



### OCCASION

This publication has been made available to the public on the occasion of the 50<sup>th</sup> anniversary of the United Nations Industrial Development Organisation.

TOGETHER

for a sustainable future

#### DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as "developed", "industrialized" and "developing" are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

### FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

### CONTACT

Please contact <u>publications@unido.org</u> for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at <u>www.unido.org</u>



# THE HASHEMITE KINGDOM OF JORDAN The General Corporation for the Environment Protection

## FINAL REPORT

## PRESENTED

According to Article 2.05 e) Contract No. 2000/087

### between

The United Nations Industrial Development Organization (UNIDO)

### and

# General Corporation For The Environment Protection GCEP Ozone Unit

UNIDO Project No. MP/JOR/99/143 Activity Code: 4640D31 P. O. No. 05-0-46119

December, 2001

### **Final Report**

GCEP had organized three training of trainer's courses in co-operation with Vocational Training Corporation: First Course was held in the period from 19-23 Nov. 2000, by which 24 certified trainers were trained by Mr. John Ellis from Ellis Training Center. Second Course was held in the period from 26-28 Feb. 2001, by which 14 trainers were certified. Third Course was held in the period from 8-10 April 2001, 15 trainers were certified, trainees in the  $2^{nd}$  &  $3^{rd}$  were trained in Arabic Language by Mr. Nemer Aref from VTC

Four training of technician's courses were held in the Vocational Training Corporation in many governorates: Amman, Mafraq, Zarqa & Irbid. These courses were given in Arabic language by qualified technicians.

The first course: In the period from 7-9 May 2001, GCEP had organized a training of technician course in Vocational Training Center / Amman. The following persons attached the training course:

1- Khalid Fawzi Aied 2- Jehad Fathi Khater 3- Moh'd Mosa Al-reyati 4- Burhan Qasem Khader 5- Amin M. Abu helaleh 6- Moh'd Amin Abu helaleh 7- Moh'd Jalal Saleh 8- Moh'd Abd Al-ali 9- Khalil Admon Malak 10- Sharif E. Fayyad 11- Meshrif E Fayyad 12- Moh'd Adel Mustafa 13- Emad Helan 14- Mahmoud Ahmad Fazza' 15- Omar Harb Damra 16- Mahmoud Zuhdi 17- Karim Anwar Al-sousi 18- Mu'tasem Anwar Al-sousi 19- Khalid Muhsen Salah 20- Marzouq Nahar Salim

The second course was held in the period from  $15^{th} - 18^{th}$  July 2001. It was held in Mafraq in Vocational Training Center / Ramtha. There were (22) trainees: -

- 1. Maher Sami Ibrahim Abo Qamar.
- 2. Anas Fozi Salman Abo Rabe'h.
- 3. Hamzah Mohammad Amin Alali.
- 4. Sameer Saleem No'man Alsafadi.
- 5. Ra'fat Issa Bne Ayoob.
- 6. Basem Abd Almohsen Alazah.
- 7. Adel Rezq Allah Sahawnah.
- 8. Omar Mohammad Alkhaza'lah.
- 9. Ahmad Ali Alananbah.
- 10. Mahdi Ahmad Zanobi.
- 11. Yousef Ahmad Aljaml.
- 12. Qasem Saleh Aljaml.
- 13. Omar Ahmad Abo Ali.
- 14. Ahmad Ghalib Aljaml.
- 15. Amjad Ghalib Aljaml.
- 16. Amjad Mostafa Hanon.
- 17. Mahmood Mwafaq Ubedat.
- 18. Ahmad Sami Abo Qamar.
- 19. Zead Abdallah Alshaweesh.
- 20. Mohammad Mqbel Alkhaza'lah.
- 21. Yaseen Rashed Almashaqbah.
- 22. Qadri Hosni Alnasr.

The third course was held in the period from  $16^{th}-19^{th}$  september2001. It was held in Zarqa governorate in Vocational Training center / Al-hashmia. There were (22) trainees: -

- 1. Mohanad Abo Awad.
- 2. Reda Ubid
- 3. Omar Harb
- 4. Ismaeil Mostafa
- 5. Osamah Mana'
- 6. Nezar Almohsen.
- 7. Hosni Swedan
- 8. Moneer Abo Taqeiah
- 9. Mostafa Shaheen
- 10. Mohammad Alrawashdah
- 11. Ma'mon abo Hablah
- 12. Khader Ibrahim

-3-

13. Mohammad Ghosh

- 14. Amjad Alhwetat
- 15. Najeeb Naser
- 16. Medhat Mohammad
- 17. Aref Hasan
- 18. Amjad Tadros
- 19. Saleh Mohammad
- 20. Faroq Ali
- 21. Mahmood Ahmad
- 22. Abd Alsalam aloses

**The fourth course** was held in the period from 15<sup>th</sup>-18<sup>th</sup> October 2001.It was held in Irbid in Vocational Training Center / Ramtha. (24) certified technicians attached the training course: -

- 1. Osamah Ma'rof.
- 2. Hosen Alnator.
- 3. Fo'ad Antar.
- 4. Belal Mahmod.
- 5. Yahya Hosen.
- 6. Ali Hasan.
- 7. Omar Alomari.
- 8. Mohammad Alomari.
- 9. Basel Faez.
- 10. Fareed Abdalazeez.
- 11. Soltan Farsakh.
- 12. Belal Mohammad Ali.
- 13. Mostafa Abo Hasnah.
- 14. Adel Msameh.
- 15. Najeh Alnajar.
- 16. Sleman Albodor.
- 17. Badr Alshlol.
- 18. Mohammad Alkofahi.
- 19. Waheb Alshar'.
- 20. Khaled Jaber.
- 21. Rami Alajloni.
- 22. Hasan Eid.
- 23. Ra'fat Abdallah.
- 24. Hazem Tawalbah.

-4-

### \*Training program: -

- Pre-assessment.

- Ozone depletion and environmental considerations.

- Overview of the International CFC phase out program.

- Global warming issues.

- Review of basis principles.

- Hazards of refrigerants.

- Safe refrigerant handling techniques.

- Leak detection and prevention.

- Good refrigeration practice when: -

Charging

Evacuating and dehydration systems

Fault diagnosis and repair

- Retrofitting and retrofilling to alternative refrigerants.

- Installing condensing unit, evaporator etc.

- Pressure and leak testing.

- Evacuation and Dehydration.

- Charging and commissioning.

- Maintenance techniques which minimize the lose of refrigerant to atmosphere.

- Recovery and recycling machines-techniques and principles.

- Construction of simple recovery machines from recycled components.

- Practice installation, service and maintenance techniques.

- Practice recovery and recycling techniques.

- Practice retrofilling using alternative less harmful refrigerants.

- Plenary session - Training Trainers questions.

- Hints and tips for Training.

- Assessment techniques and procedures.

- Post training assessments.

GCEP/ Ozone Unit is planning to hold many training courses in co-operation with VTC due to RMP, according to monthly program covering all the governorates of the Kingdom of Jordan.