sectors of the economy.

Impacts during Operating Periods:

1) **Onsite Labor Impacts:** These impacts relate only to workers who work on site at the wind farm or in management or support roles. These jobs* are calculated based on cost and local share information provided in the Field Salaries, Administrative, and Management fields in the JEDI model. *Examples* of jobs in this category include clerical and bookkeeping support, site managers, field technicians, wind farm operators, etc.

2) **Local Revenue and Supply Chain Impacts:** These impacts are derived from expenditures related to on-site labor, materials, and services needed to operate the wind power plant (e.g., vehicles, site maintenance, fees, permits, licenses, utilities, insurance, fuel, tools and supplies, replacement parts/equipment); the supply chain of inputs required to produce these goods and services; and project revenues that flow to the local economy in the form of land lease revenue, property tax revenue, and revenue to equity investors. *Examples* of this type of impacts include turbine, blade, and tower component suppliers; motor vehicle retailers; hardware and tool retailers; tool manufacturers; maintenance providers; metal fabricators; welders; material suppliers; agents at insurance companies; attendants at gas stations (for the vehicles used to operate the wind power plants); local government employees; local utilities; bookkeeping and accountants; banks; lawyers, etc.

3) **Induced Impacts: These impacts r**efer to activities that result from income spending by workers involved in the first two categories (on-site labor and local revenue and supply chain impacts). *Examples* include a wind farm technician who spends income from working at the wind farm on buying a car, a house, groceries, gasoline, movie tickets, etc., or a worker at a hardware store who provides spare parts and materials needed at the wind farm and who spends money in a similar fashion, thus supporting jobs and economic activities in different sectors of the economy.

** Job calculations are based on a full time equivalent (FTE) bases for a year. In other words, 1 job = 1 FTE = 2,080 hrs worked in a year. That means that while a part time or a temporary job may be considered as one job by other measures, it would constitute only a fraction of a job according to the JEDI model. For example, if an engineer worked only 3 months on a wind farm project (assuming no overtime), the JEDI model would consider it ¼ of a job.*

Please contact **JEDISupport@nrel.gov** for any questions you may have about the JEDI Wind model.

Download the most recent version of the model by clicking on the following link: download the JEDI Wind model.

Thanks,
JEDI Support Team