

#	Clarifications Request	GOAL's Answers
1	<p>What you want from us, in greenhouse steel construction;</p> <p>Profile thicknesses are 80*140*2.5 mm on the forehead and the production of our company is 80*120*3 mm. The spring pipe is requested to be 42*1.5, but the thickness of our spring pipes is 60*1.5. Again, the desired knitting pipes are 27*1.5, but the thickness of our knitting pipes is 32*1.5.</p>	<p>The Technical Specifications were designed to meet the production objective of the greenhouse and Adana environmental context. The measures specified for steel structure are the minimum measures required.</p>
2	<p>Can we make changes in terms of the intracompany production and material standards of the technical parts of the construction elements specified with respect to the steel construction?</p>	<p>The technical specifications are the minimum required measurement/standards. You can make changes to exceed them, but not to reduce them.</p>
3	<p>The environmental engineer and architect specified in the organization chart of the personnel in section 5 of the Technical Proposal are not employed by our company. In cases where we need this type of personnel, we receive external support, please let us know if this will pose a problem for GOAL.</p>	<p>It is acceptable.</p>
4	<p>How the tender will be concluded/evaluated? Is the experience gained , works done , work completion documents important or would we only stay with the company that gives the tender price advantage?</p>	<p>All proposals will be evaluated as per the criteria outlined in Article 5. Evaluation process of the Invitation to Tender (ITT) document, p.6.</p> <p>All suppliers who meet Admin and Essential criteria will be evaluated on Award criteria where proposals will be marked with points from 0 to 100 by taking into account the below (as outlined in the ITT document):</p> <ul style="list-style-type: none"> - Conformance with technical specifications and suitability of preliminary design proposed (maximum 20 marks) - Technical capacity of supplier & proposed key personnel for the project (maximum 15 marks)

		<ul style="list-style-type: none"> - Proposed Operational Plan, Quality Assurances & Control Mechanisms for the construction (maximum 10 marks) - Supplier's past experience in similar construction projects (max 10 marks) - Lead time for completion offered (10 marks) - Price (maximum 35 marks)
5	<p>You have specified the warranty period on your total cost page , we are experiencing some problems and you have requested a 10 year warranty for the panel and cables. No company that we subcontract gives us this guarantee. Is there any improvement in the warranty period?</p>	<p>Cables and panels lifetime minimum warranty required is 10 years for all other components of electrical system 2 years as per standard warranty terms.</p>
6	<p>Annex-1-Technical-Specifications-Greenhouse-TUR.pdf electronic document, there is some change proposal in the terms in Section F: Automation or a different structure is used;</p> <p>Article.2 All top and side covers of the greenhouse will be controllable with gearmotors. The location information of each of the covers will indicate the location and information will flow continuously to the controllers in the main control center and will be controllable from this control center.</p> <p>In our opinion, it is unnecessary to show the position of each of the upper and side covers of the greenhouse independently. According to the greenhouse plan, the aperture ratios of each section are indicated on the SCADA screen by specifying the top as east-west-south-north and side east-west-south-north.</p>	<p>The Technical Specifications describe the minimum requirements for the Automation required. Suppliers are invited to submit their proposal for a solution that will fit the purpose.</p>
7	<p>Annex-1-Technical-Specifications Article.4</p>	<p>GOAL included CO and CO2 sensors to ensure human health and plant production inside the greenhouse.</p>

	<p>“In order for the automation device module to obtain proper data and save energy, heat, CO2 (carbon dioxide), CO (carbon monoxide), humidity sensors; There will be wind direction and intensity sensors outside the greenhouse.”</p> <p>. Does GOAL need both CO2 and CO sensors? (Article 13 is also requested for the te par sensor.)</p>	<p>If you have an alternative solution that will be fit for purpose, please describe fully in your technical proposal.</p>
8	<p>Annex-1-Technical-Specifications Article.5</p> <p>“As a result of deep-learning obtained from these data, the automation module will decide whether to open and close the doors, to heat and cool the greenhouse, to ventilate, spray, water or fog.</p> <p>The automation module should be capable of collecting, classifying, selecting valuable data, and performing self-learning deep learning.”</p> <p>The program to be used in the system will be run with a fuzzy logic algorithm, not an artificial intelligence algorithm. The fuzzy logic algorithm does not perform new learning. The system works according to the rules taught to the system under the control of the agricultural engineer by evaluating multiple data.</p>	<p>GOAL has described its preferred and desired solution. If you have an alternative solution that will be fit for purpose, please describe fully in your technical proposal.</p>
9	<p>Annex-1-Technical-Specifications Article.6</p> <p>The automation module should be delivered as open source. It should be possible to add, remove or modify the system with the developing technology.</p> <p>We do not provide the software as open source in order to prevent the problems that may arise from the source code changes of our scada program, which works with a fuzzy logic algorithm. However, in the future, desired updates can be made in the program in line with requests.</p>	<p>We have not made any request as to indicate any program package (off the shelf programme)). Therefore, GOAL invites suppliers to propose a self-learning system with the program updates and new learnings. The codes should be delivered to GOAL as open source.</p>

<p>10</p>	<p>Annex-1-Technical-Specifications</p> <p>Article.10</p> <p>Greenhouse heating, cooling, ventilation, fogging, energy curtain opening/closing and fertilization operations will be done by Artificial Intelligence and for additional precautionary purposes; It will also be done manually.</p> <p>As stated in Article.3, Article.5 and Article.9, all controls can be carried out manually or automatically from the control room.</p> <p>Note. There is irrigation automation in the air conditioning control software. There is no fertilization automation.</p>	<p>GOAL has described its preferred and desired solution.</p> <p>If you have an alternative solution that will be fit for purpose, please describe fully in your technical proposal..</p>
<p>11</p>	<p>Annex-1-Technical-Specifications</p> <p>Article.11</p> <p>Temperature, humidity, light, carbon dioxide and photosynthetic active radiation (PAR) sensors will be placed on an area of 1000 square meters for automation (for the artificial intelligence module to work properly so that it can obtain correct data).</p> <p>Please clarify this requirement.</p>	<p>GOAL has described its preferred and desired solution in Section F, paragraph 11.</p> <p>If you have an alternative solution that will be fit for purpose, please describe fully in your technical proposal.</p>
<p>12</p>	<p>Annex-1-Technical-Specifications</p> <p>Article.12</p> <p>In addition, a meteorology station will be placed outside the greenhouse. As a result of deep-learning obtained from these data, the artificial intelligence module will decide whether to open and close the doors, to heat and cool the greenhouse, to ventilate, irrigate or fog it.</p> <p>As stated in Article.5, the climate control of the greenhouse will be carried out with a</p>	<p>GOAL has described its preferred and desired solution in Section F, paragraph 12.</p> <p>If you have an alternative solution that will be fit for purpose, please describe fully in your technical proposal..</p>

	<p>fuzzy logic algorithm. The air conditioning system includes fogging, but not automatic irrigation. Irrigation should be under operator control. (Irrigation can be done automatically with a fertilizing machine.)</p>	
13	<p>Annex-1-Technical-Specifications Article.14</p> <p>All automation materials, software and sensors; It will consist of products that are actively used in greenhouse cultivation and that are internationally accepted.</p> <p>We have sensors that are actively connected to the system and working. However, if requested, sensors with the required documents from the market can be used.</p>	<p>All solutions/options available on the market and fit for purpose will be considered.</p>
14	<p>Annex-1-Technical-Specifications Article.16</p> <p>16a. Each heater will be positioned in the tunnel greenhouse that it will heat itself.</p> <p>16b. Each tunnel will be individually controllable for the greenhouse and their working principles will be allowed to be controlled by the automation systems mentioned above. Communication connection will be made to these automation systems.</p> <p>16b. As stated in Article.2, is it necessary to control the heaters separately in automatic control?</p>	<p>It is not necessary to control the heaters separately via automation.</p>
15	<p>Which fuel energy will be used for heating? It is not fully understood.</p>	<p>Electricity provided through solar panels and the grid.</p>
16	<p>The effective distance of the ventilation fans in the greenhouse cooling system is 45-50 meters. Otherwise, the system does not work. We need to change this relevant design.</p>	<p>The fans have been planned as 2 in each tunnel based on the GOAL's preferred technical specifications of fans as outlined in Section B, 2.1.8 and 2.1.9 of Annex 1- Technical Specifications. If you have an alternative solution that will be fit for purpose, please describe fully in your technical</p>

		proposal.
17	<p>Technical Spec requires, greenhouses to be designed per EN 13031, but does not specify its class.</p> <p>It requires 10 years guarantee, therefore design life more than 10 years.</p> <p>We believe you require greenhouse class as B15 (B stands for plastic covered greenhouse, 15 indicates its design life).</p> <p>Pls kindly confirm or clarify.</p>	<p>The Technical Specifications were designed to meet the production objective of the greenhouse and Adana environmental context. No class is indicated, however warranty period of 10 years is requested for steel structure and cover. ,.</p>
18	<p>If you require B15 class greenhouse, all arch, column sections are invalid, because indicated sections with indicated pipe thicknesses can fullfill only B5 class greenhouse.</p> <p>Therefore, asking for 10 years guarantee with indicated sections (satisfies only 5 years of design life) are not confirming each other, pls kindly clarify (App1, B.2.3)</p>	<p>This relevant question has been answered in Question # 17.</p>
19	<p>Roof of the greenhouse with photovoltaic panels should be considered as glass covered greenhouse.</p> <p>Therefore that greenhouse has to be designed as A15 class greenhouse (A stands for glass covered, 15 is for design life).</p> <p>Should be separated from B15 class greenhouses. Pls kindly confirm.</p>	<p>The photovoltaic panels will not be on the roof of the greenhouse project.</p> <p>The Technical Specifications were designed to meet the production objective of the greenhouse and Adana environmental context. No class is indicated</p>

	<p>EN 13031 requires us to use EN 12056 standard to design gutters , land slopes and drainpipe sections</p> <p>Specified land slopes, gutter capacities and drainpipes do not comply with this standard like;</p> <ul style="list-style-type: none"> a. Adana region has a rainfall capacity of 407lt/sec/ha, which requires 24,29 lt/sec for each gutter (for 55m) Thus 0,8% slope will not adequate to cope with this flow. (App. 1, B1) b. Technical tender requires 35kg/m2 rain capacity. It is not a valid capacity, Pls kindly clarify required rain flow (App. 1, B.2.3.8). c. Gutter pipes of 100m diameter cannot handle above mentioned flows. 	<p>Please quote with the specifications in the technical document. If adjustments need to be made....</p> <p>Please quote with specifications in the technical document. If adjustments are required, the slope can be adjusted by exceeding the minimum slope.</p> <p>In one-on-one works to be carried out in the field, the trough capacities can be changed at the slope rate during the application, provided that the Technical Specifications are complied with. (The slope should provide a smooth flow with a rain capacity of at least 35 kg/m2.) The gutter pipes of 100mm diameter specified in C are incorrectly specified and are 150mm, and should be drained by dividing into at least two. Therefore, there are no issues with this related article.</p>
20	<p>Annex 1- Technical specifications, Section B.2.3.1 electrostatic galvanise coating have been permitted on Tech. Spec. B.2.3.1, this coating cannot satisfy greenhouse design or guarantee life. Kindly clarify.</p>	<p>The electrostatic galvanising must be applied and its required for the relevant section is an application that increases the service life and is designed to cover the requirements.</p>
21	<p>Heating system requires, 94,000kCal/h per each span with electrical heating system. 94 000kCal/h= 81kW, for 9 spans it requires 729kW electric capacity.</p> <p>Please kindly confirm that facility shall be equipped with electric tranformer with 1MW (1000kVA) power capacity?.</p>	<p>We can confirm that the facility will be equipped with a transformer equal to or greater than 1MW..</p>
22	<p>Evaporative cooling system required for 12 month period non stop production. Length of the greenhouse is 105m. Evaporative cooling systems are ineffective on greenhouses longer than 50m.</p> <p>Please kindly clarify how to cool 105m long greenhouse with evaporative cooling system?</p>	<p>Within your financial offer and design, please design as specified in Annex 1- Technical specifications. GOAL believe fogging plus evaporative cooling will be effective.</p> <p>If you suggest an alternative, please list clearly in your proposal in Appendix 5, Section 2.</p>

	And kindly clarify how can company give performance guarantee for this system which is beyond its technological limits?	
23	Solar system capacity is specified as 41kW/h. This unit is not valid, please kindly specify required photovoltaic systems' capacity in "kWp"	It is Kwh=kWp/1460.
25	<p>What is the reason for requesting individual heating for each section in a combined tunnel greenhouse?</p> <p>This situation is both unreasonable and unnecessarily cost-increasing by 5 times. This situation increases the cost of electrical energy excessively for such a greenhouse.</p> <p>Would you consider our more practical and cost-reducing suggestions instead of this system? We can solve this situation in 2 different ways. For example heat pump or with boiler (coal).</p>	<p>We designed the individual heating to allow for a variety of plants to be grown.</p> <p>Within your financial offer and design, please design as specified in Annex 1- Technical specifications. If you suggest an alternative, please list clearly in your proposal in Appendix 5, Section 2.</p>
26	Who owns the construction of the administrative buildings here? Adana Belediyesi or you?	GOAL and the Municipality are working closely together on the construction of the administration building on site.
27	Is it possible to stretch the terms of payment against prepayment and of course a letter of guarante and can a payment plan be created according to the workflow?	GOAL will be able to discuss prepayments with suppliers provided there is a Bank Guarantee provided by supplier. Please suggest your preferred payment schedule in Appendix 7- Financial offer as part of your proposal.