

IS UKRAINE READY TO COMPLY WITH THE EU SUSTAINABILITY REQUIREMENTS FOR BIOMASS?

COMPARISON OF THE EU RED REQUIREMENTS AND UKRAINIAN LEGAL FRAMEWORK



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Outline

- Comparison of the EU RED requirements with legal framework in Ukraine
 - Land-use change requirements
 - GHG emissions requirements and pilot calculations of the GHG emissions from biofuels produced from Ukrainian rapeseed and corn
 - Other environmental and social requirements
 - Legislative support for biofuels production and use in Ukraine
- Conclusions

EU RED land use change requirements (1)

Producers must not convert land of **high biodiversity value**, namely:

- a) **primary forest**, i.e. forest and other wooded land of native species, showing no visible signs of human intervention and where ecological processes are not significantly disturbed;
- b) **protected areas**, i.e. land designated by law for nature protection purposes or for the protection of rare, threatened or endangered species or ecosystems;

EXCEPTION: Land use is permitted if cultivation and harvesting of biomass do not interfere with the nature protection purposes.

- c) **highly biodiverse grasslands**, either natural (would remain grassland in the absence of human intervention) or non-natural (would cease to be grassland in the absence of human intervention). E.g., savannahs, steppes, scrublands and prairies.

EXCEPTION: Use of highly biodiverse non-natural grasslands is permitted when biomass harvesting is necessary to preserve this grassland status.

Cut-off date: January 2008

EU RED land use change requirements (2)

Producers must not convert land of **high carbon stock**, namely:

- a) **wetlands**, i.e. lands that are covered with or saturated by water permanently or for a significant part of the year;
- b) **continuously forested areas**, i.e. land spanning more than 1 ha with trees higher than 5 m and canopy cover of more than 30%; land spanning more than 1 ha with trees higher than 5 m and canopy cover of between 10% and 30%, unless evidence is provided that the carbon stock of the area before and after conversion is within limits.
- **Peatlands**

EXCEPTION: Peatland can be used if evidence is provided that cultivation and harvesting does not involve drainage of previously undrained soil.

Cut-off date: January 2008

Legislative requirements for land use and land use change in Ukraine



Land use and land use change requirements in Ukraine (1)

- Land should be used accordingly to land use category defined by legislation.
- Land of Ukraine is divided by land use purpose on the following categories:
 - a) agricultural lands;
 - b) land of residential and public buildings;
 - c) nature conservation areas and other land for nature protection purposes;**
 - d) land aimed for health improvement;
 - e) recreational land;
 - f) land of historical and cultural purpose;**
 - g) land for forestry purposes;**
 - h) land of water fund;**
 - i) land for industrial, transport, communications, energy, defense and for other purposes.

Land use and land use change requirements in Ukraine (2)

- Land use category could be changed by executive authority or local administrative bodies;
- Resolution of the forestry and nature protection executive bodies should be taken into an account to change the category of areas defined for forestry purposes (Land Code, article#20).
- It is **forbidden to undertake any economic activities in the nature-conservation fund and other nature protection or cultural purposes** which negatively influence or could negatively influence conditions of natural or cultural complexes or objects or prevents their use for defined purposes. (Law on Nature conservation fund of Ukraine, article#7)
- **the notion of “highly biodiverse grasslands” is not present in Ukrainian legal framework =>** should have a status of nature protected area to be protected

Land use and land use change requirements in Ukraine (3)

- **The notion of “high carbon stock land” is not present in Ukrainian legislation...**
- **BUT** wetlands could be preserved for water or biodiversity protection purposes, in particular, wetlands
 - could fall under category of water fund where plowing and agrochemicals use is forbidden (Land Code, Ch #12);
 - could be included within nature protected area;
 - could be fall under Ramsar Convention category as “wetlands of international importance”.
- Ukrainian legal framework does not contain special provisions for preservation of peatland... but peatland could be also considered as a land of water fund in some cases or could have the status of protected area

Requirements on GHG emissions reductions



GHG emissions requirements

EU RED Requirements

- Biofuels should guarantee greenhouse gas emissions saving of at least 35% (50% from 2017 and 60% from 2018);

Legal framework of Ukraine

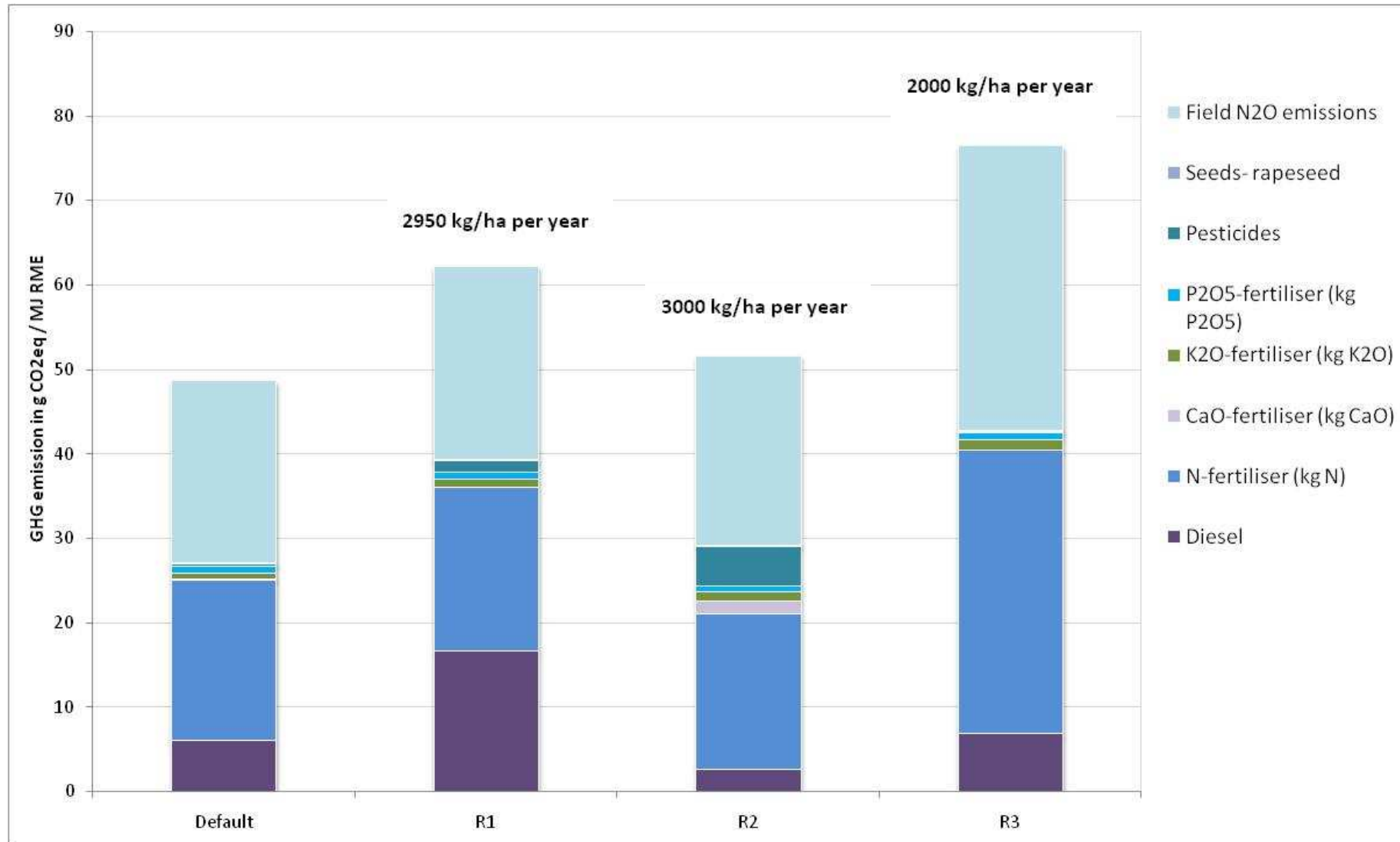
Ukraine does not have a binding emissions reduction target => no emission reduction requirements for any sectors or products

GIZ Pilot calculations in Ukraine:

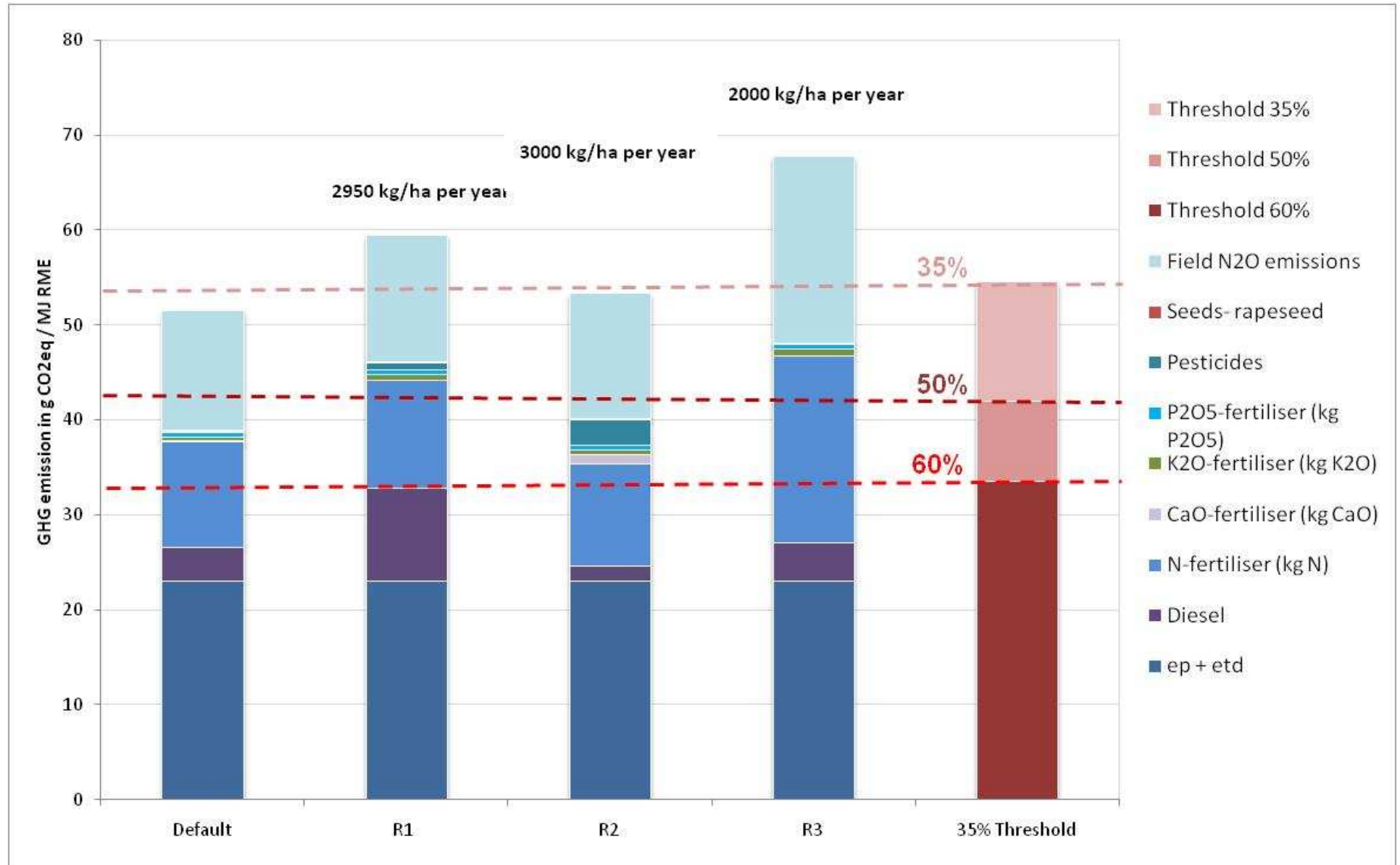
Data and tool used

- Data sources:
 - direct contact to farmers
 - Representative sample from UCAB data base (Agribenchmark)
- Calculations tool BIOGRACE (EU RED compliant methodology), used with GHG experts (IFEU)
- Assumptions for calculations
 - no land use change emissions
 - Reduction potential calculated with default values for transport and processing and for the production of rape methyl ester (RME)/corn ethanol

Rape seed: farm data results



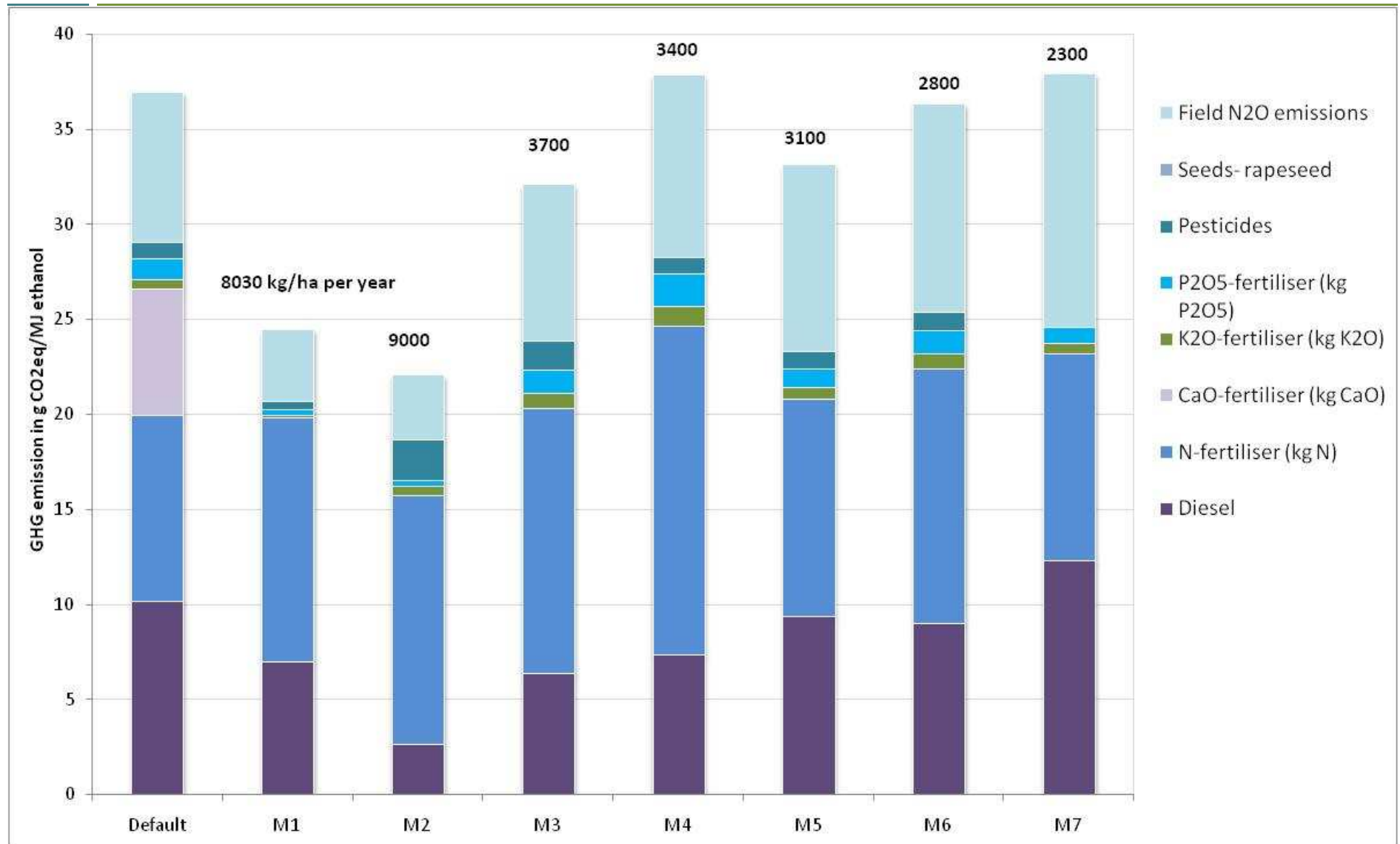
Rape seed: GHG reduction potential



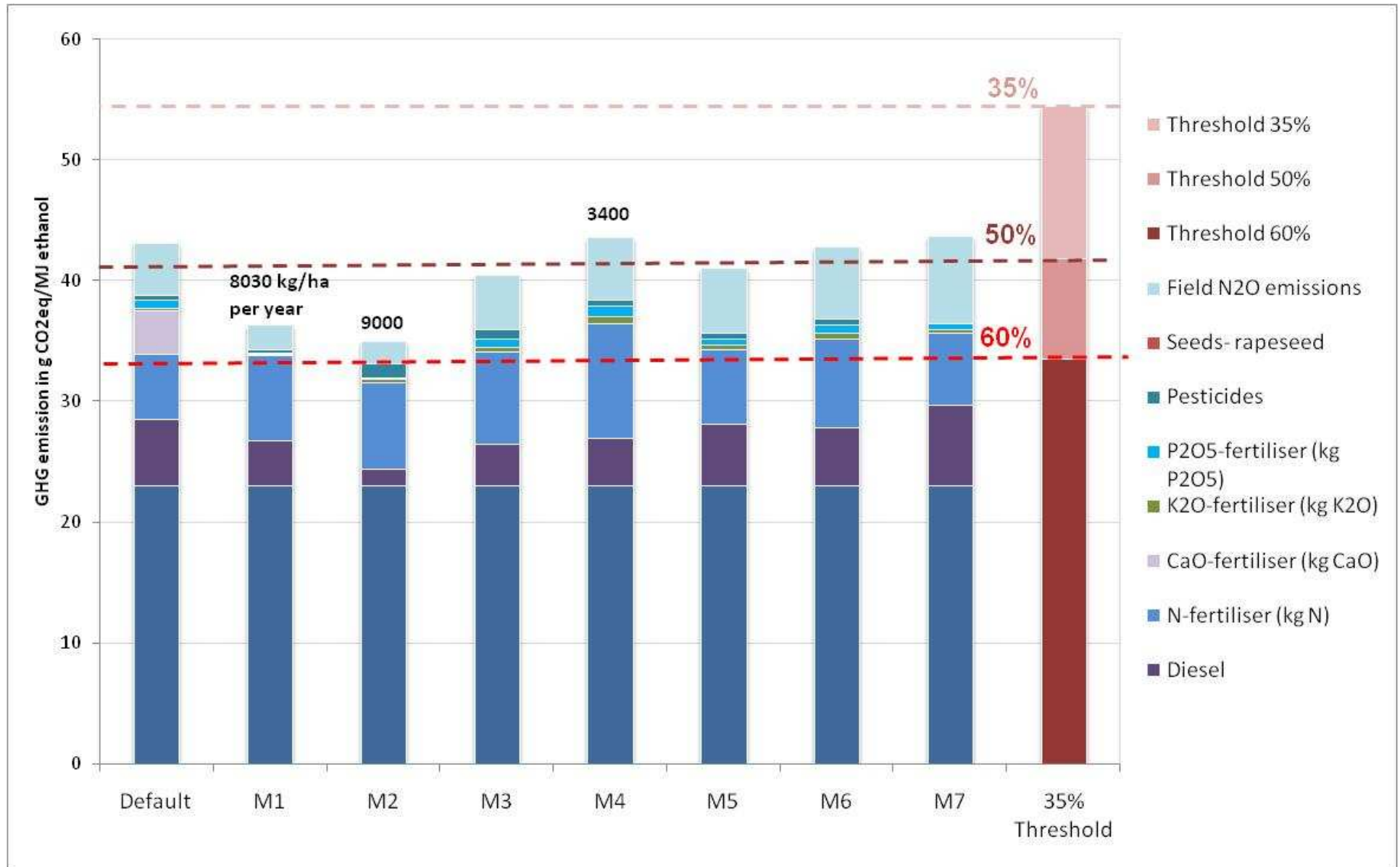
Rape seed: GHG reduction potential

- Reduction potential is insufficient, hardly reaches 35% (ranges between 19 and 37% (68 -53gCO₂e/MJ))
- Until end of 2016 producers under 35% can use the default value **BUT**
- From 2017 onwards, producers have to improve their performance in order to reach the 50% reduction goal
- Main GHG emissions sources: diesel, fertilizer and pesticides emissions
- The amount of emissions that need to be reduced in the chain equals about the amount of emissions that arise from the entire processing step!
 - Max emissions for 50% goal: 41,9gCO₂e/MJ → Reductions necessary between approx. 11 – 26gCO₂e/MJ
 - Max emissions for 60%: 33,52gCO₂e/MJ → Reductions necessary between approx 20-34gCO₂e/MJ
 - For comparison: processing default value: 22gCO₂e/MJ; production dv: 29gCO₂e/MJ

Corn: farm data results



Corn: GHG reduction potential



Conclusions: GHG Reduction potential

- Reduction potential is almost sufficient, reaches 50 but not 60%. Ranges between 47 and 58% (44-35gCO₂e/MJ)
- Producers cannot use the default values, they must calculate
- From 2017(18) onwards, some producers have to improve their performance in order to reach the 50 (60)% reduction goal
- The amount of emissions that need to be reduced in the chain
 - Max emissions for 50% goal: 41,9gCO₂e/MJ → little or no reduction necessary
 - Max emissions for 60%: 33,52gCO₂e/MJ → Reductions necessary of up to 10gCO₂e/MJ
 - For comparison: processing default value: 21 gCO₂e/MJ; production dv: 20gCO₂e/MJ

EU RED environmental and social requirements



- EU RED does not require feed stock producers from third countries to prove compliance with environmental and social requirements...
- **BUT** these requirements are already covered by most certification schemes =>
- => Ukrainian producers have to comply with environmental and social requirements to prove compliance with the EU RED.

Soil protection requirements

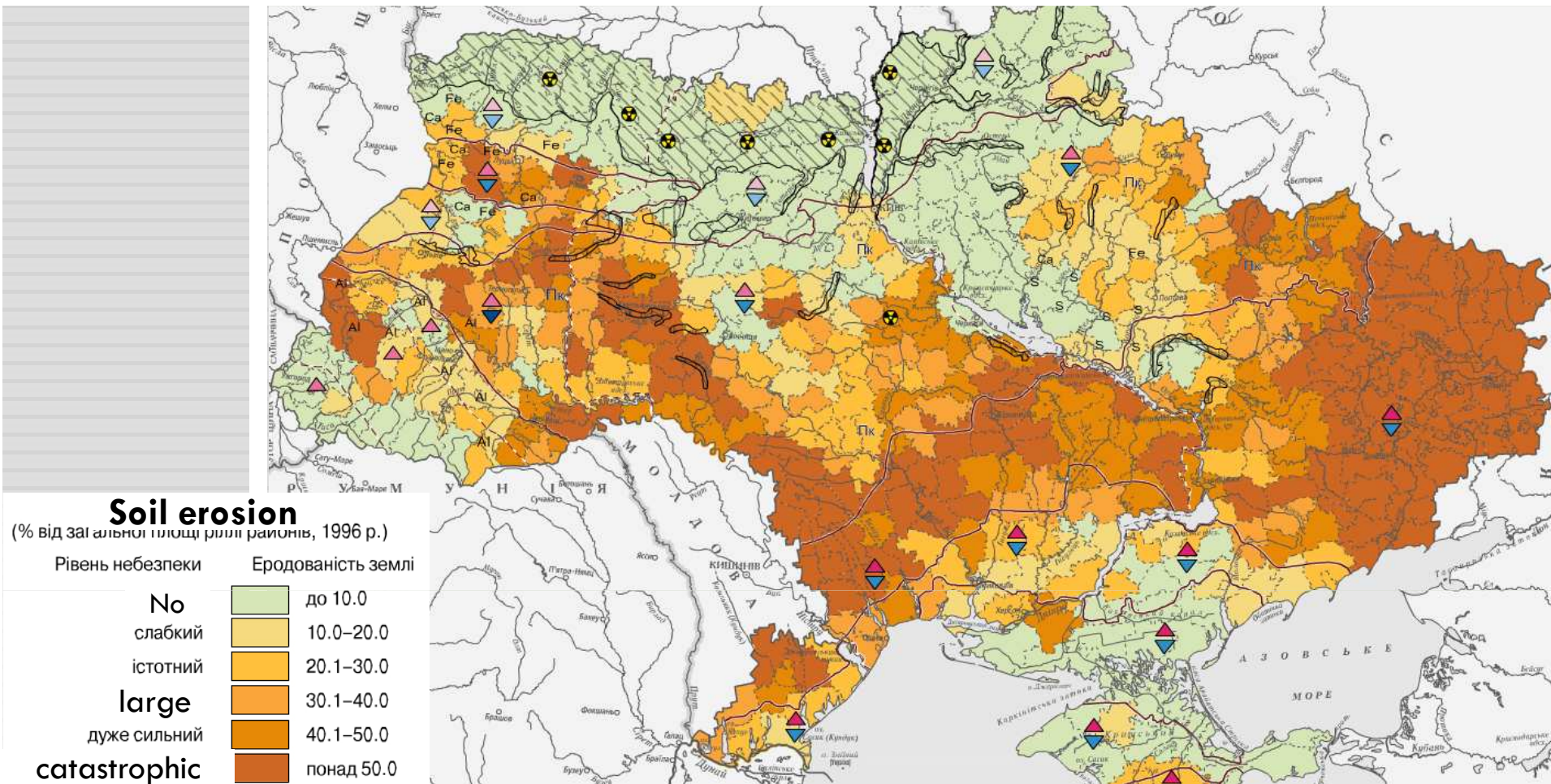
Common for certification schemes

Soil quality must be retained. This requires:

- measures to minimise soil erosion and maintain soil quality (soil organic matter)
- optimal use of residual products of biomass production in a way that does not disturb soil stability.

Ukrainian legislation

- Main legal acts:
 - Land Code of Ukraine;
 - Law of Ukraine “On the protection of soils”
 - Law of Ukraine “On government control of land use and protection”
 - Law of Ukraine “On pesticides and agrochemicals”



Map of soil erosion in Ukraine

Ukrainian legal framework for soil protection

- “Land is the main national treasure which is especially protected by the government” Land Code, art.#1);
- Law of Ukraine “On the protection of soils” sets standards for soil protection and quality (e.g., maximum allowable concentration of chemicals; soil quality standards; optimal crop structure in different agricultural areas, etc.)

Water protection requirements

Common for certification schemes

- The quality of surface and groundwater must be preserved. Water preservation includes:
 - using adequate storage facilities for agrochemicals and other potentially damaging production inputs;
 - avoiding effluent and runoff in the application of such chemicals;
 - establishing buffer zones between surface and groundwater resources and the biofuel operation.
- The quantity of surface and ground water must not be reduced beyond repletion.

Ukrainian legislation

- The Land Code of Ukraine (25 October, 2001)
- The Water Code of Ukraine (6 June, 1995):
 - Economic operators should use water in an efficient way, take measure for their replenishment and quality improvement (art. 44);
 - Irrigation should be done in a way to prevent flooding, waterlogging, salinization of soils (art. 65), etc.

Air protection requirements

Common for certification schemes

- Air pollution from field operations must be identified;
- waste management plan must be implemented =>
- restrictions on the burning of residues and wastes.

Ukrainian legislation

- The Law of Ukraine “On the air protection” (16 October, 1992):
- economic operators should comply with air pollution standards (art. 10);
- economic operators should comply with legal requirements on transportation, storage and application of pesticides and agrochemicals in order to prevent air pollution (art. 18).

Biodiversity protection requirements

Common for certification schemes

- General requirement: biodiversity shall be maintained.
- Some schemes require to take steps to prevent harmful impacts on biodiversity resulting from application of agrochemicals, noise and invasion by exotic species.

Ukrainian legislation

- Ukraine ratified all major international biodiversity conventions, a number of laws in place.
- The Law of Ukraine "On Nature Conservation Fund of Ukraine" (16 June, 1992).
- The Law of Ukraine "On the Red Data Book of Ukraine" (7 February, 2002)
- The Law of Ukraine "On the plant world" (9 April, 1999), etc.

Labour and human rights

Common for certification schemes

- Respect national laws;
- Do not allow
 - forced or slave labour;
 - child labour;
 - discrimination.
- Respect
 - workers' right to bargain collectively;
 - equal remuneration of workers for work of equal value;
 - workers' freedom of association and the right to organise.

Ukrainian legislation

- Ukraine ratified all ILO conventions (specified in the EU RED)
- The Labor Code of Ukraine (10 December, 1971)

Food security and local development

Common for certification schemes

- Be able to report on the effects of production on local food security.
- Contribute to local well-being (environment, health)

Ukrainian legislation

- Ukraine does not have specific laws on food security, only project law is currently being developed;
- certain foods are subject to state price control;
- special state agency is responsible for procuring state reserves of the specified foods;
- It **is not required** by the law to do any food security assessments.

Legislative support for biofuels production and use in Ukraine



- Law of Ukraine “On alternative sources of energy” 14.01.2000 № **1391-XIV**
- Law of Ukraine “On alternative types of fuel” as of 20.02.2003 № **555-IV**
- A number of government programmes have been operated during the period from 2000 till 2010 to promote biodiesel and bioethanol production in Ukraine
- Law of Ukraine “On amending some laws of Ukraine with regard to the introduction of a green tariff” N 601-VI

Law of Ukraine “On the development of production and spending of biofuels” (№ 7524) (1)

- On 24.05.2012 the project law passed second reading in the Parliament
- biofuels producers should comply with standards harmonised with the EU standards (art. 7);
- biomass producers should comply with regulations on optimal crop structure and rotation and **sustainability** criteria for biofuels production;
- Standards on optimal crop structure, **sustainability** criteria and procedures for inspection of compliance to be approved by the Cabinet of Ministers.

Law of Ukraine “On the development of production and spending of biofuels” (№ 7524) (2)

- The government should support biodiesel production in such proportions to total diesel production in Ukraine
- 2012 – at least 2%;
- 2013 – at least 5.75 %;
- 2014 – at least 10 %;
- 2015 – at least 20 %.



Law of Ukraine “On the development of production and spending of biofuels” (№ 7524) (3)

- The government should support production of mixed petrol and motor fuel containing bioethanol such proportions to total petrol production in Ukraine:
 - 2012 – at least 2 %;
 - 2013 – at least 5.75 %;
 - 2014 - at least 15 %;
 - 2015 - at least 20 %.



Law of Ukraine “On the development of production and spending of biofuels” (№ 7524) (4)

Local authorities in Kyiv, other big cities and recreational areas should support biofuel use in transport with the following proportions of total sales of traditional fuels:

- 2012 – 5 %;
- 2013 – 10 %;
- 2014 – 15 %;
- 2015 – 30 %.



Law of Ukraine “On the development of production and spending of biofuels” (№ 7524) (5)

Since methyl *tert*-butyl ether has a negative impact on life, health of people and environment, petrol producers should decrease its use and substituting it for ethyl-*tert* butyl ether:

- 2012 – by 10%;
- 2013 – by 20%;
- 2014 – by 50 %;
- 2015 – by 80 %.

Law of Ukraine “On the development of production and spending of biofuels” (№ 7524) (6)

Mechanisms for achievement of targets:

- identification sources of funding of biofuel production;
- establishment **national system of standards** in the area of biofuels production (quality and environmental safety standards);
- economic incentives for producers and consumers;
- investment stimulation in the biofuel production sector;
- government support of development of public transport on biofuels;
- government funding of the research and development in the biofuels sector.

Law of Ukraine “On the development of production and spending of biofuels” (№ 7524) (7)



Cabinet of Ministers should :

- in six month time :

- ensure development and adoption of national standards, technical regulations harmonized with the EU standards;
- develop and approve state programme on production and use of biofuels in order to develop biofuels market;
- annually provide funds from the state budget to support development of the biofuels production (particularly funds from selling GHG emission allowances).

Law of Ukraine “On amending other laws on production and use motor fuels containing biocomponents” (project)

...bioethanol content in motor fuels produced or sold in Ukraine should be:

- 2013 – recommended at least 5 % (by volume);
- 2014 – 2015 – **mandatory** content at least 5 % (by volume);
- 2016 – **mandatory** content at least 7 % (by volume).

Conclusions

- Ukraine has one of the largest arable area => it is not likely that biofuels feedstocks cultivation would expand to non-agricultural areas. Land-use change legislation is rather stringent in Ukraine.
- **BUT** increased demand for biofuels feedstocks could influence crop structure and rotation requirements => legal issues could appear in this area.
- Ukrainian legal framework does not contain any GHG emissions requirements either to economic sectors or products.
- Ukrainian rape seed producers could have difficulties complying with 50% GHG reduction criteria after 2017 unless production efficiency is improved.
- Other environmental and social criteria are largely represented in Ukrainian legal framework. If the company complies with Ukrainian legislation it should not be difficult to obtain initial certification.
- **BUT** certification schemes require establishment of management plans and continuous improvement => better performance than required by legislation and efficiency improvements for the company...

which is a **BIG +** for the company