

## Expost Social Review

**Name & Location of Sub-project:** Kızıldere III Geothermal Power Plant Project (Unit-II), Buharkent District in Aydın Province.

**Project Sponsor:** Zorlu Doğal Elektrik Üretimi A.Ş.

**Project cost:** 255,440,000 \$

**Installed generation capacity:** Unit-II is 70 MW

**Preperation Date:** January 15<sup>th</sup> , 2018 (updated)

**Key Dates of Implementation:** The Public Benefit Decision has been given by EMRA on June 2016.

### General Info:

Project Impact Summary Table

### Project Components and Land Requirements

**Table 1. Project Component and Land Requirements**

| Component    | Permanent                   | Temporary               |                          | Total (m <sup>2</sup> ) |
|--------------|-----------------------------|-------------------------|--------------------------|-------------------------|
|              | Purchased (m <sup>2</sup> ) | Eased (m <sup>2</sup> ) | Rental (m <sup>2</sup> ) |                         |
| Power Plant  | 26,625                      |                         |                          | <b>26,625</b>           |
| Wells        | 77,385.5                    | 12,942                  |                          | <b>90,327.5</b>         |
| Piping       | -                           | 17,671                  | 7,600                    | <b>25,270.9</b>         |
| <b>Total</b> | <b>104,010.5</b>            | <b>30,613</b>           | <b>7,600</b>             | <b>142,223.4</b>        |

- Easement and rental agreements are signed for 30 years, which is the licence period of the project.

### General Info:

**Table 2. Land Acquisition Summary**

| Unit-2        |           |        |      |                      |                                   |
|---------------|-----------|--------|------|----------------------|-----------------------------------|
| Total Parcels | Total PAP | Female | Male | Means of Acquisition | Ongoing Court Cases               |
| 38            | 40        | 11     | 29   | Via Negotiation      | None (there was no expropriation) |

\*According to the regulation, expropriation decision is needed for the formal easement process. That is why the company has been granted the decision.

**Table 3. Gender Distribution for Permanent and Temporary Land Acquisition**

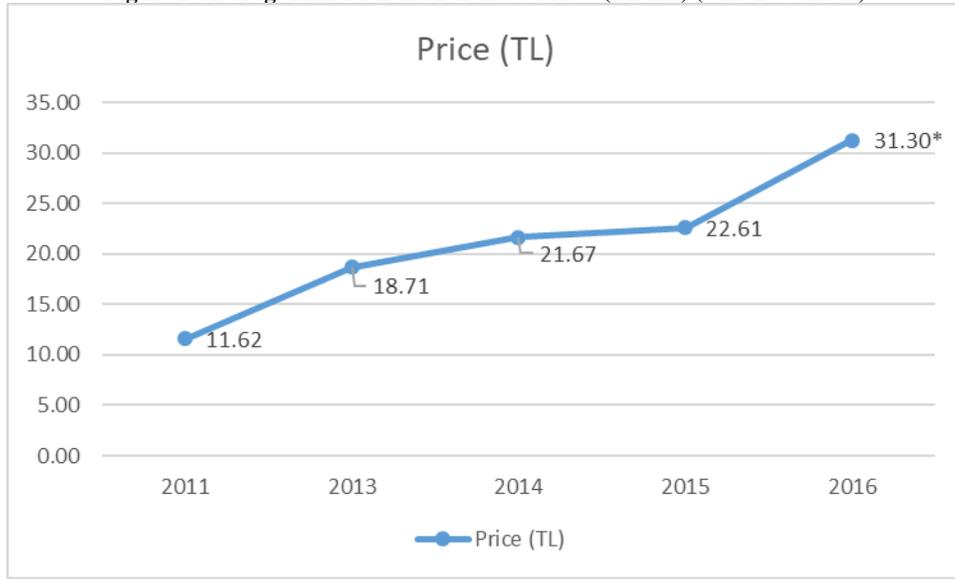
|        | <b>Temporary</b> | <b>Permanent</b> |
|--------|------------------|------------------|
| Male   | 19               | 8                |
| Female | 6                | 5                |

- Land acquisition was started in April 2016 for the exploration drilling and ended in April 2017. Zorlu Enerji's land acquisition policy is to first negotiate with land owners and agree on a mutual price, hence avoid involuntary resettlement through expropriation. Up to now, 12 parcels are purchased via negotiation and remaining 26 parcels either are rented or the easement rights have been obtained. 40 people were affected by this land acquisition. There will be no additional acquisition by means of expropriation. There is no one whose house was procured or livelihood was completely lost. Hence, there was no physical displacement because of the land acquisition process. There was no public land acquired for the project.
- Easement and rental agreements are mainly done for piping and some well locations. These agreements last in 30 years of license duration. When the license period expires, the company will transfer all of its assets (power plant, wells, etc) and rights (license, easement, etc) to the state. If there exist any eased land, which is given back to its previous owners in license period, would be reinstated (the eased part) by the company.

#### **Land Acquisition Approach**

- Before land acquisition, most convenient locations regarding technical and environmental angles are selected and negotiations begin based on the market value of the properties. The value of the lands are evaluated not only assessing the land itself but also adding the yield, commodities, premises if there exist on the land and transaction costs. After that according to the importance of the land for the project, the negotiated value may increase to some extent. If the landowner insists on very high prices, the first choice is always to search for alternative locations. If found, the same procedure begins for that plot. If not, persuasion of the high-price requiring landowner is tried again. If there are no options remaining, expropriation process starts. For Unit-2, all the parcels are acquired by negotiating with the owner and alternative plots were not looked for. In addition to this, expropriation means was not resorted for any plot.
- Annual average purchasing prices (account for Unit-1 and Unit-2 between 2011-2016) are shown in Figure 1 below.

Figure 1. Average Annual Land Purchase Prices (TL/m<sup>2</sup>) (Unit I + Unit II)



- In order to compare these prices, a market search has been conducted in the near villages and towns of Kızıldere. Some of the examples of the current sales listing obtained from [www.sahibinden.com](http://www.sahibinden.com) and <https://www.hurriyetemlak.com/> are given in Table 4 below. The listing belongs to September 2017 and the prices shows the initial negotiation prices requested by the owners. Most probably final sale prices will be lower after the negotiations.
- With the comparison of these two figures in Table 3 and Table 4, it is seen that 2017 September prices of farms and fig/olive orchards vary between 10-30 TL according to its location and area. Considering the inflation rate and the price increases, it seen that even the 2014 and 2015 prices are sufficient for the landowners to cover a purchase of new lands and its related transaction costs in 2017.

Table 4. Average Pre-Negotiation Prices For the Parcels in the Neighborhood of Kızıldere

| Province | Town      | District  | Property    | Area (m <sup>2</sup> ) | Price (TL) | (TL/m <sup>2</sup> ) |
|----------|-----------|-----------|-------------|------------------------|------------|----------------------|
| Denizli  | Sarayköy  | Kabaağaç  | Fig Orchard | 9,808                  | 250,000    | 25.49                |
| Denizli  | Sarayköy  | Tekkeköy  | Olive       | 11,000                 | 270,000    | 24.55                |
| Denizli  | Sarayköy  | Tekkeköy  | Olive       | 11,129                 | 270,000    | 24.26                |
| Denizli  | Sarayköy  | Gerali    | Olive       | 10,000                 | 220,000    | 22.00                |
| Denizli  | Sarayköy  | Kabaağaç  | Olive       | 6,500                  | 200,000    | 30.77                |
| Aydın    | Buharkent | Ortakçı   | Olive       | 764                    | 15,000     | 19.63                |
| Aydın    | Karacasu  | Yeşilyurt | Olive       | 4,000                  | 40,000     | 10.00                |
| Aydın    | Kuyucak   | Aydinoğlu | Farm        | 3,625                  | 85,000     | 23.45                |
| Aydın    | Kuyucak   | Aydinoğlu | Farm        | 4,072                  | 75,000     | 18.42                |
| Aydın    | Buharkent | Savcılı   | Olive       | 39,300                 | 1,000,000  | 25.45                |
| Aydın    | Buharkent | Menderes  | Olive       | 6,875                  | 195,000    | 28.36                |

- Another investigation is conducted to show the amount of agricultural lands in and around the Buharkent Municipality. The total agricultural area in Buharkent and Sarayköy, which are nearest town to the plant, and other 6 neighbor towns are taken from Turkish Statistical Institute. The data is shown in Table 5 below.
- The total agriculture area in Buharkent and Sarayköy, in which the project located, 190,526,000 m<sup>2</sup> whereas the acquired area for Unit-2 is 142,223.4 m<sup>2</sup>, which is very low (% 0.075) with respect to the total area in these two towns. Hence PAPs have the opportunity to find an appropriate land, if they have the tendency to continue agriculture business.

**Table 5. Total Amount of Agriculture Land in and in the Neighborhood of Buharkent Municipality**

| Province     | Town      | Grain (1000 m <sup>2</sup> ) | Fallow (1000 m <sup>2</sup> ) | Vegetable (1000 m <sup>2</sup> ) | Fruits, Beverage, Spice (1000 m <sup>2</sup> ) | Total (1000 m <sup>2</sup> ) |
|--------------|-----------|------------------------------|-------------------------------|----------------------------------|--|------------------------------|
| Aydın        | Buharkent | 7,890                        | 1,039                         | 1,966                            | 28,096   | 38,991                       |
| Denizli      | Sarayköy  | 114,041                      | 9,158                         | 7,598                            | 20,738   | 151,535                      |
| Aydın        | Karacasu  | 99,003                       | 10,395                        | 3,935                            | 93,479   | 206,812                      |
| Aydın        | Kuyucak   | 89,683                       | 2,100                         | 2,105                            | 99,690   | 193,578                      |
| Denizli      | Buldan    | 66,973                       | 4,805                         | 10,281                           | 62,473   | 144,532                      |
| Denizli      | Babadağ   | 14,808                       | 8,126                         | 1,150                            | 3,370  | 27,454                       |
| Denizli      | Kale      | 107,991                      | 2,176                         | 3,557                            | 17,740   | 131,464                      |
| Denizli      | Tavas     | 423,861                      | 26,712                        | 9,853                            | 42,555   | 502,981                      |
| <b>Total</b> |           | <b>924,250</b>               | <b>64,511</b>                 | <b>40,445</b>                    | <b>368,141</b>                                 | <b>1,397,347</b>             |

- Zorlu Enerji's priority is solving the land acquisition process by making an agreement with the owners and covering the expenses of the purchase/sale, transfer and easement. However, this becomes sometimes impossible when the legal owners cannot be reached or judicial disagreements occur between owners, etc. In these cases, legal expropriation option may become the indispensable option for Zorlu Energy. But in this project, all of the parcels are acquired via negotiating and expropriation was not applied for land acquisition. In line with its policy, the company has determined the purchasing price around 15-20% higher than the market price, calling this as "bothering cost".

### **Impacts and Figures of Land Acquisition**

- For Kızıldere III Unit-2 project, about 218,075.3 m<sup>2</sup> of land has been acquired, of which all were privately owned. Some of the purchased private lands was used for agriculture and contain mainly fig trees. All of the parcels have been purchased via open negotiation and there is no physical resettlement after the land acquisition. That the project does not cause resettlement is mentioned in the EIA document. In the monitoring site visit (Nov 15<sup>th</sup>, 2017), whether any resettlement has occurred or not is again asked to the company and the village headman and stated as none. In the latest environmental and social monitoring of the AECOM, which was conducted after the land acquisition process, it is cited as there is no physical resettlement because of the project. Finally, by comparing the actual listing prices with the land acquisition prices, it is concluded that PAPs have the possibility and several options of agricultural areas to purchase with the compensation rates of their land sales.
- Fig trees (and the others if there exists), which need to be cut for the construction, were controlled by the experts and the ill and old ones were elected. The remaining healthy trees (nearly the half of the

total) were transplanted to two locations. One of the sites belongs to Municipality and assigned to the company for transplantation. The other site belongs to the geothermal license area. Zorlu takes the responsibility of the maintenance of the trees. 1,250 trees were transplanted to the Municipality area and 750 trees to license site.

- In the “Social Impact Assessment” study, conducted by Çınar Mühendislik on January 2015, some of the items about livelihood of the near villages are as shown:
- The most significant source of income is the pension (44.4%), agriculture and husbandary is around 16%
- 52.2% of the interviewed households had at least one retired person,
- 77.2% of the sampling houses had at least one regular income
- 66.7% of the sampling houses has one person having a regular income
- 8.9% of the sampling houses has two people having a regular income
- The average number of working persons in the interviewed houses 0.98. This is because of the high number of retirees. The average number of persons working in Kızıldere Village was 0.92
- Among the sampling, 81.2% have their own houses.
- Among the sampling, 50% stated that there are 1, 2% stated there are two retired people in their home.
- 87.2% stated that their family has a regular income
- In the site visit, it is stated by the headman that average land holding is around 50-60 da in Kızıldere Village. Land sale amounts, which is average 7.500 m<sup>2</sup> per PAP, does not affect the livelihood of the people excessively. In addition to that, as most of the people has regular incomes, they decided to start to new business with the compensation they took.

**Table 6. Entitlement Matrix**

| Project Component          | Project Impact   | Category of Affected Person                                     | Entitlement   | Additional Provisions  |
|----------------------------|--|---|---|--|
| Power Plant                | Permanent loss of agriculture land, fig and/or olive tree garden   | Formal landowners   | Cash compensation at full replacement cost regarding all economical values (land and trees) | Company has determined the purchasing price is 15-20% higher than the market price, calling this as “bothering cost”.  |
| Power Plant                | Permanent loss of agriculture land, fig and/or olive tree garden   | 2 people who have sold his parcels to both projects.            | Cash compensation at full replacement cost regarding all economical values (land and trees) | Company has determined the purchasing price is 15-20% higher than the market price, calling this as “bothering cost”. These two people has still 30 da land in the village. With the compensation, they bought new house and land.   |
| Well Locations             | Permanent loss of agriculture land, fig and/or olive tree garden   | Formal landowners   | Cash compensation at full replacement cost regarding all economical values (land and trees) | Company has determined the purchasing price is 15-20% higher than the market price, calling this as “bothering cost”.  |
| Well Locations             | Temporary loss of agriculture land, permanent loss of fig and/or olive tree garden on it.                          | Formal landowners   | Easement fee regarding all economical values (land and trees)                               | The remaining part of the land is used by the owners. On the average, less than 10% of the lands are eased. Easement compensation rates (per m <sup>2</sup> ) are higher than purchasing rates as the eased part is very small proportion of the land. The average easement fee is 54.8 TL/m <sup>2</sup> for Unit-2. Remaining part of the lands are available for the owners.  |
| Pipeline                   | Temporary and partial easement of some amounts of agriculture land, permanent loss of fig and/or olive tree garden | Formal landowners   | Easement fee regarding all economical values (land and trees)                               | The remaining part of the land is used by the owners. On the average, less than 10% of the lands are eased. Easement compensation rates (per m <sup>2</sup> ) are higher than purchasing rates as the eased part is very small proportion of the land. The average easement fee is 54.8 TL/m <sup>2</sup> for Unit-2. Remaining part of the lands are available for the owners.  |
| Well location and pipeline | Temporary and partial easement of some amounts of agriculture land, permanent loss fig and/or olive tree garden    | 8 people who have rented or eased his parcels to both projects. | Easement fee regarding all economical values (land and trees)                               | The remaining part of the land is used by the owners. On the average, around 12% of their lands are eased totally* These people still have the majority of their lands (between 72%-99%) and continue agriculture. The piping system was designed considering the agricultural activity. Easement compensation rates (per m <sup>2</sup> ) are higher than purchasing rates as the eased part is very small proportion of the land. The average easement fee is 54.8 TL/m <sup>2</sup> for Unit-2. Remaining part of the lands are available for the owners. |

Additionally there is no

- public or private land acquisition which are used by formal tenants.
- permanent loss of land with houses or other immovable.
- acquisition of community land.
- As stated by the company, the majority of the people have more than one agricultural lands and continue to agriculture. But their children mostly do not want to work as a farmer and it is becoming difficult to find workers for land utilization. Because of this, as most of the people have regular incomes, the main tendency of the people is to establish a new business for their children. In addition to this, some of them chose to buy new houses in the near municipality and rather continue their life out of the village. Those, who are willing to continue agriculture, bought larger lands with the compensation they get.
- In the monitoring visit, 12 local people (sample is selected form the people who sold more than 20% of his land) and village headman were asked question about their opinions about the Company, land acquisition process and their livelihood status after the land acquisition.

The general sayings of the public are:

- Compensation rates were higher than the market prices, hence they had the opportunity to buy larger agricultural areas
- When they have any grievance, then can easily contact with the company representatives by directly contacting them or via village headman.
- The paid amounts for the damages are more than enough.
- The owner of the company was born in the neighbor village and his order is to ease the life of the villagers in every decision to be taken for the project.
- The average annual income of the village is high and mostly retired people having a regular salary income are living in the village. Most of these people prefer to buy house for better living conditions using the money of the land sale.
- The children of elderly people, who constitute the majority of the village, do not want to continue agriculture. That is why most of people want to sell their land and see the geothermal project as a chance.
- In the Kızıldere Village, the main problem for the land owners is the difficulty to find workers on their lands. As stated above most of the people have regular incomes and do not want to make agriculture. As a result of unwillingness to agriculture, landowners have the difficulty of finding workers for their lands. Hence, unemployment is not the problem of the village, but the difficulty to find workers.
- One of the participants stated that they sold %100 of 23,500 m<sup>2</sup> land. He has additional 25,000 m<sup>2</sup> land at the moment. Their children do not want to continue to agriculture business. After the sales, they bought 3 service cars for his children and they started to transportation business.
- Another participant mentioned that he had 13,000 m<sup>2</sup> total land and sold 6,300 m<sup>2</sup> fig and olive

garden for Unit-2. With the money, he purchased 18,000 m<sup>2</sup> fig and olive garden from the neighborhood and continued to agriculture.

- The other participant has sold 10,000 m<sup>2</sup> land. He has additional 7,000 m<sup>2</sup> at the moment. He bought detached house from the Buharkent county. He was retired and has a salary income from the state.

For the additional livelihood provisions, company;

- employs its unqualified staff from the villagers. Additional employment in the operation phase is expected to be between 5-10. Besides the company, sub-contractors hired nearly 25 employees from the local people in the construction period.
- Designed the piping system allowing the trans passing for the human and the animals.
- Has chosen the well locations considering the sellers willingness and land productivity. Well locations are flexible as there is the option of directional drilling. For some of the wells, they have changed their location and used this option.
- The power plant location was also chosen considering the lands' properties.
- The unused parts of the parcels purchased for well locations are allowed for agriculture.
- Constructed new roads and improved existing roads' conditions
- Commits to give hot water for organized greenhouses zone (it is nor existing at the moment) if the municipality and the cooperatives prepare the general infrastructure and the organization.
- Is supplying domestic heating source for Sarayköy. And willing to supply for Kızıldere.
- Purchases from the local craftsmen as much as possible. Especially the domestic needs (foods, beverages, etc) are preferred from the local craftsmen.
- As a means of implementing its sustainability policy, Zorlu Enerji prepares and implements a “social management plan” for its additional investments which goes beyond the mitigation measures. Zorlu Enerji has performed a series of Corporate Social Responsibility (CSR) activities in the region, which in turn is highly positive for the local people. CSR activities started in 2007 along with the Kizildere I and II projects and still continue today. Such activities include, but not limited to:
  - Heating of 2500 dwellings and 500 decares of greenhouse;
  - Financial support to local entrepreneurs for three hotels,
  - Improvement of community facilities such as schools and mosques, and
  - Improvement of infrastructure in villages.
- Zorlu Enerji will continue to design and implement social investment projects in close cooperation with local authorities, communities and relevant NGOs in future. The planned projects for future will be based on key thematic areas such as
  - Management of cumulative environmental and social impacts
  - Income generating activities

- Skill development and vocational training
- Improvement of local infrastructure
- Zorlu Enerji has developed “Supporting Agricultural Sustainability in Buharkent Project” with Adnan Menderes University. This Project will be executed once the University’s approval procedure is resolved.
- Small-Scale Community Infrastructure Projects such as:
  - Supply of materials for the junction in Kizildere ([www.buharkent.bel.tr](http://www.buharkent.bel.tr))
  - Support for the drinking and irrigation water supply in Kizildere Village by means of drilling of a deep well.
  - Renovation of the community center in Kizildere Village

***Public Awareness, Consultations, and Communication :***

- For each unit (Unit 1 and Unit 2) of the project a “Public Participation Meeting” was organized in a community center in Kizildere village, within the scope of EIA preparation process. Approximately 40 stakeholders amongst the local community participated in the meetings together with participants from local authorities.
  - Ministry of Environment and Urbanization
  - Aydın Provincial Department of Environment and Urbanization
  - State Hydraulic Works 21. Provincial Department
  - Buharkent Municipality
  - Buharkent Chamber of Agriculture
  - Kızıldere Village Headmen
  - Çınar Consultancy.
- The consultation meeting was held on 04/09/2014 for Unit-I and on 16.07.2016 for Unit-II. Participation list for Unit-II meeting can be found in Table 8 in the end of the document.
- The stakeholders were invited to the consultation meetings by means of invitation letters to administrative districts in the vicinity several days prior to the meetings and by posting advertisements at the local places which you can find attached. Invitations were announced in local and regional newspapers in advance. Zorlu Enerji and the EIA Consultant presented the Project and potential environmental and social impacts and mitigations to the participants. Selection of the project site and project context was explained in detail during the meeting.
- In these two meetings, same considerations arose. Questions from community members comprised mainly of concerns on possible impacts of the project on agricultural production and on regional flora and fauna, the location of the energy production plant, the effluent discharge from drilling works and how the effluent will be managed and social responsibility projects in the project’s district.
- One of the major comment is the grievance that the companies do not fulfill the EIA requirements. The public is afraid of the possible impacts of the geothermal fluid because they are not sure the reinjection activities are done properly. They also state that they want to benefit from the geothermal fluids. The company representative responded to this comment assuring the reinjection and committing the continuation of domestic heating of Sarayköy village, support of the touristic facilities

and Buharkent. And finally stated that there are no scientific evidence of the harm of steam for the flora.

- Another issue raised in the meeting was the total area of the project. The company mentioned that there would not be an additional land need for the power plant additional to Unit-I land (just 2 parcels acquisition finished after public participation meeting).
- Ministry representative stated that concerns of the public are assessed regarding the regulations of the related ministries and gave information about the EIA process and mentioned that these concerns were taken into account.
- It is understood that local community has negative impressions based on some other geothermal projects in the region, particularly about discharge of geothermal effluent directly on soil and into creeks due to poor EHS management practice. Zorlu Enerji is in close contact with the local communities to ensure that they are well informed about the operation of GPPs.
- There is no demand or complaint regarding the land acquisition and compensation rates.
- Up to date, as part of stakeholder engagement, the Company has addressed these issues in public meetings with stakeholder groups and through thematic meetings on geothermal energy with the local communities and local authorities as provided in the SEP. Zorlu Enerji together with other developers is looking at ways to both reach any claims further as well as to increase the level of education and information sharing.
- Zorlu Enerji has established an effective relationship and dialogue with local communities by means of organizing thematic meetings. A meeting on “Geothermal Energy” was organized in Sarayköy with the participation of local people from 10 villages in the region, by early 2014. Another thematic meeting was organized on “Geothermal Energy and its Applications” for 30 staff of Provincial Directorate of Environment and Urbanization in April 2015. The site social specialists typically conducted 2-3 times per week village visits and meetings as part of regular engagement activities in 2016. Additionally, once a month visits are conducted by the environmental and social specialist based in the Zorlu Enerji head office.

The financial magnitude of the CSR Programme conducted between 2014-2016 period is about 2 Million Turkish Liras.

Other CSR activities can be listed as follows:

**Scholarship Programme** for 70 successful student from Buharkent and Sarayköy districts and villages (further information is available at [www.mzv.org](http://www.mzv.org));

**Sponsorship to Local Festivals in Buharkent** for fig production and conservation of cultural traditions of camel wrestling;

**Support to the Disadvantaged Children and Youth** in Buharkent, in cooperation with Pamukkale University and District Governorship, Municipality and Directorate of National Education. The programme is entitled “Dunk Shot for Life” and aims at adaptation of the disadvantaged (addicted, victims or doers of crimes, those with families in prison, extremely poor, etc.) to the society. (Further information is available at [www.hayatasmac.com](http://www.hayatasmac.com)). The activity has reached out to 150 children and the young by now.

**Energy for Kids Project** that has been conducted since 2010, supports 3<sup>rd</sup> and 4<sup>th</sup> grade primary school curriculum with awareness raising topics such as concepts of energy, energy resources, renewable and clean energy resources and energy conservations. Training of trainers is performed along with performing presentations and games for learning. Project activities also comprise organizing trips for all local stakeholders and their children to Zorlu Center in Istanbul for seeing theatre plays. (further information is available [www.enerjimizcocuklaricin.com](http://www.enerjimizcocuklaricin.com));

**Support for the Vocational School in Buharkent**, by means of supplying electronic Office equipment for the academicians for the 2016-2017 education year, as well as the establishment of the Conference Hall and laboratories for alternative energy resources;

Support to **Buharkent Directorate of Food, Agriculture and Livestock** for farmers training by means of supplying computers and printers (<http://www.buharkent.gov.tr/>);

**Support to the Secondary School in Sarayköy** for establishing an “information Technologies classroom” (<http://saraykoygaziortaokulu.meb.k12.tr/>);

**Support to District Commandership of Gendarme** for repairing its building;

Establishing orchards of figs and olives for transplanting 1000 trees including fig and olive trees which were taken out from the wellpad zone of Kizildere III, by means of transferring and planting the trees on a 35-decare land allocated by the General Directorate of National Property. It is aimed that the plantation will be an income source for the Buharkent Municipality and the district economy.

**Support for Sports** by means of 2-years sponsorship of Kutbettin Bulut, a national body-building athlete who is an important figure in helping and inspiring social adaptation of disadvantaged children and the young.

### ***The Impact of Geothermal Power Plants on Olive Trees, Ankara University, Agriculture Engineering, May, 2015***

In order to obtain whether there is an effect of GPPs on olive trees, earth and leaf samples are taken from 1.5 km away of the existing GPPs and analyzed in Food, Agriculture and Husbandry Ministry, Earth and Water Resources Research and Çınar Environmental Laboratories. The main results of the analysis is shown below. The detailed report can be found in “Kızıldere-III Unit-2 EIA” document.

- Heavy metal residuals and micro/macro nutritional ingredients, which may be resulted from geothermal power plant, were not observed in the earth and leaf samples. Hence, it is concluded/assumed that additional geothermal PP's will not give harm to olive trees.
- There will be additional moisture in the weather. Lichen is observed in the tree body, which is the sign of clean weather conditions. The trees that are close to the Kızıldere II power plant, are healthy trees with inflorescences on them.
- The only outflow of the geothermal PP is steam of the cooling towers. Some problems may occur by this outflow. These possible problems are pollen transfer, bacterial and micosis (fungus) based infections. However, as the pollinator is not used, this problem does not occur. The infections can be easily prevented by proper pruning. It was already proved that olive trees have most strong

adaptability to environmental conditions.

***Identification of Vulnerable People :***

- Village Headman states that he knows all the helpless people in the village and he is always in contact with the Municipality for them. As stated by the Company and confirmed by the Village Headman, there are no vulnerable people, whose land had been acquired. Village Headmen states that people have more than one land in the area and nobody has lost all income. That the Company began geothermal projects became a chance for villagers to sell their lands to higher prices and purchase another one in the neighboring area or to utilize the money for their needs. People are positive about the Company mainly because of the price increase of their lands. As well, however limited, job opportunities arose in both the construction and operation of the projects.
- The headmen have analyzed the list of the people that had sold or rent his land to the company. The vulnerability concept has been introduced to him and asked if any of these people is involved in one these categories and has any grievance about the land acquisition and project itself.
- Six people are categorized as vulnerable. It is known that 3 of the have sold or leased out some portion of their lands. One of them has participated the monitoring visit and stated that he has sold 10,000 m<sup>2</sup> land has additional 7,000 m<sup>2</sup> at the moment. He bought detached house from the Buharkent county. He was retired and has a salary income from the state. A relative of of one of the illiterate people has participated to the monitoring visit and has not mention any grievance about the land acquisition and it is known that her family has great amount of lands in the village. The last person had a new house constructed in Buharkent. He has 15.000 m<sup>2</sup> cotton land which is rented at the moment and generates income in addition to his retirement salary.

***Grievance Redress:***

- Zorlu Enerji has formed a grievance mechanism long before the Unit-1 project started. But starting from 10.02.2016, the updated grievance procedure and associated grievance form, which is created with the cooperation of TSKB, was put into use. The grievance form includes several headings such as impairment, environmental and social, expropriation, and other. Grievances and details of responses are reported internally on quarterly basis.
- Zorlu Enerji has disclosed its grievance procedure through the Environmental and Corporate Responsibility Manager to district municipalities of Buharkent and Sarayköy, village headmen and the Project Manager. In this respect; mayors, village headmen and the project staff are responsible for receiving grievances.
- According to the Detriment Procedure of Zorlu Enerji, 702,250 TL was paid to the land owners (Damage Payments Unit 1&2). These damages are mostly occurred to the neighbor lands during the civil works of wells and power plants. These damages are assessed by the landowner and Zorlu together and paid by Zorlu Enerji just after they were occurred. Apart from these, there is no major grievance until now for the construction of the Geothermal Power Plant project. Two sample grievances (not monetary) were sent to TSKB. An example of a form can be found below.

## ÖNERİ VE ŞİKAYET FORMU

|  |   |                   |
|--|---|-------------------|
| Öneri ve Şikayeti Alan Kişinin Adı ve Soyadı | Tamer SOYLU                             | Tarih: 10.02.2016 |
| Ünvanı                                       | Çevre ve Kurumsal Sorumluluk Yöneticisi |                   |

### ÖNERİ VE ŞİKAYET HAKKINDA BİLGİ

Öneri ve Şikayet Aracı

|  |                              |                 |                          |
|--|------------------------------|-----------------|--------------------------|
| Adı ve Soyadı                              |                              | Telefon         | <input type="checkbox"/> |
| Telefon Numarası                           |                              | Toplantı/lar    | <input type="checkbox"/> |
| Adresi                                     | Karataş Köyü/Buharkent-AYDIN | Başvuru Ofisine | <input type="checkbox"/> |
| Köyü                                       | Karataş Köyü                 | E-Posta, Posta  | <input type="checkbox"/> |
| Öneri ve Şikayet Sahibinin İmzası ( Mümkün |                              | Saha ziyareti   | <input type="checkbox"/> |
|  |                              | Diğer           | <input type="checkbox"/> |

### ÖNERİ VE ŞİKAYETİN AYRINTILARI

Aynı zamanda Büyük Menderes Sulama Birliği Başkanı olan Ahmet KALAMAN, taşeronların sulama kanalları uyarı ve işaret tabelalarını tahrip ettiğini ve zaman zaman sulama kanallarına zarar verdiğini belirtmiştir.

### KAPANMA/DEVAM NOTU

#### ÖNERİ VE ŞİKAYET DEĞERLENDİRMESİ

|                                    |                                     |
|------------------------------------|-------------------------------------|
| Haneye ve Geçim Kaynaklarına Zarar | <input type="checkbox"/>            |
| Çevresel ve Sosyal                 | <input type="checkbox"/>            |
| Kamulaştırma                       | <input type="checkbox"/>            |
| İş                                 | <input type="checkbox"/>            |
| Diğer                              | <input checked="" type="checkbox"/> |

Söz konusu şikayet tüm taşeronlara iletilmiş, gerekli uyarılar yapılmış ve alınması gereken tedbirlerin ivedilikle alınması için uyarı yapılmıştır.

Tazminat Gerekli Evet Hayır

#### SONUÇ

Kullanılamayacak durumda olan bir tabela yoktur. Tüm tabelalar kontrol edilip zarar görenler onarılmış ve Ahmet Kalaman'a konu ile ilgili bilgilendirme yapılmıştır.

#### KAPAMA NOTU

Öneri ve şikayet değerlendirilerek sonuca ulaştırıldığında şirket yetkilisi tarafından doldurularak imzalanacaktır. ( Tazminat benzeri bir durum olduğunda şikayet sahibinin imzası ve/veya ödeme dekontu eklenebilir. )

|                  |  |
|------------------|--|
| Şirket Yetkilisi | Öneri ve Şikayet Sahibi  |
| Tamer SOYLU      | Adı-Soyadı   |
| 22.02.2016       | Tarih ve İmza (Eğer Mükünse, imzalamıyorsa sebebi not alınmalıdır) |

- In the monitoring visit, it is stated by the local people that when they have any grievance, then can easily contact with the company representatives by directly contacting them or via village headman and the paid amounts for their damages are more than enough.

**Table 8. Participation List**

ZORLU DOĞAL ELEKTRİK ÜRETİM A.Ş TARAFINDAN  
 Buharkent İlçesi Gökgedik Mevkii içerisinde yapılması planlanan  
 KIZILDERE-III Jeotermal Enerji Santrali Kapasite Artışı Projesi(100 MWe'den 180 MWe' ye )  
 Halkın Katılımı Toplantısı Katılım Listesi

Toplantı Yeri: Kızıldere Köy Kahveshanesi  
 Toplantı Tarihi ve Saati: 19.07.2016 10:00

| No | Adı Soyadı        | Nereden Katıldığı       | İşi/Mesleği     | İmzası |
|----|-------------------|-------------------------|-----------------|--------|
| 1  | Himmet BAĞ        | Aydın GSİM              | Çevre Müh       | [İmza] |
| 2  | Orhan YILMAZ      | Aydın GSİM              | Çevre Müh       | [İmza] |
| 3  | Mustafa ŞENOL     | Aydın GSİM              | Buğday          | [İmza] |
| 4  | Handan KESGİN     | Çevre ve Şeh. Bak. Bf.İ | Fizikçi         | [İmza] |
| 5  | Ali Güler         | Kızıldere Mahallesi     | Çiftçi          | [İmza] |
| 6  | Muhterem Bilgin   | Kızıldere               | Çiftçi          | [İmza] |
| 7  | Ahmet İzzet       | Kızıldere               | Çiftçi          | [İmza] |
| 8  | Ahmed Yıldız      | Kızıldere               | Çiftçi          | [İmza] |
| 9  | Bekir Karapınar   | Kızıldere               | Çiftçi          | [İmza] |
| 10 | Ali Bilgin        | Kızıldere               | Çiftçi          | [İmza] |
| 11 | Mustafa Çoban     | Kızıldere               | Çiftçi          | [İmza] |
| 12 | Ahmet Baş         | Kızıldere               | Çiftçi          | [İmza] |
| 13 | Musa Selik        | Kızıldere               | Çiftçi          | [İmza] |
| 14 | REKİP GÜMÜŞ       | Kızıldere               | Çiftçi          | [İmza] |
| 15 | Yılmaz Güzel      | Kızıldere               | REKİP           | [İmza] |
| 16 | Muhammed Güler    | Kızıldere mh.           | Çiftçi          | [İmza] |
| 17 | Sait YILMAZ       | Zorlu Enerji            | Çevre Müh       | [İmza] |
| 18 | Tamer Söğüt       | "                       | Çevre Müh. Sor. | [İmza] |
| 19 | Demir Özyürek     | Kızıldere               | Çiftçi          | [İmza] |
| 20 | Ali Y. Kırıkkapan | Narvli                  | Buğday          | [İmza] |
| 21 | Ahmet Usta        | Ayçayören Köy. Gpsİ     | Yatırımcı       | [İmza] |
| 22 | Y. Elif Güllük    | "                       | "               | [İmza] |
| 23 | Alihan Öner       | Buharkent               | Zorlu Enerji    | [İmza] |
| 24 | Alihan Kırıkkapan | Tarım Danışman          | Buğday          | [İmza] |
| 25 | Mehmet Verali     | Ayçayören Köy. Gpsİ     | Çiftçi          | [İmza] |
| 26 | Zübeyir Güler     | AYDIN YILMAZ            | Çiftçi          | [İmza] |
| 27 | Ömer Budak        | AYDIN YILMAZ            | Çiftçi          | [İmza] |
|    | Özgen Öner        | AYDIN YILMAZ            | Çiftçi          | [İmza] |

Bu belge 5070 sayılı elektronik İhtisas Kanununa göre güvenli elektronik imza ile tasdik edilmiştir.  
 Etek sayıları: <http://www.muhur.gov.tr> adresindeki belge No: 0524069-22011-0-6204 ve Durum No: 1779067 bilgileriyle doğrulanabilir.

Abdül Yildiz  
Adem Özcan  
Selin Karacı  
Durrus Garraoğlu  
Ali Güher

Dhiy. İdris Karacan  
Necir Bilgin  
Bekir Bilgin  
Ali Bilgin

Mustafa Coban

Ömer Arık  
Ueli Çabuk  
Yaşar Tunç

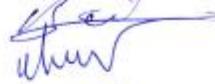
Maharrem Güher  
Hüseyin Bilgin

Nurcan Karadere  
Mehmet Top

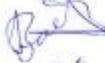












A.Bi.









