4.5.7 Environmental measure

4.5.7.1 Needs and Priorities

In chapter "2.4.*Identified needs and development potential, needs were* diagnosed to correct deficits and amplify the development of the sector, and in chapter "3.2 *Operational objectives against identified needs and strategic objectives"*, the specific objectives for the operational programmes have been set in response to the identified needs, which this National Strategy aims to address as a policy instrument.

In this sense, within the context of environmental actions, the first three identified needs (N1, N2 and N3) are directly related to environmental issues, namely the reduction of residues and valorisation of by-products (N1), water management (N2) and reduction of use of phytopharmaceuticals (N3).Particularly in the field of plant protection products, as described in the appropriate chapter, part of the actions related to the production methods (Integrated Production and Organic Production) are, for the sake of complementarity, limited to Rural Development Programmes, seeking the National Strategy for the Operational Programmes, providing the sector with other instruments complementing those actions.

It should also be noted that the needs " *Introduce new techniques that are more efficient in terms of resource use, including energy* (N5)" and "Developing the human potential... (N6)" incorporate energy efficiency concerns, so that the designed environmental framework covers this evidence when designing actions along these lines, and the training of the technical staff of the PO.

Fruit and vegetable production is demanding in water, which is particularly delicate in Portugal by the Mediterranean climate where the distribution of rainfall is irregular throughout the year and where water deficit situations happen more in the summer (when precipitation is less intense and less frequent).In addition,

It is recognised that progress can be made towards making irrigation systems more efficient from the point of view of water use, improving the quality of water resources and exploiting rainwater.

In fact, the existence of irrigation systems and of technologies leading to water waste has been diagnosed, which can be converted to make them more efficient in terms of the result obtained with less water being applied or simply by renovating pipes and equipment that give rise to losses of water because of their age or intensity.

Four actions have been designed to address these needs, with two different ways to reduce water consumption and two to improve the quality and use of rainwater, respectively. Action 7.1 is intended to promote the conversion or modernisation of existing irrigation systems, Action 7.2 — *Water saving through reuse of waste water* — to encourage water saving by returning to waste water that would otherwise be wasted and not revalued, while Action 7.11 is intended to reduce the pressure on water bodies, and in Action 7.12 — *rainwater harvesting* — to carry out treatment and storage of rainwater.

Fruit and vegetable production is also characterised by the intense use of various materials from which plastics are highlighted in both production and marketing. These materials are waste at the end of their useful path. In this way, six actions were designed to reduce the environmental impact and waste prevalence of this activity, aiming for soil preservation (with 4 actions) and improving waste management (with 2 actions).

The use of biodegradable plastics (Action 7.6) is encouraged as opposed to conventional plastics.

Even in the field of soil preservation, fruit and vegetable production is heavily generated by organic waste, which can lead to certain negative externalities on the environment if they are not properly treated. The composting or re-use of by-products or other organic materials arising from fruit and vegetable production (Action 7.8) which would otherwise be wasted can result in the improvement of the physico-chemical properties of the soil.

According to SmPC No 11-C/2015, which approved the National Residue Management Plan 2014-2020, ‘agricultural waste’ is considered as ‘non-municipal waste’.According to the same SmPC, the management of this waste is the responsibility of the waste producer, even in the case of the Specific Flow Management where there is a shared responsibility of the different actors in its life-cycle.

On the other hand, as energy consuming and marketing activities, the present environmental framework also outlined some actions to reduce the consumption of fossil fuels by encouraging their replacement by alternative sources, and the use of electric vehicles (Action 7.14).In this respect, and in the waste field, Action 7.3 — *Energy recovery from biomass and collections and other organic material from the holding with* which it is intended to contribute to the production and consumption of energy from non-renewable sources was designed.

Reducing energy consumption has been sought by replacing energy-efficient equipment with more efficient equipment and contributes to increased energy efficiency (Action 7.13).

When in Portugal there are real *clusters* of alternative energy, such as solar energy and wind energy, it has been considered appropriate to design an action to encourage these alternative productions, to reduce the energy dependency of fossil fuels and the related environmental implications in the emission of greenhouse gases (Action 7.4.*Use of renewable energy*).

For reasons of policy option for complementarity between the Operational Programmes and Rural Development Programmes, part of the actions that can most directly relate to reducing the incorporation of plant protection drugs are limited to the latter. However, the designed environmental framework seeks to complete that action in a particular field of action, such as the substitution of phytopharmaceutical products and soil disinfectants by the use of soil preservation techniques (Action 7.5).

New environmental actions were designed which include the “Retention of Habitat and Biodiversity”, such as Action 7.18 — Interruption of monoculture, whereby the ecosystem is rebalanced by rotation of crops; Action 7.19 — targeted action, reduction of use of plant protection products, and Action 7.20 — Sustainable vegetative material promotes the use of plants grafted on alternatives to normal plants.

Other actions have been set up to contribute “Good Environmental Practices”, certifying good practices (Action 7.21), promoting resource efficiency and reducing the environmental impact of processes (Action 7.23 — environmental impact awareness (carbon footprint, ecological footprint, water footprint), balanced management of natural resources (Action 7.22 — Precision agriculture).The aim is to produce more with less, and within this context, technically rational solutions will be required. this will inevitably lead to greater protection of production ecosystems.

Finally, two specific environmental actions have been designed to ensure that the results of environmental actions can be enhanced when properly supported by well targeted analyses, training, consultancy and/or technical assistance.

that, among the environmental actions included in the operational programme, farmers may also have access to appropriate training, advice and/or technical assistance offered by qualified staff (Action 7.9) and environmental analyses (Action 7.16).

4.5.7.2 General conditions for all environmental actions

1. The definition of the adopted Environmental Framework has been based on the objectives of the National Strategy, as well as the needs and coherence with environmental issues of Pillar I and II of the CAP.To this end, the environmental actions selected in an operational programme shall, where applicable, comply with the requirements for agri-environment payments set out in the first subparagraph of Article 28d(3) of Council Regulation (EC) No 1305/2013 of 20 September 2005 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and shall in particular go beyond:

a) The statutory management requirements and good agricultural and environmental practices established pursuant to Chapter I of Title VI of Regulation (EU) No 1306/2013, the relevant criteria and minimum activities pursuant to Article 4(1)(c) (ii) and (iii) of Regulation (EU) No 1307/2013,

b) The minimum requirements on the use of plant protection products laid down in national or regional legislation;

c) Other mandatory requirements established by national or regional legislation.

2. Where an operational programme includes the possibility to combine several environmental actions and/or where environmental actions selected under the operational programme can be combined with agri-environment measures under the Rural Development Programme, the level of support shall take into account the specific income loss and additional costs resulting from that combination.

3. Support for environmental actions selected under the operational programme, which is intended to cover the additional costs and income foregone resulting from the actions, may be amended if there are changes to the corresponding baseline (i.e. the set of standards beyond which an environmental commitment should go).

4. In view of the fact that one of the main objectives of the National Strategy is to increase marketed production through producer organisations, which currently amounts to just over 23 % of the value of fruit and vegetable production in Portugal, the very heterogeneous nature of producer organisations in Portugal and the minimum obligation in terms of environmental actions, it is appropriate to provide the sector with the freedom of choice between the options provided for in Article 33 (5) of Regulation (EC) No 1308/2013 of the European Parliament and of the Council, each operational programme:

a) It must include two or more environmental actions or,

b) Spend at least 10 % of the expenditure on environmental actions.

However, in view of the environmental objectives inherent in these measures, where at least 80 % of the producers who are members of a recognised PO are subject to one or more commitments concerning organic production or integrated production, in an application approved under the Action "Agriculture and Natural Resources" of the PDR2020 or "Organic farming" under PRORURAL + or "Organic farming" in the PRODERRAM2020 "these commitments are relevant as environmental action for the purposes of point (a).

In this way, actions relating to support for organic production or integrated production and actions relating to soil conservation have the objectives already pursued under the Rural Development Programmes and with a high level of expression of producers engaged in such schemes under the said schemes,

Thus, the current National Strategy does not provide for measures similar to those of the RDP, bearing in mind that the current measures in the Rural Development Programmes are already sufficiently comprehensive, seeking in this strategy to address more specific and specific needs of the fruit and vegetable sector.

On the other hand, and given the recognised environmental benefits linked to compliance with *greening* practices under the 1th pillar of the CAP, as well as those resulting from compliance with B2B certification schemes with increased requirements for the application of plant protection drugs or other factors, it was considered to be recognised that the effect assumed as an environmental action by the PO whenever a significant number of its producers are complying with these practices, as already laid down in the regulations for producers, are covered by agri-environmental commitments under the PDR2020.

The actions proposed as eligible for support in the Environmental Framework as part of the National Strategy are as follows: [13]:

7.1. Water saving through conversion or modernisation of irrigation systems
7.2. Water saving through reuse of waste water
7.3. Energy recovery from biomass and other organic material from exploitation
7.4. Use of renewable energies
7.5. Employment of solarisation techniques
7.6. Use of biodegradable plastics
7.8. Composting or reuse of biomass and/or organic by-products from the farm
7.9. Qualified personnel to improve or maintain environmental protection
7.10. Environmental management of inorganic material
7.11. Improving water quality
7.12. Rainwater harvesting
7.13. Improvement of water-energy efficiency and *nexus water-energy*
7.14. electric vehicles
7.15. Reuse of biomass and/or other organic by-products from the holding
7.16. Environmental analyses
7.17. Reduction of waste in the global (operational and central) activity
7.18. Discontinuation of monoculture
7.19. Targeted action
7.20. sustainable vegetative material
7.21. Good Environmental Practices
7.22. precision agriculture
7.23. Environmental impact awareness (carbon footprint, ecological footprint, water footprint)

[13] "bold" includes new actions included in the environmental framework

These actions can be grouped by environmental specific objectives according to their most relevant effects, in the table below. In order to simplify the application of the measures, in view of the fact that they remain in force and move from the previous Strategy, their numbering is maintained, even when some adjustment has been made to their definition and/or implementation.

Table 16 — Environmental framework with actions by group of specific environmental objectives

Specific environmental objectives		Actions	
NO	Description	NO	Description
1	Improving Water Management and Quality	7.1	Water saving through retrofitting or upgrading of irrigation systems
		7.2	Water saving through reuse of waste water
		7.11	Improving water quality
		7.12	Rainwater harvesting
2	Improve Energy Resource Management	7.3	Energy recovery from biomass and other organic material from the holding
		7.4	Use of renewable energies
		7.13	Improvement of water-energy efficiency and *nexus water-energy*
		7.14	Electric vehicles
3	Soil preservation	7.5	Employment of solarisation techniques
		7.6	Use of biodegradable plastics
		7.8	Composting or reuse of biomass and/or by-products organic from the farm
		7.15	Reuse of biomass and/or other organic by-products from the holding
4	Commitments acquired in relation to other measures	7.9	Staff qualified to improve or maintain the protection of environment
		7.16	Environmental analyses
5	Improving Waste Management	7.10	Environmental management of inorganic material
		7.17	Reduction of waste in global activity (agricultural holding and fruit and vegetable sector)
6	Maintenance of Habitat and Biodiversity	7.18	Discontinuation of monoculture
		7.19	Targeted action
		7.20	Sustainable vegetative material
7	Good Environmental Practices	7.21	Good environmental practices
		7.22	Precision agriculture
		7.23	Environmental impact awareness (carbon footprint, ecological footprint, water footprint)

For each of the actions mentioned above, Annex I provides a detailed description of the environmental justification of the action, the nature of the actions eligible, the specific commitment inherent in the action, the eligible expenditure and the criteria for the calculation of the support.

4.5.8 Other types of actions

8.1. — Scale and scale size

8.2. — Overheads

Annex 2 — Eligible environmental actions

ACTION 7.1.— Water saving through conversion or modernisation of irrigation systems

Environmental justification

The aim of this action is to promote water saving in the light of the scarce resource nature, which is of particular relevance in Portugal, by the presence of a markedly Mediterranean climate with irregular distribution of rainfall, sometimes in low levels, during the year.

The aim of this action is that POs should convert or modernise existing irrigation systems into other more water efficient systems, demonstrating effective savings of this resource for the same irrigated area.

Eligible actions

Conversion or renewal of irrigation systems: purchase and installation of localised irrigation systems or spraying, purchase and installation of integrated irrigation systems.

Expenses which involve an increase in the area governed by the situation of departure are excluded.

— To be eligible for support, the new irrigation system/equipment installed or the improved irrigation system must allow a minimum of 15 % reduction in water consumption compared to the system that will be reconverted or upgraded, supported by an accredited person or entity.

— Where the introduction of the new irrigation system/equipment or the improved irrigation system has been shown to provide at least one additional environmental benefit, investments are eligible, resulting in a reduction of at least 7 % in water consumption (e.g. reduction of fertiliser application or reduction of soil erosion).

— Investments in drip (or similar) irrigation investments allowing a reduction of at least 5 % compared to the consumption before the investment.

Costs to reduce the use of water shall not result in a net increase of the irrigated area unless the total water consumption for irrigation of the whole holding, including the increased surface area, does not exceed the average of the water consumption of the previous 5 years

Inherent commitments

Replacement of an existing irrigation equipment/system or modernisation of an existing irrigation system to reduce water consumption, calculated over the period of tax depreciation of the investment compared with the previous period.

Eligible expenditure

Cost of purchasing the irrigation system.

The eligibility of the components should be defined in the initial approval of the irrigation system, which must be subject to an integrated analysis and evaluation of the whole project, its consistency with the
baseline of their contribution to the water saving objective and the same

Assessed in a multi-annual logic up to the situation of arrival at the water saving objective of the Organisation of Producers.
Criterion for calculation of support or justification for support
− Invoice containing detailed figures for the irrigation system carried out. − Validation of the accredited system by the accredited performance of the proposed expenditure, in terms of reduced water consumption and, where appropriate, additional environmental benefits.

ACTION 7.2.— Water saving through reuse of waste water
The environmental justification
The aim of this action is to promote water saving through reuse of water that would not otherwise return to the cycle of water use by the PO or its members.
Eligible actions
Investments in facilities for the treatment and recovery of water used in the premises of the PO or of the members for other uses. — To be eligible for support, the investment must allow a reduction of at least 15 % in water in relation to the initial situation, supported by an accredited person or entity. — Where investment in water reuse proved to provide additional environmental benefit (e.g. reduction of energy use or emissions), investments expected to result in a reduction of at least 7 % in water consumption can also be supported. Investment in treatment and recovery facilities is only eligible when it leads to environmental benefits that go beyond what is already established in national/regional legislation as mandatory.
Inherent commitments
− Purchase and installation of equipment for water treatment and restoration for other uses. − Maintenance of the effectiveness of the equipment installed during the depreciation period of the investments made (not eligible for support).
Eligible expenditure
The cost of the investment.
Criterion for calculating the support or justification for support:
− Invoice with detailed figures of expenditure incurred. − Certified by accredited entity of the expected performance of the proposed investment in terms of reduced water consumption and, where appropriate, additional environmental benefits.

ACTION 7.3.— Energy recovery from biomass and other organic material from the farm
The environmental justification
The use of fossil sources of energy, as well as unsustainable from the resource base, is detrimental to the energy and environmental balance of the planet and all forms of alternative renewable energy sources, including the use of biomass and organic by-products, should be encouraged. Encouraging the use of renewable energy sources (e.g. biomass) helps to reduce dependence on fossil energy sources and reduce CO2 emissions.
Eligible actions
Installation of systems allowing energy production from biomass and other organic by-products, covering all or part (but not yet more) of the energy needs of the PO or its members. To be eligible for support, the capacity of the installed system has to be proportional to the energy needs of the PA and/or its members, as proven by an accredited body or person.
Inherent commitments
− Purchase and installation of an energy production system based on biomass and other organic by-products. − Maintenance of the effectiveness of the system installed during the amortisation period of the investments made (not eligible for support). − Use of energy obtained to meet the energy needs of the PO and/or members (not eligible for support).
Eligible expenditure
The cost of the investment.
Criterion for calculation of support or justification for support
− Invoice with detailed figures of expenditure incurred. − Certification by an accredited body justifying the capacity of the system to be installed, taking into account the energy needs of the PA and/or its members. − Certified entity validation of the expected performance of the proposed investment and, where appropriate, additional environmental benefits.

ACTION 7.4.— Use of renewable energy
The environmental justification
The use of fossil sources of energy, as well as unsustainable from the resource base, is detrimental to the earth's energy and environmental balance and therefore all forms of exploitation of renewable energy sources should be encouraged. Decarbonising the agricultural sector is through the use of low or zero carbon energy sources, such as solar (thermal and photovoltaic), biogas and wind energy. Portugal has exceptional natural conditions and mature technology to use abundant natural resources such as the sun (over 3 000 hours of sun per year in some regions) and wind, helping to reduce imports of fossil fuels, combating climate change and improving security of supply.
Eligible actions
Purchase and installation of systems for the direct conversion of local energy resources (renewable energy) for heating, cooling and electric power generation which partially or fully cover (but not more) the energy needs of the PO and/or its members. To be eligible for support, the capacity of the installed system has to be proportional to the energy needs of the PA and/or its members, as proven by an accredited body or person.
Inherent commitments
− Purchase and installation of a renewable energy system. − Maintenance of the effectiveness of the system installed during the amortisation period of the investments made (not eligible for support). − Energy use achieved to meet the energy needs of the PO and/or its members (energy costs are not eligible for support; Only the investment is eligible).
Eligible expenditure
Cost of acquisition and installation of electricity, heat and cold energy conversion equipment from renewable resources (RES-E and RES-HC).
Criterion for calculation of support or justification for support
− Invoice with detailed figures of expenditure incurred. − Certification by an accredited body justifying the capacity of the system to be installed, taking into account the energy needs of the PA and/or its members. —.Validation by an accredited entity of the performance of the supported system based on component analysis and positioning in the installation.

ACTION 7.5.— Employment of solarisation techniques

The environmental justification

The fruit and vegetable sector, particularly horticulture, is very intensive in the use it makes of the soil, leading to the use of plant protection drugs with the aims of weed control and soil disinfection.

The use of solarisation techniques instead of soil herbicides or disinfectants can reduce the risks of soil and water pollution. The temperature rises beneath the surface of the plastic, above the 50 °C in the surface cover, during the peak hours of sunshine, creating the conditions for disinfection of the soil.

Continued use of plastics for this purpose should therefore be encouraged.

Eligible actions

Use of solarisation techniques to ensure soil disinfestation and disinfection.

Inherent commitments

– Use of soil solarisation techniques to ensure weed control and soil disinfection.

– Collection of plastic waste so that it is not deposited in the soil.

– Transport of plastic waste to authorised recycling agent (it is not eligible for support under this action when benefitting from the transport of this plastic waste in Action 7.10).

– Contract with a recycling agent.

— Unuse of disinfectants in the soil area of the parcel in question.

Eligible expenditure

Specific costs related to plastic materials, the techniques for their application are eligible once every 3 years per field.

Any cost savings (e.g. reduced use of soil disinfection products) have to be deducted from the eligible costs.

Criterion for calculation of support or justification for support

– Invoice with detailed figures of expenditure incurred.

– Contract with authorised recycling agent.

— The farmer’s declaration that he will not use disinfectants in the parcel in question.

ACTION 7.6.— Use of biodegradable plastics
The environmental justification
The removal of plastic from the land, which are traditionally used, seems to be a very complicated and ineffective task. In many cases, plastic breaks, leads to waste and is incorporated in the field. This practice makes it slow to contaminate the soil with the residues resulting from the abundant use of polyethylene and variants. The use of biodegradable plastics, material that decompose in the soil, by the action of micro-organisms such as bacteria, fungi and algae, prevent the release into the environment of waste contaminating the soil, reducing the production of residues that can sometimes happen when conventional plastics are used. As a result of this biodegradation, biodegradable materials are transformed into water, biomass and carbon dioxide.
Eligible actions
Acquisition and use of biodegradable plastics.
Inherent commitments
The acquisition and use of biodegradable plastics, in particular when used in the marketing of fruit and vegetable products and in the rows of orchards, with the aim of reducing the inoculum from fungi (e.g. stename and stalk).
Eligible expenditure
Standard flat rate for the purchase cost of biodegradable plastic, to partially cover the difference between the average cost of biodegradable plastic and the average cost of conventional plastic, to be determined on the basis of an independent national study, the value of which will be advertised in circular/technical guidance.
Criterion for calculation of support or justification for support
— Invoice with detailed expenditure of expenditure.

ACTION 7.8. Composting or reuse of biomass and/or organic by-products from the farm

The environmental justification

Agricultural activity in general and fruit and vegetable production in particular is characterised by the production of large volumes of biomass and organic by-products.

Composting and subsequent incorporation in the soil of the resulting compost can also help to improve the physical and chemical properties of the soil, help reduce soil erosion and help plant nutrient and water absorption.

Eligible actions

Installation of biomass and/or organic by-products composting systems.

To be eligible for support, the capacity of the installed composting plant must be proportional to the volume of biomass and/or organic by-products of the PO and/or its members as proven by an accredited body.

Inherent commitments

− Installation of a composting system for the production of compost from biomass and/or organic by-products from the PO and/or its members.

− Use of the compost produced by the PO and/or its members.

Eligible expenditure

The cost of the investment for the installation of the biomass composting plant.

Criterion for calculation of support or justification for support

− Invoice with detailed figures of the costs incurred,

− Certification by an accredited body justifying the capacity of the composting system, taking into account the volume of biomass and/or organic by-products of the PO and/or its members.

ACTION 7.9. Qualified personnel for the improvement or maintenance of environmental protection

The environmental justification

The implementation and effectiveness of environmental actions selected under the Environmental Framework of the National Strategy and to be developed by POs can be enhanced by support activities (training, consultancy and technical assistance) made by qualified technicians internally or externally to the PO.

Eligible actions

The use of trained personnel in training, consultancy and/or technical assistance activities to support the implementation of environmental actions selected under the operational programme.

In one-off cases, and in time-limited situations, provided that the added value of their acquisition to an external entity is duly justified, expenditure on staff not belonging to the PO may be accepted up to an individual ceiling of 10 % of the annual eligible maximum amount of a qualified technical staff of the PO.

Inherent commitments

− Implementation of at least one of the environmental actions 7.1 to 7.23, with the exception of actions 7.9. and 7.21.

− Use of qualified personnel for training, consultancy and/or technical assistance that complement (i.e. accompany and are associated with) one or more of the implemented environmental actions and aim at enhancing the effects of such actions.

Eligible expenditure

Costs resulting from working time of qualified personnel.

Criterion for calculation of support or justification for support

− Detailed documentation of hours of work and specific tasks carried out.
− Employment or service contract for the tasks concerned.
− The specific tasks to be carried out by qualified technical staff shall be clearly defined in the operational programme. Evidence should be provided that the allocation of additional qualified staff (internal or external) to these tasks is necessary for the implementation of the environmental actions and/or their effectiveness.

ACTION 7.10.— Environmental management of inorganic material
The environmental justification
Reduce the production of waste by promoting the recovery of plastic or other inorganic materials generated by the production and marketing of fruit and vegetables, excluding those resulting from the management of packaging of plant protection products or of packaging by the PO. Promote the circular economy and the management of charges associated with the materials used in agricultural activity.
Eligible actions
Procurement of systems for the collection and reuse of materials used on the farm, not related to phytopharmaceuticals or marketing packages by the PO, with authorised entities, in addition to the mandatory requirements. The concentration, collection or delivery of any waste that is covered by SPC 11-C/2015 of the PA is not included in this action. Eligibility for support is limited to commitments going beyond mandatory requirements established by national/regional legislation.
Inherent commitments
− Contract the purchase of reusable materials with authorised entities. − Take the concentration of the waste before final collection by the contractor (not eligible for support).
Eligible expenditure
Specific cost of contractualisation.
Criterion for calculation of support or justification for support
Invoice with detailed figures on expenditure incurred and contract.

ACTION 7.11.— Improving the quality of water resources
The environmental justification
Reduce the pressure on water bodies by identifying what conditions its ecological status is affecting, and giving priority to the implementation of economically sustainable measures that reduce it.
Eligible actions
Purchase and installation of water quality monitoring, analysis and *software* equipment upstream and downstream of POs. Purchase and installation of systems for the measurement and control of the ecological flow of water resources, upstream and downstream of the POs.
Inherent commitments
Plans for the monitoring and conservation of water quality in the water courses covered by the PA.
Eligible expenditure
Cost of procurement of monitoring equipment and *software*.
Criterion for calculation of support or justification for support
Invoice with detailed figures of expenditure incurred.

ACTION 7.12.— stormwater production
The environmental justification
Since HF plants have a large area covered, it is intended to adapt their coverage in order to carry out the treatment and storage of rainwater while allowing them to be re-used under conditions of full efficiency and hydraulic safety — health.
Eligible actions
Adapting the cover of the plant for the collection and use of rainwater for subsequent use on premises, allowing it to be reused for purposes other than drinking water and meeting the criteria of quality for the purpose for which it is intended, avoiding or minimising additional energy consumption.
Inherent commitments
To reduce water consumption for the use of water in the plants.
Eligible expenditure
Cost of the purchase and installation of equipment by a specialised agency for this purpose.
Criterion for calculation of support or justification for support
Invoice with detailed figures of expenditure incurred.

ACTION 7.13.— Improvement of energy efficiency *and* energy-water-energy
The environmental justification
To reduce energy consumption (costs and income foregone) by replacing energy-efficient equipment with more efficient equipment. Contribute to greater energy efficiency in the process of storing HF products. To increase energy efficiency in the process of storing HF products. Increasing and harnessing the energy efficiency potential of infrastructure, energy consumption, reduction of CO_2 emissions and reduction of water losses and increased water efficiency in processes.
Eligible actions
Purchase of more energy and water efficient equipment (e.g. new pumps or conversion of existing pumps for improved water and energy performance; better performing engines; microturbines in irrigation networks for energy production; intelligent and efficient lighting systems and equipment). Purchase of energy and water monitoring equipment (e.g. smart metering and energy and water management systems (*hardware* and *software*)). Purchase and installation of systems for the direct conversion of local energy resources for heating, cooling and electric power generation.
Inherent commitments
Reduce energy consumption of equipment used in the activity of the PO and/or its members. Increase energy efficiency in the process of storing HF products without compromising its quality.
Eligible expenditure
Cost of purchasing and installing more energy-efficient equipment. Cost of measures associated with improving energy and water performance and classification.
Criterion for calculation of support or justification for support
Invoice with detailed figures of expenditure incurred. If the PO has presented the actions 7.1. or 7.4 the equipment covered by these actions is not eligible under this action.

ACTION 7.14.— Electric vehicles
The environmental justification
Reduce fossil fuel dependency by using electric vehicles when moving to farm access, transport of workers, product and material.
Eligible actions
Purchase of electric vehicles. Installing the charging system.
Inherent commitments
Reduce fossil fuel dependence by the use of electric vehicles. Ownership of these investments is compulsory for the PO and its use is reserved for the PO's staff in the activities of the PO.
Eligible expenditure
Purchase cost of electric vehicle and charging system.
Criterion for calculation of support or justification for support
Invoice with detailed figures of expenditure incurred.

ACTION 7.15.— reuse of biomass and/or other organic by-products of the holding
The environmental justification
Agricultural activity in general and fruit and vegetable production in particular is characterised by the production of large volumes of biomass and organic by-products. The promotion of new uses of these by-products (e.g. cutting back cuttings, soil cover), which would otherwise be wasted, can contribute by incorporating them into the soil to improve their physical and chemical properties, reducing erosion and helping plants to absorb water and nutrients.
Eligible actions
Reuse of biomass and/or organic by-products. To be eligible for support, the capability of the unit of equipment/facilities required for re-use has to be proportional to the volume of biomass and/or organic by-products of the PA and/or its members as proven by an accredited body or person.
Inherent commitments
− The use of the organic products *obtained* (paplage, biomass for energy recovery) for the intended purpose (not eligible for support).
Eligible expenditure
Cost of purchasing and installing the biomass re-use system and/or organic by-products (equipment: crushing of branches, grinding machines and installation of installations: e.g. for storage).
Criterion for calculation of support or justification for support
− Invoice with detailed figures of expenditure incurred. − Certification by an accredited body justifying the capacity of the composting system or the equipment/facilities needed for re-use, taking into account the volume of biomass and/or organic by-products from the PA and/or its members.

ACTION 7.16.— Environmental analyses
The environmental justification
The optimisation of the environmental actions to be undertaken by the PA itself or its members, as provided for in the OP, will be favoured by the use of analysis, allowing the knowledge necessary to effectively implement the environmental actions proposed. The aim is to promote resource efficiency by controlling the environmental situation throughout the environmental framework.
Eligible actions
Analyses carried out by qualified external laboratories.
Inherent commitments
Support activity connecting at least one of the environmental actions.
Eligible expenditure
Cost of analyses (Ex: microbial analyses of water, etc.). Typology of analyses to be defined in national legislation
Criterion for calculation of support or justification for support
Invoice with detailed figures of expenditure incurred. Costs are not eligible under this action for analysis for producers who are under agri-environment commitments under the RDP.

ACTION 7.17. Waste reduction in global activity (agricultural and plant fruit and vegetables)
The environmental justification
On an agricultural holding, even when looking at good practice in handling, dilution and preparation of grouts, disposal of grouts and cleaning of plant protection product application equipment, it can result in a plant effluent likely to present a risk of environmental pollution to water and soil. The purpose of this action is to reduce the risk of ad hoc pollution associated with the effluent and to contribute to the reduction of water volumes spent on equipment washing operations. The objective is to combat pollution through the use of treatment systems and the correct routing of phytosanitary effluents that may represent an environmental risk to water and soil.
Eligible actions
Purchase and installation of systems for the collection and treatment of plant health effluents, allowing where possible to re-use them. The physical or logistic systems for the routing of effluents which are not reused for an appropriate destination (water, through licensing, or another suitable destination in the event of failure to meet the discharge parameters).
Inherent commitments
To reduce the risk of pollution associated with effluents and to contribute to the reduction of water costs.
Eligible expenditure
Cost of the purchase and installation of the equipment.
Criterion for calculation of support or justification for support
Invoice with detailed figures of expenditure incurred.

ACTION 7.18.— Interruption of monoculture

The environmental justification

Combating impoverishment and nutritional imbalances in soils resulting from continued monoculture (non-permanent crops).

To lower the ratio of certain pathogens and weeds in order to rebalance the ecosystem.

Eligible actions

Identification by the PO of the population of parcels assigned to producing members that are producing the recognised crop for an uninterrupted period of more than 4 years, and the establishment of an annual integrated crop interruption plan with alternative crops or fallow.

Only applicable to annual crops.

Inherent commitments

Annual interruption of a percentage, to be defined by the PO, of the total area in monoculture for more than 4 years identified by the PO.The percentage defined by the PO must be maintained annually for the duration of the OP.

When the replacement is carried out by other cultures, these cultures cannot be part of the culture family to be replaced.

The PO defines in General Assembly the producer members, who are subject to the commitment to interrupt the monoculture, each granting an unbroken monocultural reduction area on their holdings. Producer members who adhere to this measure may set up in new areas the cultivation of the main crop, provided that such parcels did not have had the crop in question for the last 4 years.

Participation in this undertaking does not exclude producer members from fulfilling obligations inherent in environmental practices under *greening*, and these obligations should be calculated taking into account the whole of the initial area of the main crop, prior to the implementation of the plan for monoculture farming.

Eligible expenditure

Compensation for the loss of yield of the parcels on which a monoculture was interrupted, resulting from the difference in the opportunity cost of the land between the main crop and the alternative crop/fallow.

If the alternative crop does not include the products for which the PO is recognised, it is considered as a compensation on the total opportunity cost of the main crop.

The aid is due to the PO, which is responsible for passing on the compensation to be allocated to each
producer member covered by the undertaking and the PO may withhold part or all of the support provided that it is established in General Assembly at the time of definition

producer members covered in the scheme of monoculture.
Criterion for calculation of support or justification for support
Standard flat rate to be calculated per area on the basis of the opportunity cost difference of the parcel resulting from the discontinuation of monoculture in the light of the expected return on the alternative crop. This standard crop standard rate shall be carried out by means of an independent analysis, defined by crop groups, on the basis of the average of prices and costs of production in the same region in the last 3 marketing years.

ACTION 7.19. Targeted Action
The environmental justification
Reducing the use of plant protection products has a direct impact on the environment, helping to reduce the contaminants in soil and water, restoring balance and ensuring, in the long term, sustainability, protection of certain species, conservation of *habitat*, biodiversity and the protection of natural resources, with improved soil and water quality. In addition, as a side effect, the reduction in the use of synthetic products allows for a reduction in greenhouse gas emissions, reducing their production. This action falls under Annex III (General principles of integrated protection) of Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009.
Eligible actions
The purchase of biological control equipment such as traps, pheromones, plant extracts, micro-organisms, plant repellents, resistance, predators and/or any other material of protection for use as a replacement for plant protection products, in conventional agriculture or with integrated production.
Inherent commitments
Reduce the use of plant protection products. Use of at least two such materials. Biological control as traps, pheromones, plant extracts, micro-organisms, plant repellents and/or any other material for protection.
Eligible expenditure
Material costs for the purchase of equipment
Criterion for calculation of support or justification for support
Invoice with detailed figures of expenditure incurred. Costs shall not be eligible under this action for materials for producers that are under agri-environment commitments under the RDP.

ACTION 7.20.— Sustainable vegetation
The environmental justification
The nematodes and soil fungi affect horticultural crops, producing very significant drops in production and even making soil crops impossible in certain areas. The objective of this action is to promote the reduction of phytosanitary treatments by using plants grafted as an alternative to standard plants, which require regular chemical disinfection of the soil. The nematoides and other natural diseases provide resistance/tolerance to nematoides and other natural diseases and thus contribute to a positive effect on the environment by reducing the fight for a fungicide which uses plant protection products.
Eligible actions
Purchase of grafted/seeded plants for use by members of the PO (or by the PO).
Inherent commitments
Use of grafted, non-perennial plants in eligible vegetable/vegetable crops, which have resistance or tolerance to some bio aggressors in order to reduce the use of plant protection products or other chemicals for soil disinfection.
Eligible expenditure
Specific cost of acquisition of grafted plants.
Criterion for calculation of support or justification for support
Standard flat rate on the basis of the additional costs for the purchase of grafted plants demonstrated to be resistant to the disease and/or pest which would otherwise be treated by use of a plant protection product.

ACTION 7.21.— Good Environmental Practices

The environmental justification

Where at least 50 % of producer members of a PO, or at least 50 % of the productive area, are subject to the same Good Agricultural Practice which requires commitments in terms of environmental practices, it shall be considered as an action for the purpose of environmental framework for the POs.

This action falls under Annex III (General principles of integrated protection) of Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009.

Eligible actions

Producers involved in production systems with environmental concerns, whether they are public schemes (Organic Production or Integrated Production), private schemes (B2B), or regulatory taxes under Community support under Rego 1307/2013 (*greening*), and which do not constitute agri-environmental commitments under Regulation (EC) No 1305/2013.

For the purposes of this action, producers shall not be taken into account for the purposes of this action with environmental commitments as referred to in Article 33 (3) of Regulation (EU) No 1308/2013.

Inherent commitments

Producers to be considered must meet at least one of the following conditions:

- Implement the System of Certification of Good Agricultural Practice (ex: Overall GAP, LEAF, among others)

- Covered by organic production control and certification system (MPB) or Integrated Production (PRODI)

- Ensure compliance with commitments resulting from *greening* practices linked to crop diversification.

- For the purpose *of greening*, they are not considered to be producers with permanent crops areas (where no additional commitments are required) or 15 ha (where there is no obligation to fully comply with the provisions on cultural diversification or Ecological Focus Areas) and therefore do not fit in this action.

- For the purpose of B2B or MPB and PRODI will only be considered to be producers or areas that are duly proven to be subject to the specific control regime for that system.

Eligible expenditure

No expenditure.

Criterion for calculation of support or justification for support

No expenditure.

ACTION 7.22.— Precision farming
The environmental justification
By means of information, communication and electronic technology based on the principle of soil and climate variability, based on specific data from geographically referenced areas enabling a geostatistical analysis, it is envisaged to establish physical ideal physical conditions for the development of the cultivated species. The objective of Agriculture of Precision (HP) is to reduce production costs, to increase production in view of the spatial variability of productivity, to reduce the contamination resulting from the excessive use of plant drugs, and to increase productivity by giving the opportunity for a decision to be taken in well-defined and parameterised control processes. This is to promote a balanced management of natural resources efficiency in the use of *inputs* leading to lower contamination of the environment and better production.
Eligible actions
Purchase of equipment fit for smart farming (e.g. controllers, sensors, distribution system, e.g. liquid fertiliser dispensers in a drip system governed by a monitoring computer application).
Inherent commitments
Reduce the use of plant protection products. Better use of all production factors.
Eligible expenditure
Acquisition cost.
Criterion for calculation of support or justification for support
Invoice with detailed figures of expenditure incurred.

ACTION 7.23. Environmental impact awareness (carbon footprint, ecological footprint, water footprint)
The environmental justification
Promoting resource efficiency and reducing the environmental impact of processes. Assess and make known to actors in the sector, including consumers, the performance of HF and PA plants (including irrigation systems) in water and energy management (classification of energy and water performance), helping to identify and promote measures for their improvement.
Eligible actions
Evaluation studies and advice by consultancy, water footprint, carbon footprint and environmental footprint of HF and/or POs, including identification and implementation of measures to reduce them. Assessment and classification/labelling of energy, water and carbon from HF and/or POs through ranking models developed by independent entities. A critical review of the third part of the assessment and reporting (eg. ISO 14046: Water footprint).Certification of environmental and energy management systems (eg. ISO 14001 and ISO 50001).
Inherent commitments
Presentation of at least another measure for the environmental framework during the course of the ongoing Operational Programme. Report the performance in the management of resources, in particular energy and water, and identify the measures for its improvement. Carry out the certification by a recognised system.
Eligible expenditure
Costs for impact studies (footprint). Costs of assessment studies and classification/labelling of the efficiency of the HF (audits, consultancy and seal/classification).
Criterion for calculation of support or justification for support
Invoice with detailed figures of expenditure incurred.