

## Getting Electricity Questionnaire – «Survey\_Economy» www.doingbusiness.org

Dear Contributor,

We would like to thank you for your participation in the Doing Business project. Your expertise in the field of getting an electricity connection in «Survey\_Economy\_FullName» is essential to the success of the Doing Business report, one of the four flagship publications of the World Bank Group that benchmarks business regulations in 190 economies worldwide. The Getting Electricity indicator is one of the 11 indicator sets published by the Doing Business report. It measures the procedures, time and cost required for a business to obtain a new electricity connection, as well as the reliability of electricity supply and transparency of tariffs.

The report attracts much attention around the world. The latest edition, *Doing Business 2017: Equal Opportunity for All*, introduced improvements in the paying taxes and protecting minority investors indicators, and included a gender component in 3 of 11 *Doing Business* indicator sets. It received over 7,000 media citations within just a week of its publication on October 25, 2016 and the report was downloaded almost 40,000 times within that same period. A record 137 economies implemented a total of 283 reforms. Low and middle income countries carried out more than 75% of these reforms.

Governments worldwide read the report with interest every year, and your contribution makes it possible for the *Doing Business* project to disseminate the regulatory best practices that continue to inspire their regulatory reform efforts. Since 2010, 75 economies have implemented a total of 101 reforms making it easier to obtain a new electricity connection. In 2015/16, 22 economies implemented such reforms.

We are honored to be able to count on your expertise for *Doing Business 2018*. Please follow the steps below when completing the questionnaire:

- Review the assumptions of the case study before updating last year's information in the questionnaire.
- Describe in detail any reform that has affected the process of getting electricity since June 1, 2016.
- Please fill out the new research questions in Part 4.
- Be sure to update your name and address if necessary, so that we can mail you a complimentary copy of the report.
- Kindly return the questionnaire to us at [DBElectricity@worldbank.org](mailto:DBElectricity@worldbank.org).

We thank you again for your invaluable contribution to the work of the World Bank Group.

Sincerely,



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**Primary Contributor Information:** Please check the box next to information you **do not** want us to **publish**.

		<b>Name</b>			
Do not publish <input type="checkbox"/>	Title (Mr., Ms., Dr.)	«Title»	[	]	
	First Name	«FirstName»	[	]	
	Last Name	«LastName»	[	]	
Never Published	Position (e.g. manager, associate, partner)	«Position»	[	]	
	Profession (e.g. judge, lawyer, architect)	«Profession»	[	]	
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Do not publish <input type="checkbox"/>	Street	«Street»	[	]	P.O. Box «POBOX» [ ]
	City	«City»	[	]	State/ Province «State» [ ]
	Zip/Postal code	«ZipPostalCode»	[	]	Country «Country» [ ]

**Additional Contributor(s):** If there are more people to acknowledge, kindly send us an e-mail.

Name	Occupation	Email	Phone	Address
[title] [first name] [last name]	[firm] [position] [profession]	[ ]	[phone] [mobile]	[street] [state/province] [city/country]
[title] [first name] [last name]	[firm] [position] [profession]	[ ]	[phone] [mobile]	[street] [state/province] [city/country]
[title] [first name] [last name]	[firm] [position] [profession]	[ ]	[phone] [mobile]	[street] [state/province] [city/country]

**What entity do you work for? Click all that apply if there are multiple respondents**

<input type="checkbox"/> Utility	<input type="checkbox"/> Regulatory body
<input type="checkbox"/> Private Sector	<input type="checkbox"/> Government body

**Referrals:** Please help us expand our list of contributors by referring us to other experts in the private or public sector (lawyers, notaries, public officials or any expert on this field) who can respond to the questionnaire.

First name	Last name	Position	Firm	Address	Phone	E-mail
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

 **Paperless Option for Complimentary Report and Certificate.** Last year *Doing Business* contributors saved nearly half a million pieces of paper by selecting the paperless report option.

Please e-mail me an electronic copy of the report and my certificate of appreciation.

## PART 1 – Reliability of electricity supply (service interruptions) in «Survey\_City»

### 1.1. Power outages

**Note: If you do not represent the Utility or a Regulatory body, please skip Part 1 of the questionnaire and go directly to Part 2.**

Kindly provide information on the **SAIDI index** (i.e. average outage duration for each customer\* served per year) and the **SAIFI index** (i.e. average number of interruptions a customer\* experienced in a year) in «Survey\_City» for 2016 calendar year, **including load shedding and planned outages (e.g. maintenance)**, but excluding force majeure cases (natural disasters).

\* We consider a customer as 1 connection point

► **What is the ownership status of the utility in «Survey\_City»?**

Private  Public  Other (comment: \_\_\_\_\_)

► **Does the utility in «Survey\_City» calculate SAIDI and SAIFI indexes? -Click to Select-**

If **Yes**, please fill in the table below. Data should include **load shedding and planned outages (e.g. maintenance)**.

	2015		2016		Comments Explain <u>if significant change</u> from 2015
	<b>SAIDI</b> hours of power outages	<b>SAIFI</b> frequency of power outages	<b>SAIDI</b> hours of power outages	<b>SAIFI</b> frequency of power outages	
<b>Average per customer</b>	«DB_ge_System average interruption duration index (SAIDI)» <i>hours per year</i>	«DB_ge_System average interruption frequency index (SAIFI)» <i>n° outages</i>	<i>hours per year</i>	<i>n° outages</i>	

► **Are both planned outages and load shedding included in the SAIDI and SAIFI? -Click to Select-**

► **What is the minimum outage time (in minutes) that the utility considers for the calculation of SAIDI/SAIFI?**

► **If major events are excluded in the estimates of SAIFI/SAIFI, please specify:**

### 1.2. Regulation of outages

	Last year	Update	Comments Explain <u>any change in past 3 years</u>
<b>1.2.1 Does the distribution utility use an automated Outage/Incident Management System (OMS/IMS) and/or Energy Management Systems/ Supervisory Control and Data Acquisition (EMS/SCADA) to record and measure power outages on the network in «Survey_City»?</b>	«DB_ge_Does the utility use automated tools to monitor outages?»	-Click to Select- ✓ Please provide information on the automated system used (installation year, developer, latest update): ✓ Please provide a computer screenshot of the system or a most recent report extract (email it to <a href="mailto:DBElectricity@worldbank.org">DBElectricity@worldbank.org</a> )	
<b>1.2.2 Does the distribution utility use automated OMS/IMS and/or EMS/SCADA, to manage restoration of service in «Survey_City»?</b>	«DB_ge_Does the utility use automated tools to restore outages?»	-Click to Select- ✓ Please provide information on the automated system used: ✓ Please provide a computer screenshot of the system or a most recent report extract (email it to <a href="mailto:DBElectricity@worldbank.org">DBElectricity@worldbank.org</a> )	
<b>1.2.3 Does any state body/agency independent from the utility (e.g. Regulatory body) monitor outages on a regular basis (e.g. through annual reports)?</b>	«DB_ge_Does a regulator - that is an entity	-Click to Select- ✓ Please provide the name of the agency, as well as a link/ attachment to a report:	

	separate from the utility - monitor the utility's performance on reliability of supply?»		
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## PART 2 – Transparency of supply reliability in «Survey\_City»

2.1 Approximately, how many outages (including load shedding) did you experience between January and December of 2016? **Note: If you are from the utility or regulator, please skip this question and go directly to question 2.2 below.**

-Click to Select-

	Information on record	Update	Comments Explain <u>any change</u> in past 3 years
2.2 Does the utility in «Survey_City» report SAIDI and SAIFI data publicly?	<i>New question</i>	-Click to Select- If yes, please, provide a link to the report:	
2.3 Are customers notified of planned outages (maintenance, load shedding, etc.) in advance?	<i>New question</i>	-Click to Select- What is the notice time given to customers:  Notification method: <input type="checkbox"/> Online <input type="checkbox"/> Newspaper <input type="checkbox"/> TV and/or radio <input type="checkbox"/> Utility letter <input type="checkbox"/> Other (please comment)	
2.4 Are there any financial deterrents mechanisms aimed at limiting outages in «Survey_City» (e.g. customer compensation or fines for utility)?	«DB_ge_Does the utility either pay compensation to customers or face fines by the regulator (or both) if outages exceed a certain cap?»	-Click to Select- Select all that are applicable: <input type="checkbox"/> Utility compensates customers <input type="checkbox"/> Utility is fined <input type="checkbox"/> Other (please comment)	
➤ 2.4.1 What is the legal basis for imposing financial deterrents on the utility?	<i>New question</i>	Please select: <input type="checkbox"/> License conditions <input type="checkbox"/> Electricity supply contract <input type="checkbox"/> Regulation (please provide reference if available) <input type="checkbox"/> Other (please comment)	
➤ 2.4.2 In what cases is the utility fined or are customers compensated?	<i>New question</i>	<input type="checkbox"/> Damage equipment on customer side due to outage <input type="checkbox"/> Outage over certain cap (hours or frequency). Please specify: <input type="checkbox"/> Other (please comment)	

## PART 3 – Tariff for electricity in «Survey\_City»

### 3.1 Breakdown of tariff for electricity

For the following questions, please assume that:

- 1) The case study warehouse in «Survey\_City» is **locally owned** by an entrepreneur and is used for commercial purposes with the following conditions:
  - Operates **30 days a month** from 9:00am to 5:00pm (**8 hours/day**), with equipment utilized at **80% of capacity** on average without electricity cuts (assumed for simplicity reasons). Although March has 31 days, for calculation purposes, only 30 days are accounted for.
  - Has a subscribed **capacity of 140 kVA**, a power factor of 1 (**1 kVA = 1 kW**).
  - Monthly energy consumption of **26,880 kWh/month**, and hourly consumption of 112 kWh.
- 2) If multiple electricity suppliers exist, assume that the **cheapest** supplier is used.

Please fill in the table below. Alternatively, please send the relevant tariff schedule or your monthly bill for **March 2017** to [DBelectricity@worldbank.org](mailto:DBelectricity@worldbank.org) - or provide a link to the utility's page with tariffs

	March 2017 local currency	Comments Explain <u>any change</u> from March 2016
Energy/usage charge for 26,880 kWh		
Capacity/demand charge for 26,880 kWh		
Administrative/processing costs		
Taxes (excluding VAT)		
Other (please describe)		
<b>TOTAL</b>		

► Please indicate how the consumption bill is calculated and the formula that is used (e.g. if and how electricity prices vary by time of the day, if additional fees are charged for subscribed capacity, etc.)

### 3.2 Transparency of tariffs

3.2.1 How are tariffs made available to customers?	<input type="checkbox"/> Not available <input type="checkbox"/> Online/publicly displayed (please provide an attachment or a link in the box below)
3.2.2 Are customers notified at least 1 full billing cycle ahead of upcoming change in the tariff for electricity?	-Click to Select-  <i>If yes, please select how tariff changes are communicated to customers:</i> <input type="checkbox"/> Online <input type="checkbox"/> Letter from Utility <input type="checkbox"/> Radio <input type="checkbox"/> TV <input type="checkbox"/> Newspaper <input type="checkbox"/> Other (please comment)
3.2.3 How long in advance is the tariff change communicated to customers in practice?	-Click to Select-

► Since 2016, has there been a change in how tariffs and tariffs changes are communicated to customers?

## PART 4 – Obtaining an electricity connection in «Survey\_City»

### 4.1. Case Study Assumptions

The Getting Electricity indicators record all procedures required for a business to obtain a permanent electricity connection and supply for a standardized warehouse. These procedures include completing applications and contracts with electricity utilities, obtaining all necessary clearances from other agencies and installing the external final connection works between the utility's network and the warehouse entry.

Please provide responses to the questions about procedures and reforms based on the assumptions below:

<b>The warehouse:</b>	<ul style="list-style-type: none"> <li>• Is owned by a local entrepreneur.</li> <li>• Is located in «<b>Survey_City</b>».</li> <li>• Is located in an area where similar warehouses are typically located. In this area a new electricity connection is not subject to a special investment promotion regime (special subsidization or a faster service).</li> <li>• Is in an area where there are no physical constraints. For example, the warehouse is not near a railway.</li> <li>• Is a <b>new construction</b> and is being <b>connected to electricity for the first time</b>.</li> <li>• Has 2 stories, both above ground, with a total surface of approximately 1,300.6 square meters (14,000 square feet). The plot of land on which it is built is 929 square meters (10,000 square feet).</li> </ul>
<b>The electricity connection:</b>	<ul style="list-style-type: none"> <li>• Is a <b>permanent</b> connection.</li> <li>• Is a 3-phase, 4-wire Y connection with a subscribed capacity of <b>140 kVA with a power factor of 1 (1 kVA = 1 kW)</b>. (Where the voltage is 120/208 V, this means that the current would be around 400 amperes. Where it is 230/400 V, the current would be almost 200 amperes.)</li> <li>• Connection length is <b>150 meters</b>. The connection is to either the <b>low- or medium-voltage</b> distribution network and is either <b>overhead or underground</b>, whichever is more common in the area where the warehouse is located. (Please see figure 1 below.)</li> <li>• Requires works that involve the <b>crossing of a 10-meter wide road</b> (by excavation, overhead lines, etc.) but are all carried out <b>on public land</b>. There is no crossing of other owners' private property because the warehouse has access to a road.</li> <li>• Takes up a negligible length in the customer's private domain.</li> <li>• The <b>internal wiring of the warehouse has already been completed</b>, up to and including the customer's service panel or switchboard and the meter base.</li> <li>• Monthly energy consumption of <b>26,880 kWh/month</b>, and hourly consumption of 112 kWh.</li> </ul>

4.1.1 Taking into account the assumptions described above, please review the following information and provide updates where necessary:

	Last year's information	Updated information if applicable
Most likely location of the warehouse in « <b>Survey_City</b> »	«DB_ge_WarehouseLocation»	
Distribution utility that serves the majority of customers in «DB_ge_WarehouseLocation»	«DB_ge_UtilityName»	

## 4.2. Reform Update

### 4.2.1 Are you aware of any reform (in practice, laws or regulations) taking place between June 1, 2016, and May 31, 2017 for obtaining an electricity connection for the type of warehouse specified in the case study?

*A reform would be any change in the process to obtain a new electricity connection that affected the procedures, time or cost, either by law or in practice. Examples include the regulatory agency updating the fee schedules or the distribution utility implementing a more efficient process that has reduced the time to obtain a connection.*

Response	If yes, please provide details on the reform (dates, specific procedures affected, etc.)
-Click to Select-	

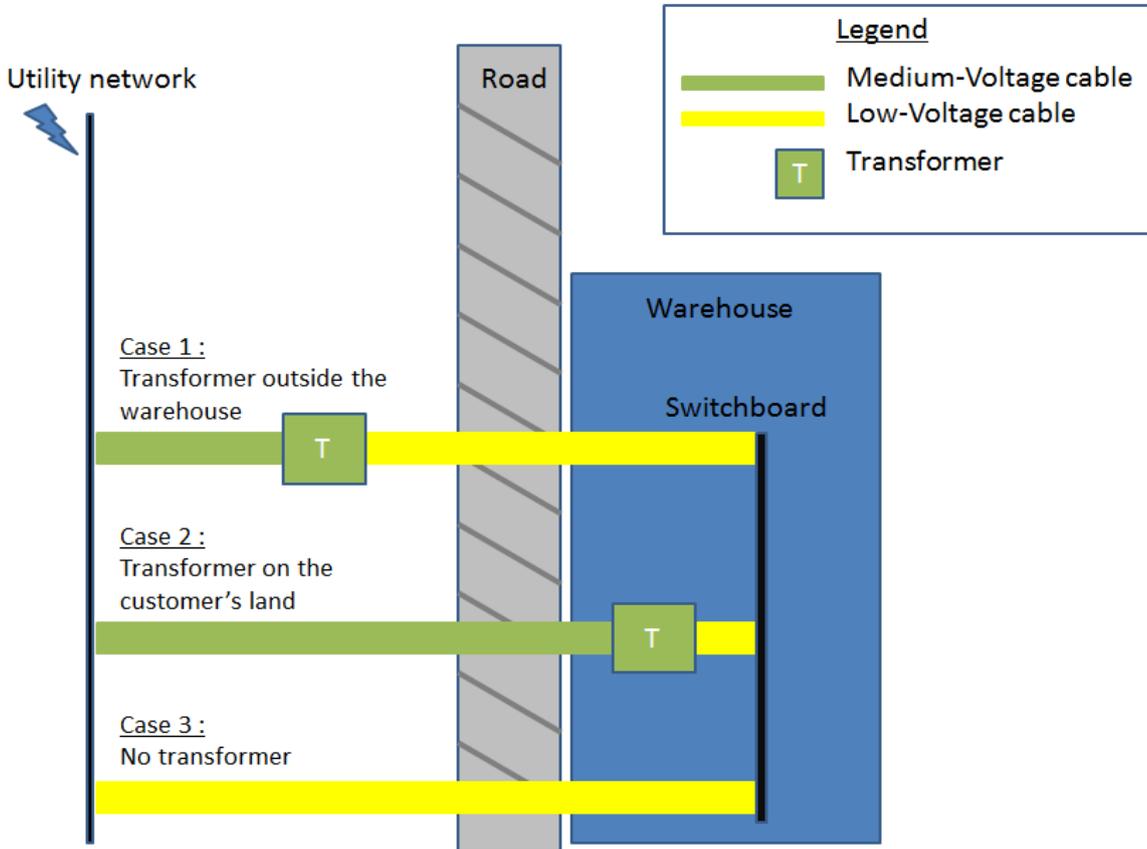
### 4.2.2 Are you aware of any such reform expected after June 1, 2017?

Response	If yes, please provide details on the reform (dates, specific procedures affected, etc.)
-Click to Select-	

## 4.3. Data Update: Connection Works

The answers to the questions in this questionnaire depend on the type of works most likely to be carried out to connect the case study warehouse to electricity in the area indicated in the table in question 3.1.1. Keeping in mind the case study assumptions, please review the options shown in figure 1 and decide which is most likely in that area.

**Figure 1. Options for the type of works needed to connect the case study warehouse to electricity**



**4.3.1 Please confirm or update the most likely type of works by selecting the correct choice below.**

Last year	Response	Please explain
«DB_ge_TypeOfWorks»	-Click to Select-	

**4.3.2 Is it likely that installation of a distribution transformer is needed?**

*To visualize the different options, please refer to the figure 1 above.*

-Click to Select-

**4.3.3 Is it likely that the transformer is installed on the customer's land?** -Click to Select-

**4.3.4 For the connection works from the customer's low-voltage switchboard or meter to the point of connection on the utility's network, please describe what part is the responsibility of the utility and what part is handled by the customer's electrical contractor:**

**Research questions:** this year, *Doing Business* is collecting information on the quality of the internal wiring and the entity carrying out its installation for a standardized warehouse as described in the case study assumptions.

**4.3.5 Who conducts the installation of internal wiring in the new warehouse?** *Please check all that apply:*

- In-house electrical engineer
- External electrical engineer/engineering company\
- Utility
- Other (please specify)

**4.3.6 Are there any requirements imposed on the electrical engineer or engineering company installing the internal wiring of the warehouse?** *Please check all that apply:*

- Professional license/ certification
  - Degree in engineering
  - Certain years of professional experience
  - Other (please specify)
- Legal Basis (if applicable)

**4.3.7 Is there a mandatory internal wiring inspection in your country?** -Click to Select-

Legal Basis (if applicable)

**4.3.8 Who conducts the mandatory internal wiring inspection?**

- Licensed electrical engineer/company - same as the one doing the internal wiring installation
  - Licensed electrical engineer/company - different from the one doing the internal wiring installation
  - Utility
  - State energy agency (or similar)
  - Nobody
  - Other (please specify)
- Legal Basis (if applicable)

**4.3.9 By law, who is primarily held liable in case of an incident (e.g. fire, equipment failure, workspace accident, etc.) related to faulty internal wiring?**

*Please, check all that apply and provide further details if applicable:*

- Entity that installed the internal wiring in the warehouse
  - Entity that conducted inspection of the internal wiring in the warehouse
  - Nobody is held liable
  - Other (please specify)
- Legal basis (if applicable)

## 4.4 Data Update: Procedures

In responding to the questions below, please keep in mind the following definitions:

- **Time** is measured in **calendar days**, and the minimum time for each procedure is 1 day. Time estimates should reflect the duration of wait times when no bribes are paid.
- A **procedure** is an interaction of the customer or the customer's representative (e.g., electrician or hired electrical contractor or firm) with external parties, including the utility, government agencies, inspectors and notaries. **Procedures sometimes take place simultaneously; when this is the case, it will be indicated in the list of procedures below.**
- **Costs** are those for the **external connection works only** and exclude value added tax (VAT). Costs such as for the internal wiring of the warehouse (up to and including the panel or switchboard) are not recorded. In all cases costs exclude bribes.

For your convenience, last year's answers are included in the procedure list below. They represent a **unified response** based on the input of various contributors. Last year's answers may, therefore, not match the specific estimates that you and your colleagues provided. If you feel that a unified answer reported does not reflect the reality, kindly provide your own answer and indicate whether the change is due to a correction (because last year's information was erroneous) or a reform (because there has been a change in practice or by law since June 1, 2016).

### 4.4.1 Connections to electric network

Please indicate the number of new connection cases you were involved with last year (confidential)

	Number of new connections
Below 50 kVA:	
Between 50 kVA and 100 kVA:	
Between 100 kVA and 200 kVA:	
Above 200 kVA:	

**4.4.2** Based on your experience and the same case study assumptions, what is **the fastest and slowest time (calendar days)** in practice to obtain a new electricity connection?

Fastest time:

Slowest time:

**4.4.3** Please explain the reason for the difference between the **fastest and the slowest time** needed to obtain a new electricity connection.

### 4.4.4 List of procedures

Kindly review and update where needed the following list of procedures for obtaining a new electricity connection:

<b>Procedure</b> «DB_ge_DBGEProcList_PROCEDURE_NUMBER_coun»:	«DB_ge_DBGEProcList_ProcedureName_counter»
<b>Simultaneity with previous procedure:</b>	Simultaneity (last year): «DB_ge_DBGEProcList_ProcedureSimultaneity» <b>Simultaneity update:</b> -Click to Select-
<b>Time</b>	Time last year: «DB_ge_DBGEProcList_ProcedureTimePublished» <b>Time update:</b>
<b>Cost</b>	Cost last year: «DB_ge_DBGEProcList_ProcedureCostPublished». Comments: «DB_ge_DBGEProcList_ProcedureCostComment_» <b>Cost update:</b>
<b>Agency</b>	Agency last year: «DB_ge_DBGEProcList_ProcedureAgency_count» <b>Agency update:</b>
<b>Procedure details:</b>	Details: «DB_ge_DBGEProcList_ProcedureComment_coun» <b>Your comments:</b>
If you made changes to last year's information, are they due to? -Click to Select-	
Please explain the changes and provide the legal basis where applicable:	

### Additional procedures

If you would like to add one or more procedures, please fill out the box below.

<b>Name of the additional procedure:</b>	
<b>Time:</b>	
<b>Cost:</b>	
<b>Agency:</b>	
<b>Procedure details:</b>	
<p>If you made changes to last year's information, is it due to? -Click to Select-</p> <p>Please explain the changes and provide the legal basis where applicable:</p> <p>Please indicate which procedure this new procedure follows in the sequence:</p>	

**4.4.5 Online procedures: can any procedure to obtain a new electricity connection be completed online?**

If possible, please provide an explanation, the date on which this came into effect, and a link to the website used to file the procedures electronically.

## 4.5 Further Details on the Security Deposit and Excavation Permit

### 4.5.1 Security deposit

Kindly review and update where needed the following details on the security deposit charged for the case study connection (subscribed capacity, 140 kVA; monthly consumption, **26,880** kWh):

	Last year's information	Updated information (if applicable)
1) What is the amount of the security deposit?	«DB_ge_SecurityDepositFullValuePrepopulation»	
2) After how many years is the security deposit returned (for a 5-year contract)?	«DB_ge_SecurityDepositTimePrepopulation»	
3) At what interest does the utility give back the security deposit (percentage)?	«DB_ge_InterestPaidByUtilityPERCENT»	
4) Can the client settle the security deposit with a bank guarantee?	«DB_ge_SecurityDepositInCashOrBondPrepopulation»	

### 4.5.2 Excavation permit or right-of-way clearance for road crossing in the public domain

	Last year's information	Updated information (if applicable)
1) Is an authorization needed for a road crossing (by excavation, overhead lines or other works involved in obtaining an electricity connection) in the public domain?	«DB_ge_ExcavationOrRightOfWayRequired»	
2) Who obtains the permit?	«DB_ge_WhoObtainsPermit»	
3) Where is the permit obtained?	«DB_ge_WhereToObtainPermit»	
4) How long does it take to obtain the permit (in calendar days)?	«DB_ge_TimeToObtainPermit»	
5) How much does the permit cost? (Please indicate the currency)	«DB_ge_CostOfPermitPopulation»	

\* \* \*

**Thank you very much for completing the Getting Electricity questionnaire!**

We sincerely appreciate your contribution to the *Doing Business* project.

The results will appear in the *Doing Business 2018* report and on our website: <http://www.doingbusiness.org>.

Your work will be gratefully acknowledged (if you wish).