Set $\nu = 0$ and $K_1 = \mathcal{M}$.
Put $cmat = (c + (q^-)^T \bar{A}, 1)$, $Amat = NULL$, $bmat = NULL$

repeat
    Put $\nu = \nu + 1$
    Compute $\eta_\nu = \sum_{n \in K_\nu} p_n (q^+ + q^-)^T A(\omega_n)$ and $\zeta_\nu = \sum_{n \in K_\nu} p_n (q^+ + q^-)^T b(\omega_n)$
    Put $Amat = rbind(Amat, (-\eta_\nu, \zeta_\nu, -1))$, $bmat = c(bmat, 0)$
    Solve the linear problem $\min_{(x,w)} cmat^T * (x, w)$ with the constraints $Amat * (x, w)^T \leq bmat^T$ and denote its solution by (x^*, w^*).
    Put

$$K^* = \left\{ n \in \mathcal{M} \colon \left(q^+ + q^- \right)^T \left(b\left(\omega_n\right) - A\left(\omega_n\right) x^* \right) \geq 0 \right\},$$

$$w_+^* = \sum_{n \in K^*} p_n \left(q^+ + q^- \right)^T \left(b\left(\omega_n\right) - A\left(\omega_n\right) x^* \right), \quad \hat{w}^* = \zeta_\nu - \eta_\nu x^*.$$

    Set $K_{\nu+1} = K^*$
    Compute

$$\underline{F} = c^T x^* + \left(q^- \right)^T \bar{A} x^* + w_+^*, \quad \overline{F} = c^T x^* + \left(q^- \right)^T \bar{A} x^* + \hat{w}^*.$$

while $(\overline{F} - \underline{F}) > \varepsilon$

Output: x^*