

CURRICULUM VITAE

Proposed position in assignment: **National expert on implementation of industrial energy management systems**

1. **Family name:** *CHERNIAVSKYI*
2. **First names:** *Anatolii*
3. **Date of birth:** August 25, 1976
4. **Nationality:** Ukrainian
5. **Civil status:** married
6. **Education:**

Institution (Date from - Date to)	Degree(s) or Diploma(s) obtained:
National Technical University of Ukraine «Kiev Polytechnic Institute» 09/1995 – 03/2001	Honor Diploma of Electrical Engineer
National Technical University of Ukraine «Kiev Polytechnic Institute» 09/2001 - 10/2009	Candidate of Technical Science (Ph.D.)

7. **Language skills:** (Mark 1 to 5 for competence, 5 being the highest)

Language	Reading	Speaking	Writing
Ukrainian (native)	5	5	5
Russian (native)	5	5	5
English	4	3	3

8. **Membership of professional bodies:**

Technical committees of standardization TC 13 "Standardization of Electrical household machines and appliances" and TC 48 "Energy Saving"

9. **Other skills (e.g. computer literacy, etc.):**

- Management and teaching experience,
- Computer literacy (MS Office, Adobe acrobat professional, MathCAD, AutoCAD LT, Coral DRAW, DiaLux)
- Driver license cat. B

10. **Present position:** Associate Professor, National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"

11. **Years within the firm:** 17

12. **Key qualifications (relevant to the programme):**

Qualification and skills
<ul style="list-style-type: none"> ▪ Honor Diploma of Electrical Engineer ▪ PhD in energy efficiency sphere ▪ UNIDO Energy Management System implementation Certified National Expert ▪ European EnergyManager (CCI), EUREM ▪ UNIDO Compressed Air Systems Optimization Certified National Expert ▪ Energy Management, Energy Management System, Energy audit ▪ Measurement, monitoring and control of electric energy consumption parameters of equipment ▪ In-depth knowledge of energy regulations in sphere of energy efficiency technologies, energy auditing and management, energy efficiency standards, eco-design, energy labelling ▪ Preparation and conducting more than 100 trainings in the field of industrial energy efficiency ▪ Excellent communication, writing and presentation skills.

13. **Specific experience in the EBRD countries of operation (Eastern Europe, CIS and Southern and Eastern Mediterranean). The list of countries can be found at <http://www.ebrd.com/pages/country.shtml>:**

Country	Date: from (month / year) to (month / year)
Ukraine	09/2002 – up to now
Kazakhstan	10/2011 – 12/2016

Note: Overlaps of periods are due to the fact that not all assignments were necessarily full-time.

14. Professional Experience Record (selected activities):

Dates	Location	Company	Position	Description
09/2002 – to date	Ukraine	National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"	Associate Professor	<ul style="list-style-type: none"> ▪ Delivering lectures on Course "Energy efficient technologies of electricity consumption". ▪ Developing recommendations on implementation of energy saving measures for industry, municipalities, and services. ▪ Research on energy saving measures and greenhouse gas emissions reduction for industry (mining and metals, chemical, agriculture, services etc.). ▪ Performing scientific and research works on the analysis of efficiency of energy consumption and reducing greenhouse gas emissions by industrial enterprises and municipalities as well as development of a benchmarking system on energy efficiency and low carbon economic development.
01/2019 - to date	Ukraine	INTEGRATION Consulting Group GIZ project 16.9069.2-001.00 "Support of the EEF and the Climate-Friendly Reform-Agenda"	Consultant	<ul style="list-style-type: none"> ▪ Development of Training Curriculum and Materials for conducting Energy Auditor Training Ukraine. ▪ Develop minimum criteria for the selection of trainees for the train-the-trainer program. ▪ Participation in meetings, workshops or roundtables with potential training institutions and potential trainers of trainers in Ukraine, upon the request of GIZ. ▪ Train-the-trainers program implementation. ▪ Roll-out of training schemes to the regions. ▪ Support training quality assurance in the further roll-out of energy auditor trainings
11/2018 - to date	Ukraine	GIZ project 14.2517.2-001.00 "Advisory services for Energy Efficiency in Companies"	Consultant	<ul style="list-style-type: none"> ▪ Phase Development of energy saving projects <ul style="list-style-type: none"> - Development of quality checklist, - Checking of the companies, screening of applicants, - Support in the selection of industries for energy saving projects. ▪ Functional and technical quality assurance of project activities <ul style="list-style-type: none"> - Revision of guidebook and related documents for Planning and execution of Energy Audits. - Provision and revision of training material and support during training and workshop events. - Qualified handing-over-conversation of energy audit reports to industries. ▪ Revision of energy audit reports of 30 industries <ul style="list-style-type: none"> - Assuming the technical responsibility on the energy audit report evaluation process. - Development of evaluation form to automatize and record the energy audit report evaluation. - Proofing of the reports with ISO50002 and project specifications. - Examination assessment of energy audit reports regarding plausibility, technical feasibility, completeness and form. - Re-examination and final approval of audits. - Checking and reporting to GIZ on the energy audit revision process. ▪ Performance of six Energy Audits according to ISO 50002, Type 1 ▪ Qualified handing-over-and presentation of six pilot energy audit reports to industries that have been provided within the industrial sector study II. ▪ Development of energy audit guidebook according to ISO 50002 ▪ Identification and development of best-practice/lesson learned, other activities upon Project's request.
03/2019 – 08/2019	Ukraine	AEE, Public Union "Association of Energy Engineers of Ukraine"	Expert on energy management	Scientific and Technical Editing and Adaptation of ISO 50001:2018 and Formalization of the Standard in Accordance with Requirements of DSTU 1.5:2003
09/2017 – to date	Ukraine	Association "German-Ukrainian Chamber of	Consultant Senior trainer of European	<ul style="list-style-type: none"> ▪ Technical editing, adaptation and improving of training materials of EUREM course according to Ukrainian legislations and conditions using experience and knowledge of pilot training course participants.

Dates	Location	Company	Position	Description
		Commerce and Industry"	Energy Manager (EUREM) Ukraine	<ul style="list-style-type: none"> Final adjusting and completing of training materials of EUREM course according to Ukrainian legislations and conditions using experience and knowledge of national trainers. Conducting trainings on energy management systems implementation, energy audit conducting; Supervision on development of energy efficiency projects by trainees.
10/2013–12/2016	Kazakhstan	Kazakh Ecological Group, LLC	International consultant, Lead Energy Auditor	<ul style="list-style-type: none"> Conducting above 40 energy audits and leading of energy auditors group for industrial enterprises in Kazakhstan; Preparation of a Measurement Strategy; Assessment of energy saving measures and greenhouse gas emissions reduction for industrial enterprises in Kazakhstan; Determining the current situation of energy efficiency of buildings, engineering systems and equipment, and assessing opportunities for implementation of energy saving measures in buildings; Developing recommendations on implementation of energy saving measures and energy management systems for industrial enterprises in Kazakhstan; Implementation of energy management systems based on ISO 50001 (Crystal Management LLC, PAVLODAR-ENERGO JSC, KAZAKHMYN CORPORATION LLP).
12/2013–to date	Ukraine	Energomanagement PRO, LLC	Lead Energy Auditor	<ul style="list-style-type: none"> Conducting more than 30 energy audits and leading of energy auditors group for industrial enterprises in Kazakhstan and Ukraine; Assessment of energy saving measures and greenhouse gas emissions reduction for industrial enterprises; Developing recommendations on implementation of energy saving measures and energy management systems for industrial enterprises; Implementation of energy management systems based on ISO 50001 for ASTARTA HOLDING N.V., Novoorzhytskyy sugar plant.
05/2017	Kazakhstan	Irish Power and light, LLC for GIZ Kazakhstan	Consultant	Reviewing the energy efficiency training manual and providing recommendations for improving the training manual
08/2016	Kazakhstan	Irish Power and light, LLC for GIZ Kazakhstan	Consultant	A three-day training on energy efficiency, energy management and energy auditing for college and university teachers, as well as employees of AES Ust-Kamenogorsk HPP
01/2017 – 05/2017	Ukraine	AEE, Public Union "Association of Energy Engineers of Ukraine"	Expert on energy management and energy audit	Scientific and Technical Editing and Adaptation of ISO/IEC 13273-1:2015, ISO/IEC 13273-2:2015; EN 15900; EN 16231; ISO 17741:2016; ISO 17742:2016; ISO 17743:2016 and Formalization of the Standards in Accordance with Requirements of DSTU 1.5:2003
11/2015 – 04/2016	Ukraine	AEE, Public Union "Association of Energy Engineers of Ukraine"	Expert on energy management and energy audit	<ul style="list-style-type: none"> Preparation, scientific and technical editing and adaptation of the drafts of national standards in Ukraine: DSTU ISO 50002, DSTU ISO 50003, DSTU ISO 50004, DSTU ISO 50006, DSTU ISO 50015 harmonized with ISO standards. Consulting support cases of the drafts of national standards in State Enterprise "Ukrainian Research and Training Center of Standardization, Certification and Quality" till their approval.
05/2012 – 01/2015	Ukraine	UNIDO	National consultant	<p>The UNIDO project "Improving energy efficiency and promoting renewable energy in the agro-food and other small and medium enterprises (SMEs) in Ukraine"</p> <ul style="list-style-type: none"> Collection of data about agro-food enterprises in dairy, meat production, sugar processing. Verification of collected information by comparison with information from questionnaires. Analysis of available data Disaggregation of energy consumption. Calculation of SEC for the surveyed enterprises for different products. Preparation of benchmark dataset comparison the SEC of enterprises by each of three sectors with relevant data about BAT and BPT. Determination of the least energy efficient plant in the dataset for each sector. Determination of energy efficiency improvement potential of

Dates	Location	Company	Position	Description
				<ul style="list-style-type: none"> each sector. Identification of causes of data disparity. Preparation results of analysis in table and graph form Development of SWOT-analysis in EE and RE field for each subsector. Decisions making to reduce an influence of weakness' and threats for each subsector. Define sub-sectors growth scenarios until 2030. Defining of EE and RE measures' investment sources. Development of energy management plan and sector level scenarios for each subsector.
09/2013 – 12/2014	Ukraine	USAID municipal energy reform project in Ukraine	Consultant	<ul style="list-style-type: none"> Preparation of the presentation on key provisions of ISO 50001 standard and energy management system. Conducting the presentation and discussion on key provisions of ISO 50001 standard and energy management system with NGO representatives. Preparation of the Guide to municipal energy management. Preparation of the national standard of Ukraine DSTU ISO 50001:2014 Energy saving. Energy management systems – Requirements with guidance for use. Survey of Energy Efficiency of the Ukrainian Economy in 2012 for National Report. Systematization of Relevant Information and Analytical Materials: Gathering information for the preparation of the National Report. Analysis and processing of information. Report of the collection and processing of information for the preparation of the National Report.
10/2014–10/2015	Kazakhstan	Tetra Tech ES, Inc.	International consultant	<p>USAID The Kazakhstan Climate Change Mitigation Program</p> <ul style="list-style-type: none"> Conduction of training on energy audit basics in Pavlodar and Ust-Kamenogorsk Cities. Express energy audits conducting for 6 enterprises in Kazakhstan.
03/2013	Ukraine	Hulla & Co. Human Dynamics KG	Senior Short-Term Expert - Trainer on energy audit	<p>Capacity Building of the State Agency for Energy Efficiency and Energy Conservation in Ukraine" (Contract No 2011/279-841 Europeaid/131074/C/SER/UA)</p> <p>Conducting and development of the training program for the course "Energy Audit, basics of Energy Saving and Energy Management":</p> <ul style="list-style-type: none"> Implementing Energy Audit and Energy Management System (EnMS) in Ukraine on the basis of national standards. Methodologies used in Ukraine for conducting Energy Audit and implementing Energy Management System. Experience from sectors and enterprises on the results of conducting the Energy Audit in Ukraine. Factors affecting the quality of conducting energy audits in Ukraine.

15. Others:

The list of selected industrial clients:

No.	Customer	Period of performance, year	Position	Name of work (services)
1.	Coca-Cola Beverages Ukraine Limited	2008-2011	Lead energy efficiency expert	Walk-through energy audit. Specific energy consumption rates determination
2.	LLC with foreign investment "Henkel Bautechnik (Ukraine)"	2011-2012	Lead energy efficiency expert	Walk-through energy audit. Specific energy consumption rates determination
3.	Belotserkovsky Dairy Plant LLC	2010-2011	Lead energy efficiency expert	Walk-through energy audit. Specific energy consumption rates determination
4.	CJSC "Agrofirm Berezanskaya Poultry Farm"	2009-2012	Lead energy efficiency expert	Walk-through energy audit. Specific energy consumption rates determination

5.	CJSC NPC "Borschagovsky Chemical-Pharmaceutical Plant"	2010-2011	Lead energy efficiency expert	Walk-through energy audit. Specific energy consumption rates determination
6.	Imperial Tobacco Production Ukraine JSC	2009-2011	Lead energy efficiency expert	Walk-through energy audit. Specific energy consumption rates determination
7.	JSC "Astana-Energo", Astana, Republic of Kazakhstan	2013-2014	Lead energy auditor	Comprehensive energy audit
8.	JSC "Eurasian Energy Corporation", Aksu, Republic of Kazakhstan	2014-2015	Lead energy auditor	Comprehensive energy audit
9.	LLP Alties Petroleum International BV, Aktobe, Republic of Kazakhstan	2014-2015	Lead energy auditor	Comprehensive energy audit
10.	JSC "3-Energoortalik", Shymkent, Republic of Kazakhstan	2014-2015	Lead energy auditor	Comprehensive energy audit
11.	LLP MAEK-Kazatomprom LLP, Aktau, Republic of Kazakhstan	2014-2015	Lead energy auditor	Comprehensive energy audit
12.	JSC "Ulba Metallurgical Plant", Ust-Kamenogorsk, Republic of Kazakhstan	2014-2015	Lead energy auditor	Comprehensive energy audit
13.	Stepnogorsk Bearing Plant" JSC, Stepnogorsk, Republic of Kazakhstan	2014-2015	Lead energy auditor	Comprehensive energy audit Implementation of an energy management system
14.	LLP Crystal Management LLP, Almaty, Republic of Kazakhstan	2014-2015	International expert on implementation of EnMS	Implementation of an energy management system
15.	JSC "Pavlodarenergo", Pavlodar, Republic of Kazakhstan	2015-2016	Lead energy auditor	Implementation of an energy management system
16.	LLP "Crystal Management", Almaty, Republic of Kazakhstan	2015-2016	Lead energy auditor	Comprehensive energy audit
17.	LLP Kazakhmys Energy LLP (Kazakhmys Energy), Republic of Kazakhstan	2015-2016	Lead energy auditor	Energy audit and consulting and information services in the field of energy efficiency
18.	LLP Kazakhmys Corporation LLP Borlu UD, Kuu-Chekinskiy open pit, Republic of Kazakhstan	2015-2016	Lead energy auditor	Energy audit and consulting and information services in the field of energy efficiency
19.	LLP Kazakhmys Corporation LLP Borlu UD, Molodezhny open pit, Republic of Kazakhstan	2015-2016	Lead energy auditor	Energy audit and consulting and information services in the field of energy efficiency
20.	LLP Kazakhmys Corporation LLP Zhomart Mine, Republic of Kazakhstan	2015-2016	Lead energy auditor	Energy audit and consulting and information services in the field of energy efficiency
21.	LLP Branch of Kazakhmys Corporation LLP Thermal and electrical networks, Republic of Kazakhstan	2015-2016	Lead energy auditor	Energy audit and consulting and information services in the field of energy efficiency
22.	LLP Zhezkazgantsvetmet Corporation Kazakhmys LLP, Republic of Kazakhstan	2015-2016	Lead energy auditor	Energy audit and consulting and information services in the field of energy efficiency
23.	LLP Kazakhmys Corporation LLP Karagandatsvetmet Production Association, Republic of Kazakhstan	2015-2016	Lead energy auditor	Energy audit and consulting and information services in the field of energy efficiency
24.	LLP Kazakhmys Corporation LLP Balkhashtsvetmet VO, Republic of Kazakhstan	2015-2016	Lead energy auditor	Energy audit and consulting and information services in the field of energy efficiency
25.	LLP Kazakhmys Corporation LLP Karaganda Foundry and Machine-Building Plant, Republic of Kazakhstan	2015-2016	Lead energy auditor	Energy audit and consulting and information services in the field of energy efficiency

26.	Novoorzhitskiy Sugar Plant LLC	2016	National expert on implementation of EnMS	Implementation of an energy management system
27.	Kazakhmys Corporation LLP Mining and Processing Complex	2016-2017	International expert on implementation of EnMS	Implementation of an energy management system
28.	LLC "Zhdanovskiy sugar plant"	2016	Lead energy auditor	Energy audit
29.	LLC "Yareskovskiy sugar plant"	2016	Lead energy auditor	Energy audit
30.	LLC "Tyco Electronics Ukraine LIMITED"	2017	Lead energy auditor	Energy audit
31.	KP "Vasilkov Teploset", Kiev region, Vasilkov	2017	Lead energy auditor	Walk-through energy audit. Specific energy consumption rates determination
32.	LLC "Globinsky Bioenergy Complex"	2017	National expert on implementation of EnMS	Implementation of the energy management system.
33.	LLC Kanev Branch "Cheese Club"	2017-2018	Lead energy efficiency expert	Comprehensive energy audit. Development of energy saving projects. Specific energy consumption rates determination

Trainings:

- European EnergyManager (CCI), EUREM, 13.10.2017-18.05.2018, 236 teaching units, European EnergyManager - Certificate of Successful Completion UA-IEV-0001.
- "UNIDO Compressed Air Systems Optimization Expert Level Course" under the framework of the UKR IEE Project "Introduction of Energy Management System Standard in Ukrainian Industry", Ukraine (11/2018). Certificate of Successful Completion.
- "UNIDO Compressed Air Systems Optimization User Level Course" under the framework of the UKR IEE Project "Introduction of Energy Management System Standard in Ukrainian Industry", Ukraine (02/2018). Certificate of Successful Completion.
- "UNIDO Energy Management System Expert Level Course" under the framework of the UKR IEE Project "Introduction of Energy Management System Standard in Ukrainian Industry", Ukraine (07/2015 – 11/2016) Certificate of Successful Completion.
- UNIDO, "The ISO 50001 Bridging Training Programme for Lead Auditing" under the framework of the UKR IEE Project "Introduction of Energy Management System Standard in Ukrainian Industry", Ukraine (07/2016) Certificate of Successful Completion
- "UNIDO Fans Systems Optimization User Level Course" under the framework of the UKR IEE Project "Introduction of Energy Management System Standard in Ukrainian Industry", Ukraine (07/2016). Certificate of Successful Completion.
- National Technical University of Ukraine «Kiev Polytechnic Institute», Ukraine (05/2014). Advanced training courses Diploma, Energy management and energy audit
- Bureau Veritas, Kyiv, Ukraine (11/2013 – 11/2013) Certificate of Successful Completion, Energy Management Systems Auditor/Lead Auditor Training Course (based on ISO 50001:2011)

16. Publications:

More than 100 scientific articles, standards, manuals, textbooks in field of efficient use of energy resources and environmental impact

List of selected publications:

National standards of Ukraine:

- DSTU 4472:2005 Energy saving. Energy management systems. General requirements.
- **DSTU 4713:2007 Energy saving. Energy audit of industrial enterprises. Procedures and requirements for the organization of work.**
- **DSTU 4714:2007 Energy saving. Energy balance of industrial enterprises. Methods of construction and analysis.**
- DSTU 4715:2007 Energy saving. Energy management systems of industrial enterprises. Structure and content of works under implementation of energy management systems.
- DSTU 5077:2008 Energy saving. Energy management systems of industrial enterprises. Check and control the functioning.

- DSTU ISO 50001:2014 Energy saving. Energy management systems – Requirements with guidance for use (ISO 50001:2011, IDT).
- **DSTU ISO 50002:2016 Energy audits -- Requirements with guidance for use.**
- DSTU ISO 50003:2016 Energy management systems -- Requirements for bodies providing audit and certification of energy management systems.
- DSTU ISO 50004:2016 Energy management systems -- Guidance for the implementation, maintenance and improvement of an energy management system.
- **DSTU ISO 50006:2016 Energy Management Systems – Measuring energy performance baselines (EnB) and energy management performance indicators (EnPI) – General principles and guidance.**
- **DSTU ISO 50015:2016 Energy Management Systems – Measurement and verification of energy performance of organizations – general principles and guidance.**
- DSTU ISO 50001:2020 Energy management systems. Requirements with guidance for use (ISO 50001:2018, IDT).
- **DSTU ISO 50047:2020 Energy savings. Determination of energy savings in organizations (ISO 50047:2016, IDT).**
- **DSTU EN 16231:2017 Energy efficiency benchmarking methodology (EN 16231:2012, IDT).**
- **DSTU ISO 17741:2017 General technical rules for measurement, calculation and verification of energy savings of projects (ISO 17741:2016, IDT).**
- **DSTU ISO 17743:2017 Energy savings. Definition of a methodological framework applicable to calculation and reporting on energy savings (ISO 17743:2016, IDT).**
- **Typical manual of energy audit industrial enterprises. - Kyiv: State Committee of Ukraine of energy efficiency, 2004. - 70 p.**

Books and Guidebooks:

- ENERGY AUDIT MANUAL / Per Shubak, Detlef Borst, Artem Safyans, Anatolii Chernyavsky. - Bonn and Eschborn, Germany, Advisory services for energy efficiency in companies, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, 2020. - 148 p.
- Educational and methodical guide to energy express audit / A.Sankovski, A. Novoseltsev, Ye.Zbrodtko, V.Rosen, A.Cherniavskiyi, T.Evtuhova. – Kazakhstan: Kazakhstan Climate Change Mitigation Program (KCCMP). 2014. – 120 p.
- Energy audit: Manual / O.I.Solovey, V.P.Rozen, Yu.H.Leha, O.O.Sytnyk, A.V.Cherniavskiyi, H.V.Kurbaka. - Cherkasy, Cherkasy State Technological University, 2005. - 299 p.
- Implementation of Energy Management System based on ISO 50001:2011: Guidebook for technical personnel of companies and enterprises / Ye. Inshekov, A. Safyants, S. Safyants, A. Cherniavskiyi. - K.: GIZ, 2014. - 36 p.
- Alternative and renewable energy sources: Textbook / O.I.Solovey, Yu.H.Leha, V.P.Rozen, O.O.Sytnyk, A.V.Cherniavskiyi, H.V.Kurbaka. - Cherkasy: CSTU, 2007. - 483 p.
- Technical and economical calculations of electric supply of industrial enterprises: Manual / Solovey O.I., Sytnyk O.O., Rosen V.P., Demidenko V.V., Kurbaka G.V., Cherniavskiyi A.V., Mylnichenko S.M. – Cherkasy: Cherkasy State Technological University, 2012. - 247 p. ISBN 978-966-402-076-0.

Certification:

I, the undersigned, certify that to the best of my knowledge, these data correctly describe me, my qualifications and my experience.

Anatolii Cherniavskiyi

Name of expert

Signature

Date

28/01/2021